# 2006

# 5-Year Review and Recommendations

**The Kisatchie National Forest's Revised Forest Land and Resource Management Plan**

**September 2007**

# Table of Contents


**I. Introduction ..... - 4 -**

**II. Area of Analysis ..... - 4 -**

**III. Roles and Contributions ..... - 6 -**

*A. Ecological ..... - 6 -*

*B. Social and Economic ..... - 7 -*

**IV. Ecological ..... - 13 -**

*A. Vegetative Communities ..... - 13 -*

*B. Animal/Plant Habitats ..... - 41 -*

*C. Fish and Wildlife ..... - 61 -*

*D. Soil and Water ..... - 70 -*

*E. Riparian Habitats ..... - 77 -*

*F. Insects and Disease ..... - 82 -*

*G. Wildfire Protection ..... - 88 -*

*H. Air Quality ..... - 91 -*

**V. Social and Economic ..... - 93 -**

*A. Recreation ..... - 93 -*

*B. Scenery ..... - 102 -*

*C. Heritage ..... - 104 -*

*D. Forest Products ..... - 108 -*

*E. Minerals ..... - 112 -*

*F. Grazing ..... - 116 -*

*G. Landownership and Special Uses ..... - 119 -*

*H. Access/Travel Management ..... - 124 -*

*I. Collaboration ..... - 130 -*

*J. Jobs and Income ..... - 136 -*

**VI. Evaluation of New Information ..... - 143 -**

*A. Emerging Issues ..... - 143 -*

*B. Changes in National/Regional Policy/Direction ..... - 166 -*

**VII. Evaluation of Need to Change Existing Plan Direction ..... - 169 -**

*A. Desired Conditions ..... - 169 -*

*B. Goals and Objectives ..... - 169 -*

*C. Standards and Guidelines* ..... *- 174 -*

*D. Suitability of Areas* ..... *- 175 -*

*E. Special Areas* ..... *- 177 -*

*F. Management Areas / Management Area Direction* ..... *- 179 -*

*G. Monitoring and Evaluation* ..... *- 181 -*

*H. Annual Budgets* ..... *- 187 -*

**VIII. Science Consistency ..... - 198 -**

*A. Documentation of Best Available Science* ..... *- 198 -*

*B. Documentation of Risk and Uncertainty (Associated with Factors Influencing Conditions and Trends)* ..... *- 200 -*

**IX. Management Review of Comprehensive Evaluation ..... - 202 -**

*A. Summary of Findings* ..... *- 202 -*

*B. Need for Change Determination* ..... *- 212 -*

**X. List of Preparers ..... - 221 -**

**XI. Literature Citation ..... - 222 -**

# I. Introduction

**In January of 2000, the** *Revised Land and Resource Management Plan* **(Revised Plan) for the Kisatchie National Forest was put into effect. Alternative Modified D from the** *Final Environmental Impact Statement* **(FEIS) was selected to develop as the Revised Plan. This Plan revision came about as a result of the** *1990 5-Year Review and Recommendations* **report, which recommended that the Regional Forester revise the original 1985 Forest Plan due to major changes that occurred during its first five years of implementation. Some of the reasons for revising included reduction in lands available for timber production, effects from the 1985 through 1986 southern pine beetle epidemic, proposed new red-cockaded woodpecker (RCW) direction, eight Plan amendments, major changes to standards and guidelines, and the need for at least five new management areas (HMAs for RCW).**

**As stated in 36 CFR 219.10(g) [1982 Planning Regulations], the Forest Supervisor shall review the conditions on the land covered by the plan at least every 5 years to determine whether conditions or demands of the public have changed significantly. Now, after five years of implementing the 2000 Revised Plan, this new** *2006 5-Year Review and Recommendations* **report is being prepared. It differs somewhat in format from the 1990 5-Year Review since it is for a revised Plan instead of a new one, and it adds some foreseeable documentation needed if the proposed 2007 Planning regulations are adopted (see Section VI for more information on this).**

# II. Area of Analysis

**The area being analyzed in this report is the Kisatchie National Forest (Kisatchie or KNF). The Kisatchie boundary encompasses approximately 1,024,659 acres, of which 603,769 acres are national forest land. The Forest has five ranger districts located in Claiborne, Grant, Natchitoches, Rapides, Vernon, Webster, and Winn Parishes of west-central and northwest Louisiana. The Forest headquarters is the Forest Supervisor's office in Pineville. District offices are located in Bentley, Boyce, Homer, Natchitoches, and Winnfield (Figure 1). The area is predominately rural in character. The Forest is generally within a 2.5-hour drive of Shreveport and Baton Rouge, and within 4 hours of New Orleans.**

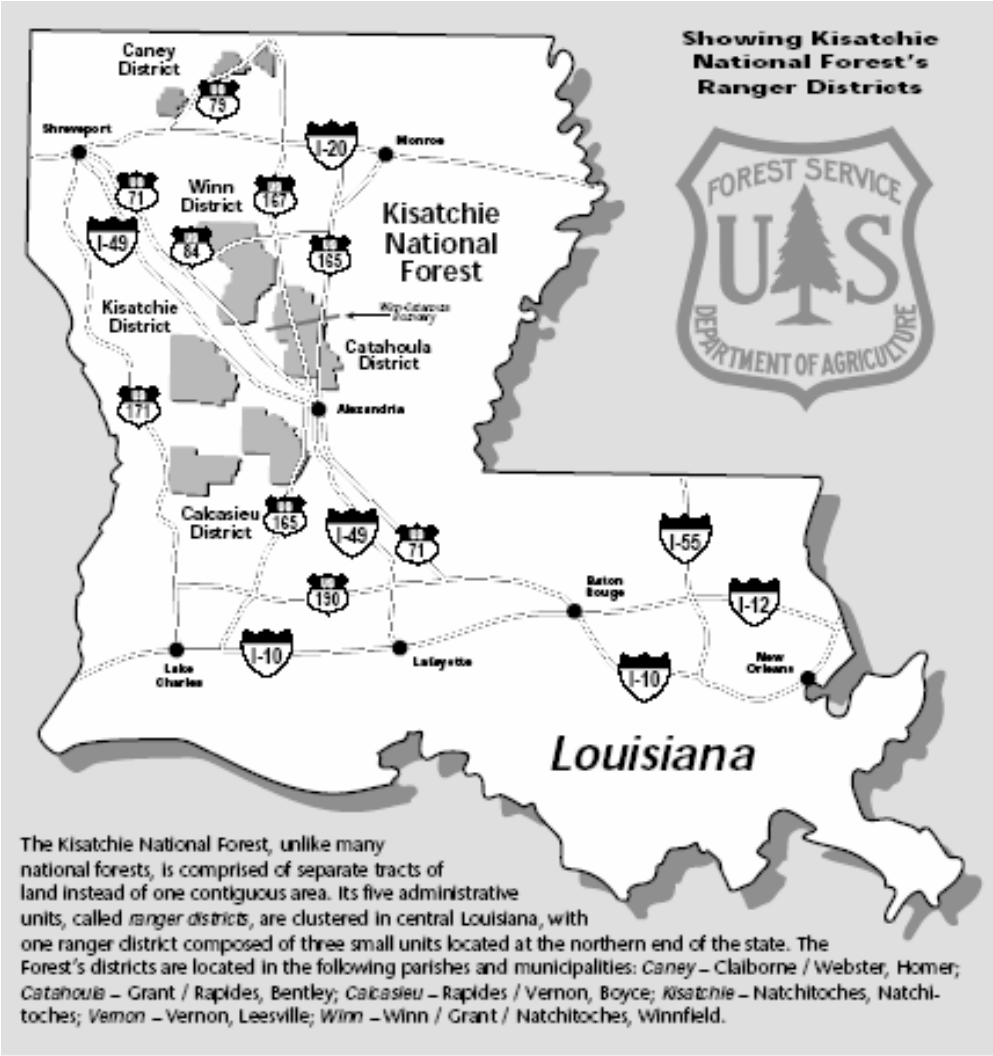



**Figure 1 - Locations of Kisatchie National Forest Ranger Districts**

**The Forest Plan identifies the goals and objectives expected for the Kisatchie. It also allocates the land area to particular** *management area* **choices. Management areas are relatively large areas with unique locations having common management direction called management area** *prescriptions***. Management area prescriptions are composed of specific activities or practices scheduled for application on the management area and designed to achieve stated objectives. Each prescription also has an associated set of standards and guidelines which provide rules, constraints, and the usual course of action needed to implement proposed activities. The management area prescription with its associated activities, practices, standards, and guidelines is the operational link in achieving the** *desired future condition* **(DFC) for a particular management area.**

# III.Roles and Contributions

## *A. Ecological*

**Louisiana is generally considered typical coastal plain. The Forest's topography ranges from hilly to undulating on the uplands, to level on stream terraces and floodplains. Elevations range from 80 feet above sea level in floodplains and undulate from 200 to 425 feet above sea level in the Kisatchie Hills. The general slope of the area is southward to the Gulf of Mexico. Most soils in the Forest area are highly weathered, acidic, and have low nutrient status. Soil productivity, however, is generally high because soils are generally deep with abundant plant-available moisture.**

**The climate of the area is subtropical. Weather is highly variable. Annual rainfall averages 59 inches. Summer temperatures range from 85˚ to 95˚ Fahrenheit in the afternoons and 65˚ to 75˚ in the early morning hours. Winter temperatures range from 55˚ to 65˚ in the afternoons and 40˚ to 50˚ in the early morning hours. The average annual temperature is 68˚ and the average humidity is 74 percent.**

**Located within the Forest boundaries are four broad historically present plant or vegetation communities:** *longleaf pine*, *shortleaf pine* **/** *oak-hickory*, *mixed hardwood* **/** *loblolly pine*, **and** *riparian*. **These communities are situated within nine landtype associations (LTAs):**

- *high terrace rolling uplands (LTA 1)*,
- *Kisatchie sandstone hills (LTA 2)*,
- *undulating clayey uplands (LTA 3)*,
- *alluvial floodplains and stream terraces (LTA 4)*,
- *Winn rolling uplands (LTA 5)*,
- *Fort Polk rolling uplands (LTA 6)*,
- *Red River alluvial plain (LTA 7)*,
- *Caney Lakes loamy uplands (LTA 8)*, **and**
- *North Louisiana clayey hills (LTA 9)*.

**The FEIS for the Revised Forest Plan describes typical characteristics, including photo examples, of these LTAs.**

**Small-scale and / or inclusional plant communities, such as hillside bogs, cypress swamps, sandy woodlands, or calcareous prairies are found embedded within the major landscape forest communities. The Louisiana Department of Wildlife and Fisheries' Natural Heritage Program currently recognizes 16 natural plant communities on the Forest: 7 are within the palustrine system and 9 are within the terrestrial.**

**The Forest's four major landscape forest communities have been altered or reduced from what historically occurred. The greatest changes occurred in the uplands, where few remnant patches of old-growth forest remain. The loss of old-growth conditions over most of the Forest has generally resulted in the reduction of old cavity trees, snags, and rotting logs. These forests, predominantly uneven-aged prior to European settlement (Martin and Smith 1993), are now largely fragmented into mostly young, even-aged patches. Also, introduced and native weeds have increased across the Forest.**

**Today, the forested acres on the Kisatchie National Forest are classified as 77 percent pine, 8 percent bottomland hardwood, 6 percent upland hardwood, 5 percent mixed hardwood-pine, and 4 percent mixed pine-hardwood.**

## *B. Social and Economic*

**The Kisatchie National Forest directly affects, and is predominantly influenced by, citizens of 7 north and central Louisiana parishes containing national forest land — Claiborne, Grant, Natchitoches, Rapides, Ver**

**Parish at 18.5 percent, and Rapides Parish at 16.9 percent. Lying between the Caney and Winn Districts, 4 more parishes are also part of the functional rural economy in which the Forest operates: Bienville, Jackson, Lincoln, and Red River. These parishes collectively form a contiguous area in north central Louisiana reflecting a rural economy generally thought of as being heavily dependent on natural resources (Figure 3).**

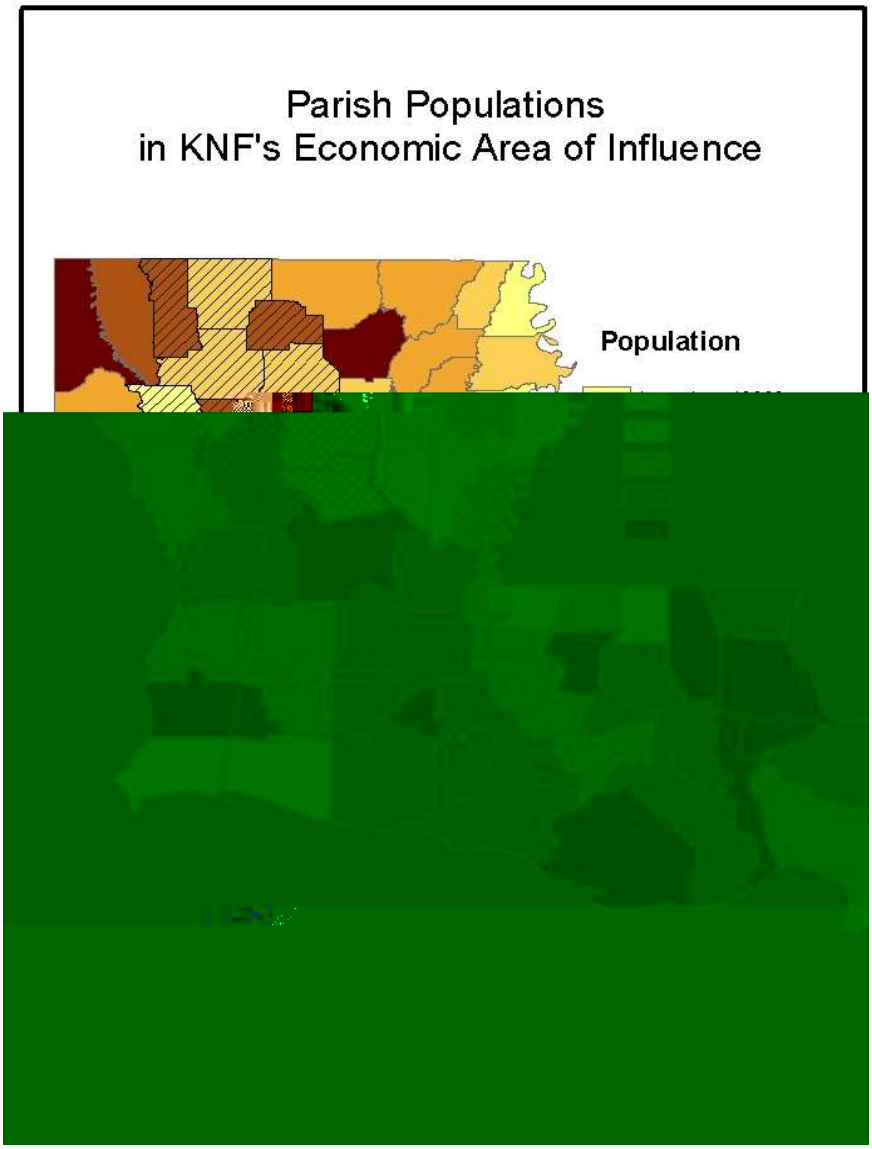



**Figure 3**

**As shown on the figure above, this 11-parish area is predominately located in the northern part of the state. In September of 2005, after hurricane Katrina and Rita damaged much of southern Louisiana, the U.S. Census Bureau compiled separate statistics from "FEMA area" (southern parishes) and "Out of FEMA area" (northern parishes). Because much of the "Out of FEMA" statistics also included Kisatchie's 11-parish economic area of influence, the "North Louisiana" statistics shown in the figures and tables below should be fairly representative of**

the Forest's area of influence. Statistics for the state as a whole are also shown for comparison.

As shown below in Figure 4, Kisatchie's area of economic influence has a greater percentage of its labor force in educational services, health care, social assistance, and retail trade industries than does the rest of the state (US Census Bureau 2005).

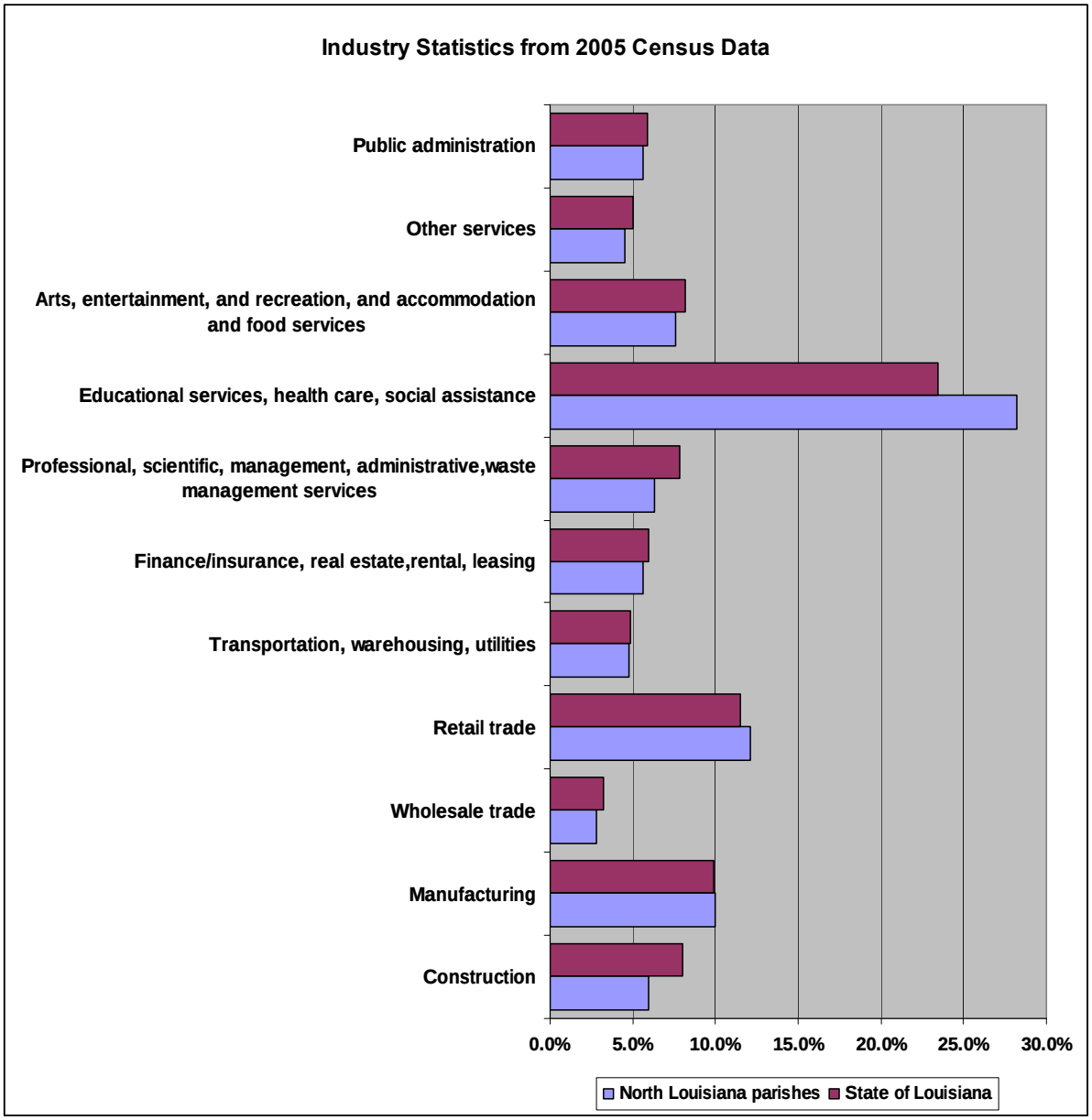



Figure 4: Top industries located within Kisatchie's economic area of influence.

Within the Forest's economic area, Rapides Parish and Alexandria have the largest parish and incorporated place population, respectively. Within the state as a whole, Rapides Parish has the 9th highest population and Alexandria has the

**9th highest city population. Population in the state increased 5.9% (from 4,219,973 to 4,468,976) between 1990 and 2000; however, during the same period the population for Rapides Parish declined 4.0% (from 131,556 to 126,337) and Alexandria's population declined 5.8% (from 49,188 to 46,342) (US Census Bureau 2000).**

**The following tables compare 2005 demographic statistics for the Forest's economic area (north Louisiana) and for the state as a whole.**

**Table 1: Profile of General Demographic Characteristics**

| | North Louisiana - December 2005 | State of Louisiana - December 2005 |
|---|---|---|
| Total population | 990,531 | 3,688,996 |
| SEX AND AGE | | |
| Male | 46.5% | 47.2% |
| Female | 53.5% | 52.8% |
| Under 5 years | 6.7% | 6.3% |
| 5 to 9 years | 8.1% | 7.3% |
| 10 to 14 years | 7.6% | 7.5% |
| 15 to 19 years | 7.5% | 7.5% |
| 20 to 24 years | 6.1% | 6.7% |
| 25 to 34 years | 12.2% | 12.2% |
| 35 to 44 years | 12.6% | 13.8% |
| 45 to 54 years | 14.9% | 15.0% |
| 55 to 59 years | 5.7% | 6.3% |
| 60 to 64 years | 4.9% | 5.0% |
| 65 to 74 years | 7.8% | 6.9% |
| 75 to 84 years | 4.4% | 4.3% |
| 85 years and over | 1.3% | 1.1% |
| Median age (years) | 36.6 | 36.9 |
| 18 years and over | 73.0% | 74.3% |
| 21 years and over | 68.6% | 69.8% |
| 62 years and over | 16.7% | 15.3% |
| 65 years and over | 13.6% | 12.3% |
| 18 years and over | 723,536 | 2,742,070 |
| Male | 45.2% | 46.0% |
| Female | 54.8% | 54.0% |
| 65 years and over | 134,748 | 453,655 |
| Male | 41.1% | 42.6% |
| Female | 58.9% | 57.4% |
| RACE | | |
| One race | 982,507 | 3,645,963 |
| Two or more races | 8,024 | 43,033 |

| | | |
|---|---|---|
| Total population | 990,531 | 3,688,996 |
| One race | 99.2% | 98.8% |
| White | 63.8% | 68.5% |
| Black or African American | 35.0% | 28.5% |
| RACE ALONE OR IN COMBINATION WITH ONE OR MORE OTHER RACES | | |
| Total population | 990,531 | 3,688,996 |
| White | 64.0% | 68.8% |
| Black or African American | 34.9% | 28.5% |
| HISPANIC OR LATINO ORIGIN AND RACE | | |
| Total population | 990,531 | 3,688,996 |
| Hispanic or Latino (of any race) | 1.2% | 2.7% |
| Not Hispanic or Latino | 98.8% | 97.3% |
| White alone | 62.7% | 66.1% |
| Black or African American alone | 34.6% | 28.1% |
| RELATIONSHIP | | |
| Household population | 990,531 | 3,688,996 |
| Householder | 0.406 | 0.393 |
| Spouse | 0.188 | 0.189 |
| Child | 0.296 | 0.295 |
| Other relatives | 0.066 | 0.077 |
| Nonrelatives | 0.044 | 0.047 |
| Unmarried partner | 0.016 | 0.016 |
| HOUSEHOLDS BY TYPE | | |
| Total households | 401,663 | 1,448,443 |
| Family households (families) | 67.1% | 68.6% |
| With own children under 18 years | 29.6% | 29.8% |
| Married-couple families | 46.4% | 48.0% |
| With own children under 18 years | 17.7% | 19.2% |
| Female householder, no husband present | 17.6% | 16.6% |
| With own children under 18 years | 10.2% | 8.7% |
| Nonfamily households | 32.9% | 31.4% |
| Householder living alone | 27.9% | 26.4% |
| 65 years and over | 11.0% | 9.4% |
| Households with one or more people under 18 years | 35.0% | 35.0% |
| Households with one or more people 65 years and over | 25.7% | 23.9% |
| Average household size | 2.47 | 2.55 |
| Average family size | 3.02 | 3.08 |

| Table 2: Profile of Selected Social Characteristics | | |
|---|---|---|
| | North Louisiana - December 2005 | State of Louisiana - December 2005 |
| SCHOOL ENROLLMENT | | |
| Population 3 years and over enrolled in school | 271,339 | 993,791 |
| Nursery school, preschool | 6.1% | 6.1% |
| Kindergarten | 7.2% | 6.1% |
| Elementary school (grades 1-8) | 45.1% | 44.0% |
| High school (grades 9-12) | 22.3% | 22.2% |
| College or graduate school | 19.4% | 21.7% |
| EDUCATIONAL ATTAINMENT | | |
| Population 25 years and over | 633,714 | 2,383,629 |
| Less than 9th grade | 6.3% | 6.9% |
| 9th to 12th grade, no diploma | 13.5% | 12.3% |
| High school graduate (includes equivalency) | 37.3% | 36.6% |
| Some college, no degree | 19.6% | 19.4% |
| Associate's degree | 4.6% | 4.7% |
| Bachelor's degree | 12.5% | 13.3% |
| Graduate or professional degree | 6.2% | 7.0% |
| Percent high school graduate or higher | 80.2 | 80.9 |
| Percent bachelor's degree or higher | 18.7 | 20.2 |
| MARITAL STATUS | | |
| Males 15 years and over | 352,301 | 1,348,671 |
| Never married | 29.2% | 30.1% |
| Now married, except separated | 55.5% | 55.3% |
| Separated | 2.6% | 1.9% |
| Widowed | 4.0% | 3.4% |
| Divorced | 8.6% | 9.3% |
| Females 15 years and over | 416,383 | 1,562,276 |
| Never married | 25.1% | 25.6% |
| Now married, except separated | 47.2% | 47.5% |
| Separated | 3.7% | 3.2% |
| Widowed | 11.6% | 11.3% |
| Divorced | 12.4% | 12.4% |
| VETERAN STATUS | | |
| Civilian population 18 years and over | 716,842 | 2,727,157 |
| Civilian veterans | 94,219 | 295,123 |

| | | |
|---|---|---|
| Population 16 to 64 years | 611,082 | 2,381,078 |
| With any disability | 17.5% | 16.5% |
| Population 65 years and over | 134,748 | 453,655 |
| With any disability | 48.1% | 48.0% |
| RESIDENCE 1 YEAR AGO | | |
| Population 1 year and over | 977,775 | 3,647,611 |
| Same house | 82.8% | 82.1% |
| Different house in the U.S. | 17.1% | 17.8% |
| Same county | 10.0% | 9.8% |
| Different county | 7.1% | 8.0% |
| Same state | 5.3% | 6.3% |
| Different state | 1.8% | 1.7% |
| Abroad | 0.1% | 0.2% |
| PLACE OF BIRTH | | |
| Total population | 990,531 | 3,688,996 |
| Native | 98.9% | 97.1% |
| Born in United States | 98.4% | 96.5% |
| State of residence | 77.0% | 79.1% |
| Different state | 21.4% | 17.4% |
| Born in Puerto Rico, U.S. Island Areas, or born abroad to American parent(s) | 0.5% | 0.7% |
| Foreign born | 1.1% | 2.9% |
| LANGUAGE SPOKEN AT HOME | | |
| Population 5 years and over | 924,019 | 3,457,201 |
| English only | 96.7% | 91.2% |
| Language other than English | 3.3% | 8.8% |
| Spanish | 1.2% | 2.8% |

# IV. Ecological

## *A. Vegetative Communities*

### 1. Existing Conditions and Trends

*(1) Landscape Ecosystems*

**The subtropical climate and the geology of the west gulf coastal plain combine to produce the environment for the flora of the Kisatchie National Forest. The plants making up the flora thrive in geologically new land of Recent and Pleistocene origin toward the coast and in inland riverine flood plains. To the north and west, both on and off the Forest, slightly older Tertiary uplands support the flora. Like most areas, the Forest flora contains plant representatives of adjoining regions. Coastal plain and tropical species outnumber western and northern plants.**

**Four major landscape communities comprise the Kisatchie National Forest. These forest communities include longleaf pine, shortleaf pine / oak-hickory, mixed hardwood-loblolly pine, and riparian.**

**Two atlases (MacRoberts 1984, 1988, 1989 and Thomas and Allen 1993, 1996, 1998) provide information on the distribution of Louisiana flora generally. A Forest Service database gives a district-by-district plant distribution list.**

**Small-scale or inclusional plant communities, such as hillside bogs, cypress swamps, sandy woodlands, or calcareous prairies are found embedded within these major landscape forest communities. The Louisiana Department of Wildlife and Fisheries' Natural Heritage Program currently recognizes 16 natural plant communities on the Forest: 7 are within the palustrine system and 9 are within the terrestrial. Five publications of the Louisiana Department of Wildlife and Fisheries (Grace and Smith 1995; Williams and Smith 1995; Hart and Lester 1993; Martin and Smith 1991 and 1993) give descriptions of these communities. Each volume provides a survey and description of one or two districts of the Kisatchie's natural plant communities. These five documents serve as a basis for the natural plant community descriptions throughout this document.**

- **<u>Longleaf pine forests</u>**

**Longleaf pine dominates the overstory on uplands within the longleaf pine plant community. The generally open or absent midstory sometimes contains scattered individuals and clustered groups of scrub oak stems. The diverse herbaceous ground cover frequently includes bluestem grasses, panic grasses, nutrush, sunflowers, golden asters, partridge pea, milkpea, and bracken fern.**

**Longleaf pine forest often encompasses smaller areas of several community types, including the intertwined riparian forest along smaller streams and drainages. Small sites of hardwood slope forest, shortleaf pine / oak-hickory forest, and mixed hardwood-loblolly pine forest occur on mesic sideslopes and stream terraces within the landscape. Some areas, with deep sandy soils tending to droughtiness, support unique sandy woodland communities.**

**In addition, areas such as** *Fleming Glades* **on the Evangeline Unit of the Calcasieu District or the** *Sandstone Glades and Barrens* **of the Kisatchie District dot the Forest. Wetland habitats such as hillside bogs, wooded seeps, and bayhead swamps provide unique habitats for other plants.**

- **<u>Shortleaf pine / oak-hickory forests</u>**

**The overstory canopy typically includes shortleaf pine, southern red oak, black oak, post oak, persimmon, pignut hickory, black hickory, and mockernut hickory. The vertically diverse midstory consists of regenerating overstory species as well as huckleberries, flowering dogwood, hawthorns, French mulberry, winged elm and other species. Various species of grasses, asters, goldenrod, sunflowers, and milkweeds thrive in open areas with sparse midstories.**

**Shortleaf pine / oak-hickory forests contain several specialized smaller communities, including wooded seeps and bayhead swamps similar to such areas of the longleaf pine forest. Also, riparian forest areas weave through these**

**forests. This mixed-species forest includes communities of hardwood slope forest on smaller sites that have drier or wetter conditions than the general area.**

**The calcareous forests and prairies of the Winn District lie within this community type. On this District both the** *Keiffer Prairies* **and** *Tancock Prairies* **(located west of Packton, Louisiana) support assemblages of plants, including several rare species unique to Louisiana. Similarly, the sandy woodlands of this community add much to the diversity of the Kisatchie's flora.**

- **Mixed hardwood-loblolly pine forests**

**Overstory species generally include loblolly pine, white oak, swamp chestnut oak, water oak, cherrybark oak, laurel oak, sweetgum, southern magnolia, and beech. American holly, winged elm, ironwood, flowering dogwood, eastern hophornbeam, wild grapes, greenbrier, and coral honeysuckle typically make up the midstory. A variety of ferns, composites, violets, vines, mosses, lichens, and liverworts grow in the understory.**

**Mixed hardwood-loblolly pine forests support smaller, specialized communities, including wooded seeps and bayhead swamps, sandy woodlands, hardwood slope forests and riparian forest areas.**

- **Riparian forests**

**Small-stream riparian forests occur on the annual floodplains of permanent small- to intermediate-sized streams. The canopy composition is a diverse variety of hardwoods which may include white oak, swamp chestnut oak, water oak, laurel oak, pignut hickory, shagbark hickory, beech, southern magnolia, sweetbay, and others. Loblolly pine is usually pres**

**be found in greater detail for the preferred alternative in Appendix E of the Revised Forest Plan.**

*(3) Imbedded Communities*

**The plant communities on the Forest and the rare plants typically found in each are described below:**

**(a) Hillside Seepage Bog**

**Hillside seepage bogs are open, mostly treeless, herb-dominated natural communities. This community is most often characterized by the presence of pitcher plants (*Sarracenia alata*), although in some instances hillside seepage bogs may not contain pitcher plants. They are formed exclusively on upland slopes where an impermeable subsurface layer directs the flow of water laterally out of the hillside.**

**Hillside seepage bogs are floristically rich natural communities. Over 100 species of vascular plants may be found in some of the larger hillside seepage bogs (MacRoberts and MacRoberts 1988, Nixon and Ward 1986), and they also contain some of the largest concentrations of federally threatened, endangered, Regional Forester's Sensitive, and Forest Conservation (TESC) plants on the Kisatchie National Forest.**

**There are different types of hillside seepage bogs, ranging from seasonally moist areas along slopes with relatively few bog-associated species, to bogs that are continually wet throughout the year and support a high diversity of herbaceous species. In addition to fire, the degree of development of a hillside seepage bog in a given area will be primarily dependent on five major characteristics thatiensepl fharacterfsticac**

*Mayaca aubletii*
*Burmannia biflora*
*Calopogon oklahomensis*

**(b) <u>Baldcypress Swamp (Baldcypress-Tupelo Swamp)</u>**

**Baldcypress swamps are forested, alluvial swamps growing on intermittently exposed soils. The soils are inundated or saturated by surface water or groundwater on a nearly permanent basis throughout the growing season except during periods of extreme drought. Bayous commonly intersect these wetlands. These communities have relatively low floristic diversity. Net primary productivity of swamp forests seems to be increased by periodic flooding and increased water flow; it is decreased by slow water movement and stagnation. Heavy cutting of this forest often causes a reversion to almost pure tupelogum. Baldcypress swamp may increase in area by encroaching into adjacent freshwater marshes undergoing sediment build-up. Violent storms may convert these swamps to open marsh.**

- **Sensitive Plants:**

  *Carex decomposita*

- **Conservation Plants:**

  *Lyonia mariana*

**(c) <u>Bottomland Forest</u>**

**Bottomland forest is a forested, alluvial wetland occupying broad floodplain areas that flank large river systems. They are predominantly associated with floodplains of the Mississippi, Red, Ouachita, Pearl, Tensas, Calcasieu, Sabine, and Atchafalaya rivers. Bottomland forests may be called a fluctuating water level ecosystem characterized and maintained by a natural hydrologic regime of alternating wet and dry periods. They are important natural communities for maintenance of water quality, providing a very productive habitat for a variety of fish and wildlife, and are important in regulation of flooding and stream recharge. Bottomland hardwood forests are extremely productive areas due in part to periodic flood-transported and deposited particulate and dissolved organic matter and nutrients.**

**The distribution of flora in bottomland forests is primarily controlled by anaerobic soil conditions. Anaerobic conditions exist in a gradient dependent on relative soil saturation. It is not the availability of water that regulates plant distributions, but the in availability of oxygen due to the presence of water. While the complexities of hydroperiod, climate, soils, watershed characteristics, and other factors have produced an often bewildering mosaic of intergrading vegetative associations, bottomland forests contain a number of species which can be aggregated into specific associations or communities based on environmental factors such as physiographic, topography, soils, and moisture regime.**

- **Sensitive Plants:**

  *Amsonia ludoviciana*
  *Amorpha paniculata*
  *Cypripedium kentuckiense*
  *Prenanthes barbata*
  *Schisandra glabra*

- **Conservation Plants:**

  *Hexalectris spicata*
  *Triphora trianthophora*
  *Uvularia sessilifolia*
  *Platanthera blephariglottis*
  *Dodecatheon meadia*
  *Geranium maculatum*
  *Xanthorhiza simplicissima*
  *Monotropa hypopithys*
  *Smilacina racemosa*
  *Lyonia mariana*

**(d) <u>Forested (Wooded) Seep</u>**

**Wooded seeps occur on hillsides at stream heads, at the base of seepage slopes and along narrow drainages. They form exclusively in uplands, often in and around hillside seepage bogs that possess sandy to very sandy soils with an impermeable subsurface layer. They may grade imperceptibly downslope or downstream into a bayhead swamp. Wooded seeps are very similar to bayhead swamps in composition and functional dynamics, but the size and setting of this natural community sets it apart. Wooded seeps are typically small in scale (usually much less than 1 acre in extent) and they occur either as patches on slopes within hillside seepage bogs or as very narrow wooded strips along the upper reaches of small, intermittent creeks (Grace and Smith 1995). They also differ from bayhead swamps by having lesser amounts of the mucky soils that are characteristically found in bayhead swamps. Water flow in wooded seeps is year round and localized, resulting in patches of differentiated vegetation ranging from less than 100 square yards to up to an acre or more.**

- **Sensitive Plants:**

  *Xyris stricta*

- **Conservation Plants:**

  *Lyonia mariana*
  *Rhynchospora miliacea*
  *Parnassia grandifolia*

**(e) <u>Bayhead Swamp</u>**

**Bayhead swamps, or baygalls, are forested wetlands with a moderately to densely stocked overstory and often dense midstory/understory of various shrubs, many evergreen. They occur along small, sandy stream bottoms and in the upper reaches of streams in areas with deep, poorly drained, fine sandy soils that contain a relatively high amount of organic matter. Thus, the surface layer remains wet or flooded mostly year round. Bayhead swamps seem to result from high seepage rates but low water velocities. This causes the stream to have a poorly defined channel or a set of braided channels, and as a result the entire floodplain is usually saturated or inundated. The understory often contains an abundance of ferns, except in frequently flooded depressions where little herbaceous cover exists. This community ranges in size from a tenth to several acres in size (Grace and Smith 1995).**

- **Sensitive Plants:**

  *Lachnocaulon digynum*
  *Rudbeckia scabrifolia*
  *Rhynchospora macra*
  *Xyris drummondii*
  *Xyris scabrifolia*

- **Conservation Plants:**

  *Zigadenus densus*
  *Mayaca aubletii*
  *Burmannia biflora*
  *Palhinhaea cernua*
  *Calopogon barbatus*
  *Calopogon oklahomensis*
  *Platanthera blephariglottis*
  *Parnassia grandifolia*

**(f) <u>Pine Flatwood (Pine Savannah)</u>**

**Longleaf is the dominant overstory tree, but other pine and hardwood associates may be present, especially where fire has been infrequent. The forest may be fairly densely stocked with trees, but is typically open-canopied and may be**

**chiefly associated with soils mapped as Beauregard fine sandy loam. Scattered low circular mounds called "mima" or "pimple" mounds may be present.**

- **Sensitive Plants:**

  *Rhynchospora macra*
  *Xyris drummondii*
  *Xyris scabrifolia*
  *Lachnocaulon digynum*
  *Amsonia ludoviciana*
  *Platanthera integra*
  *Xyris louisianica*
  *Spiranthes longilabris*

- **Conservation Plants:**

  *Palhinhaea cernua*
  *Lyonia mariana*
  *Calopogon barbatus*
  *Zigadenus densus*
  *Myaca aubletii*
  *Burmannia biflora*
  *Calopogon oklahomensis*
  *Platanthera blephariglottis*

**(g) <u>Small Stream Forest (Riparian Forest)</u>**

**Riparian forests are relatively narrow wetland forests occurring along small rivers and large creeks in much of Louisiana. They are seasonally flooded for brief periods. The percentage of sand, silt, calcareous clay, acidic clay, and organic material in the soil is highly variable (depending on local geology) and has a significant effect on species composition. Soils are typically classified as silt-loams. This community includes the phase formerly designated as riparian sandy branch bottom. At times, the community is quite similar in species composition to hardwood slope forests (beech-magnolia forests).**

- **Sensitive Plants:**

  *Marshallia trinervia*
  *Prenanthes barbata*

- **Conservation Plants:**

  *Lyonia mariana*

**(h) <u>Cook Mountain/Jackson Calcareous Prairie:</u>**

**This description is applicable to any of the following synonyms for calcareous prairies: barrens, calcareous barrens, calcareous clay prairie, Keiffer prairie, Jackson prairie, Blackland prairie, calcareous glade. These communities are typically small, naturally treeless areas occurring on calcareous substrates in the uplands of central, western, and northwest Louisiana. They range in size from**

**much less than 1 hectare (2.47 acres), up to 30 or more hectares (74.13 acres), and occur in a mosaic with calcareous forests. Calcareous prairies have been associated with four geological formations: intermediate terraces (Pleistocene) associated with old Red River deposits in northwest Louisiana (Morse clay prairies), the Fleming formation (tertiary-Miocene) in central-western Louisiana, the Jackson group (tertiary-Eocene) in central Louisiana, and the Cook Mountain formation (tertiary-Eocene) in central and possibly western Louisiana. Soils are stiff calcareous clays (surface pH ~ 7.5-8.0), with very high shrink-swell characteristics, and range in color from red to olive-tan to gray-black. Depending on geology, various soil inclusions such as calcareous concretions (limestone nodules), marine mollusk shells, shark teeth, and gypsum crystals may occur.**

- **Sensitive Plants:**

  *Liatris tenuis*

- **Conservation Plants:**

  *Spiranthes magnicamporum*
  *Koeleria macrantha*
  *Carex meadii*
  *Sporobolus ozarkanus*
  *Carex microdonta*
  *Panicum flexile*
  *Astragalus crassicarpus*
  *Asclepias stenophylla*
  *Hedyotis purpurea*
  *Echinacea purpurea*
  *Heliotropium tenellum*

**(i) <u>Sandstone Glade/Barren</u>**

**This natural community develops on outcropping sandstone in pine forests, chiefly in a belt running from northeast to southwest across central Louisiana, and is primarily associated with the Catahoula formation. The community appears as a complex of sandstone boulders, intermixed with shrubs and trees occurring as individuals or in patches. Associated soils are characteristically acidic and are highly erodable, often eroding to form an irregular, sandstone-studded landscape of gullies, bluffs, and miniature gorges and buttes. Much of the soil and rock is unvegetated.**

- **Sensitive Plants:**

  **None known.**

- **Conservation Plants:**

  *Talinum parviflorum*
  *Selaginella arenicola*
  *Carex meadii*
  *Talinum calycinum*

*Cheilanthes lanosa*

**(j) <u>Calcareous Forest</u>**

**This community occurs on calcareous substrates in the uplands of central, western and northwest Louisiana. It characteristically occurs on hills and slopes, near small creeks, at times in a mosaic with calcareous prairies. Associated geological formations so far identified are the same as for calcareous prairie. Soils are stiff calcareous clays, not quite as alkaline as in the prairies (surface pH ~ 6.5-7.5), with very high shrink-swell characteristics. Individual occurrences are usually of limited extent.**

- **Sensitive Plants:**

  **None known.**

- **Conservation Plants:**

  *Camassia scilloides*
  *Monotropa hypopithys*
  *Dodecatheon meadia*
  *Taenidia integerrima*

**(k) <u>Hardwood Slope Forest (Mesic Slopes):</u>**

**This is a variable mixed hardwood forest, usually occurring on slopes rising out of small stream floodplains that dissect pinelands in northern, western, central, and southeastern Louisiana, and on salt domes ("islands") near the coast. The community is similar to southern mesophytic forest and riparian forest. Soils are characteristically mesic, acidic, and vary from quite sandy to clayey. Soil moisture increases downslope.**

- **Sensitive Plants:**

  *Amsonia ludoviciana*
  *Amorpha paniculata*
  *Cypripedium kentuckiense*
  *Prenanthes barbata*
  *Schisandra glabra*
  *Silene subciliata*

- **Conservation Plants:**

  *Hexalectris spicata*
  *Smilacina racemosa*
  *Triphora trianthophora*
  *Uvularia sessilifolia*
  *Platanthera blephariglottis*
  *Dodecatheon meadia*
  *Xanthorhiza simplicissima*
  *Monotropa hypopithys*
  *Ceanothus herbaceus*

*Lyonia mariana*
*Geranium maculatum*

**(l) <u>Shortleaf Pine/Oak-Hickory Forests</u>**

**When relatively mature and in natural condition, shortleaf pine/oak-hickory forests are open-canopied, mostly uneven-aged forests, and moderately to fairly densely stocked with variable-sized shortleaf pine and hardwoods. Loblolly pine may also be present as would some longleaf pine. Various shrubs in combination with regenerating overstory species may form a fairly thick midstory and understory. The herbaceous ground cover is sparse to moderate and may occur in grassy patches, especially in canopy openings. Where fire-suppressed, these openings are filled with vines and shrubs.**

- **Sensitive Plants:**

  *Tridens carolinianus*

- **Conservation Plants:**

  **None known.**

**(m)<u>Mixed Hardwood-Loblolly Forest</u>**

**Mixed hardwood-loblolly forests occur sporadically on all districts of the Kisatchie National Forest, especially along the edges of riparian areas on Cahaba fine silty loam soils. These sites are most commonly found on middle and lower slopes between uplands and stream bottoms. They also occur on ridges and upper slopes in areas topographically isolated from fire-prone uplands. This is a highly variable community, mostly uneven-aged and moderately to densely stocked with various hardwoods, with loblolly pine as a primary associate.**

- **Sensitive Plants:**

  *Amsonia ludoviciana*
  *Cypripedium kentuckiensis*
  *Prenanthes barbata*
  *Schisandra glabra*

- **Conservation Plants:**

  **None known.**

**(n) <u>Western Upland Longleaf Pine Forest</u>**

**Upland longleaf pine forests occur on mesic to xeric ridge-tops and side-slopes in highly dissected landscapes. Where longleaf pine forests occur in a relatively natural condition and are frequently burned, the forest overstory and midstory is composed almost entirely of longleaf pine. Occasionally some shortleaf and loblolly pines are intermixed with the longleaf pines. The density of longleaf trees varies with local conditions and site history. Hardwoods and shrubs naturally occurred only sporadically within regularly burned longleaf forests, but many hardwoods have become established under altered fire regimes and are seen**

**more commonly in today's forests. In high-quality occurrences, this natural community is uneven-aged and stocked with variable-sized longleaf pine. Small patches of juvenile longleaf pines are usually conspicuously scattered within the forest, and there is a diverse and continuous herbaceous ground cover consisting of native grasses and forbs, with few weeds, and broken only by hardwood-lined creek and river bottoms and wet depressions (Martin and Smith 1991).**

- **Sensitive Plants:**

  *Liatris tenuis*
  *Pteroglossaspis ecristata*
  *Tridens carolinianus*
  *Agrimonia incise*

- **Conservation Plants:**

  *Panicum rigidulum*
  *Panicum strigosum var. leucoblepharis*
  *Orobanche uniflora*

**(o) <u>Sandy Woodlands</u>**

**Known variously as sandy woodlands (Martin and Smith 1991), xeric sandhills (MacRoberts 1995), or xeric sandylands (MacRoberts 1994), this natural community is characterized by deep, droughty, sandy soils that support an unusually high number of TESC plant species, as well as a more common, drought-tolerant flora and fauna specifically adapted to living in these harsh conditions.**

**Sandy woodlands occur in two positions on the landscape: low, relatively flat stream-associated terraces with deep sands (as exemplified by the Saline Bayou Sandy Woodland on the Winn Ranger District), or high, extremely well-drained hilltops and upper slopes on deep sands more typical of those found on the Evangeline and Vernon Units of the Calcasieu Ranger District.**

- **Sensitive Plants:**

  *Silene subciliata*
  *Cyperus grayioides*
  *Liatris tenius*
  *Agromonia incisa*
  *Euphorbia discoidalis*

- **Conservation Plants:**

  *Polansia erosa*
  *Penstemon murrayanus*
  *Zornia bracteata*
  *Selaginella arenicola*
  *Paronychia drummondii*
  *Eriogonum longifolium*

*Tetragonotheca ludoviciana*
*Polygonella polygama*
*Phacelia strictiflora*
*Polygonella americana*
*Draba cuneifolia*
*Andropogon liebmannii*
*Astragalus soxmaniorum*
*Psoralea subulata*

**(p) <u>Large Streams: Sandy banks</u>**

- **Sensitive Plants:**

  *Marshallia tinervia*

- **Conservation Plants:**

  **None known.**

**(q) <u>Limestone Outcrops</u>**

**These appear as occasional rocks and shelves that occur intermittently throughout the Forest.**

- **Sensitive Plants:**

  **None known.**

- **Conservation Plants:**

  *Cheilanthes alabamensis*
  *Asplenium resiliens*
  *Asplenium trichomanes*
  *Pellaea atropurpurea*

**(r) <u>Lakebank and Adjacent Salt Mines</u>**

- **Sensitive Plants:**

  *Carex decomposita*

- **Conservation Plants:**

  *Psilocarya scirpoides*

*(4) <u>Exotics</u>*

**The number of plant species growing in Louisiana has increased dramatically (by 25 percent) since the time of Columbus. Thomas and Allen (1993, 1996, and 1998) reported 3,249 plants for Louisiana, including 2,423 native kinds and 826 introduced ones. The introduced species category includes the following types: 1) naturalized exotics not native to the southeastern United States, accidentally introduced, or known or suspected to have been introduced by man via agricultural or horticultural practices; these are persistent species which have**

**established populations and are reproducing as if native, 2) naturalized species native to the southeastern United States but not considered native to Louisiana, 3) non-native adventive species which have not yet become widely established (Thomas and Allen 1993).**

**Most of these introduced species have gained a solid foothold in Louisiana. Many are weedy species. The seeds often arrive with agricultural products, such as in soil with other plants, in shipments of hay, as seeds unintentionally or intentionally shipped from other countries, or as weed seeds attached to animals in various ways while the animals are being transported to Louisiana. Several of these weedy introduced species come from climates similar to Louisiana's and are well adapted to life in Louisiana. Often, when the weed arrives, other species associated with it, which kept it under control in foreign lands, do not arrive with the weed. Without those natural controls, the weedy species is free to expand in Louisiana's climate. The result is the introduction of an "exotic pest plant" which comes to Louisiana habitats, often free from its associated biologically-controlling diseases and insects.**

**On the Kisatchie, non-native invasive species (NNIS) – particularly plant species – are of primary concern to land managers (Table 3). Once established, NNIS displace native plant species and therefore pose a demonstrable threat to the integrity of the natural plant communities on the Forest.**

| Table 3: Non-native Invasive Plants on the KNF | | |
|---|---|---|
| NNIS of Concern | | |
| Scientific Name | Common Name | Currently Being Treated on the KNF |

**Exotic plant species are being mapped as a component of all botany surveys on the Kisatchie. Infestations are assessed as to the threat they pose to Forest lands, and are then treated for eradication and control as resources allow. Exotic plant species are assigned one of three threat categories:**

1. **Non-native invasive species that occur on Kisatchie lands in amounts that can be controlled and/or eradicated.**
2. **Non-native invasive species that are ubiquitous on Kisatchie lands and cannot be eradicated, but can be controlled in certain specific, small scale locations and situations.**
3. **Non-native species that are restricted to areas of disturbance (such as road prisms) because they are not invasive, or only slightly so.**

**Category 1 represents primary candidates for treatment. Category 2 plants are rarely treated because of the tremendous difficulty controlling and eradicating these species; occasionally they are treated when they pose a direct threat to rare habitat, such as bogs, prairies, or red-cockaded woodpecker (RCW) sites. Category 3 species are not considered for treatment at this time.**

**A NNIS of special interest is cogongrass, one of the most invasive exotic species in the southeastern U.S., it tends to dominate plant communities (especially longleaf pine forest), to the exclusion of almost all other species. It has infested millions of acres in the Southeast and devastated native plant communities. Although no cogongrass has been found on the Forest, alert Kisatchie workers have found two infestations close to Forest boundaries: near the Vernon Unit, Calcasieu District in Leesville, and near the Catahoula District in Colfax. These populations are being regularly monitored, and the Kisatchie is working with state authorities to insure eradication.**

## 2. Factors Influencing Conditions and Trends

### a) Disturbances

#### *(1) Landscape Ecosystems*

**Today, longleaf pine forests occupy approximately 33 percent of the area on which they once occurred. Loblolly and slash pine plantations replaced these forests. The fire regime on many of the remaining longleaf pine stands has been altered in frequency and timing, resulting in the invasion of other pines, hardwoods, and shrubs, as well as the apparent loss of herbaceous species diversity.**

**Shortleaf pine / oak-hickory forests have been altered in that existing forest canopies are relatively closed, the within-canopy hardwoods are generally absent, and the shortleaf pine component has been greatly reduced. These alterations have occurred on greater than 80 percent of these forests.**

**The area once occupied by mixed hardwood-loblolly pine forests has also been substantially changed. Loblolly pine now dominates the overstories of these**

forests and the previously prevalent within-canopy hardwood composition is now missing or greatly reduced on over 50 percent of the area.

Most riparian forests are little altered from their historical condition. Many retain the same basic structure and composition; however, most show signs of loblolly pine removal.

Frequency and intensity of prescribed burning activities are slowly affecting changes in the vegetative communities found on the Forest. Their uses, along with intermediate harvests (such as first thinning in 15 to 20 year old stands) have had significant influence on vegetative patterns and structure within the forested landscapes.

Prior to the 1999 Forest Plan revision, the Forest employed prescribed fire on an average of 72,119 acres annually (Table 3–5 in the Forest Plan FEIS). Since the Plan revision, the annual average has increased to 108, 843 (Table 4).

| Table 4: Prescribed Burning Accomplishments | | |
|---|---|---|
| Displayed Annually by Purpose | | |
| Purpose | Average Annual Acres (1988-1998)[1] | Average Annual Acres (1999-2005) |
| Fuel management | 32,909 | 60,000 |
| Range | 10,356 | 543 |
| Wildlife | 16,906 | 25,000 |
| Brown-spot | 930 | 2,500 |
| Site preparation | 2,592 | 800 |
| T&E species | 8,425 | 20,000 |
| Total | 72,119 | 108,843 |

The trend in funding for prescribed fire activities in recent years (since 2000) has been to shift funding from wildlife and silvicultural sources to primarily hazardous fuels reduction funding. This reliance on hazardous fuels reduction funding is expected to continue for the near term.

Winter prescribed burning has long been an effective tool for controlling the hazardous buildup of fine forest fuels (leaves, pine needles, twigs, limbs, forbs, and grasses), for restoration of fire dependent ecosystems (especially longleaf systems) and for wildlife, silviculture and range management. Today fire is also

[1] From FEIS, p. 3-14, Table 3-5

being used during the growing season to restore natural plant communities on the landscape, and to manipulate the floristic composition and structure of selected forest stands. Growing season burns are being used more often to manage certain fire-dependent forest communities such as longleaf pine, calcareous prairies, pitcher plant bogs, and RCW cluster sites. This has increased the flexibility and effectiveness of prescribed fire as a tool in the Forest's many fire-dependent ecosystems, especially longleaf pine.

**Table 5: Prescribed Burning Accomplishments**

**Displayed by Season of Burn**

| Fiscal Year | Acres | | | Percent Growing Season |
|---|---|---|---|---|
| | Dormant Season | Growing Season | Total | |
| 1988 | 72,725 | 0 | 72,725 | 0 |
| 1989 | 61,090 | 0 | 61.090 | 0 |
| 1990 | 69,991 | 0 | 69,991 | 0 |
| 1991 | 74,098 | 0 | 74,098 | 0 |
| 1992 | 74,940 | 0 | 74,940 | 0 |
| 1993 | 71,624 | 0 | 71,624 | 0 |
| 1994 | 71,257 | 0 | 71,257 | 0 |
| 1995 | 72,576 | 0 | 72,576 | 0 |
| 1996 | 42,042 | 0 | 42,042 | 0 |
| 1997 | 83,579 | 0 | 83,579 | 0 |
| 1998 | 99,385 | 0 | 99,385 | 0 |
| 1999 | 104,760 | 0 | 104,760 | 0 |
| 2000 | 37,580 | 6,450 | 44,030 | 15 |
| 2001 | 104,718 | 21,282 | 126,000 | 17 |
| 2002 | 83,785 | 13,826 | 97,611 | 14 |
| 2003 | 99,167 | 37,334 | 136,501 | 27 |
| 2004 | 88,432 | 42,369 | 130,801 | 32 |
| 2005 | 79,256 | 42,946 | 122,202 | 35 |
| 2006 | 70,478 | 28,458 | 98,936 | 29 |
| Annual Average (all 19 yrs) | | | | 87,060 |
| Annual Average (Seven years, Revised Plan, 2000-2006) | | | | 108,012 |

The primary natural factors influencing prescribe burn accomplishments are weather and fuels. Prescribed burning parameters such as relative humidity, fuel moisture, KBDI, ERC, BI, winds and smoke management conditions, are all influenced by short and long term weather patterns throughout the prescribed burning season. All burns are conducted within the established Regional/Forest Prescribe Burn parameters. During times of extended droughts and extreme fire behavior, no prescribe burns are implemented.

*(2) Old growth*

**Only minimal work was done in old growth patches during the first five years of Revised Plan implementation. Therefore it is still too early for a meaningful assessment. However, the loss of historical old-growth forest conditions over most of the Forest has generally resulted in the reduction of old cavity trees, snags, and rotting logs.**

*(3) Imbedded Communities*

**Many plants tolerate a wide range of conditions. They therefore occur commonly and cover wide areas. The plant communities of the Kisatchie National Forest change as environmental conditions vary. Changes in land uses, including fire exclusion, farming, timbering, and other activities have most likely altered the abundance of many plant species on the Forest. Changes in habitat conditions have caused some plants to become rare, while others have likely always been rare and limited to specialized habitats.**

**While these plants survive under harsh conditions, they often cannot tolerate changes in their habitat. For example, if a road altered the water flow into a bog, causing the bog to dry out, the habitat could be changed to the extent that upland plants invade the bog, displacing the wetland species. When humans modify these habitats over wide areas, such plants become even scarcer.**

*(4) Exotics*

**Non-invasive exotic plant species tend to establish themselves as a result of soil disturbing activities, but are not likely to spread beyond the area of disturbance, and often yield to native flora once the disturbance regime ends. Because activities that disturb soil can often be prevented, non-invasive species are not considered as profound a threat to wildlands as NNIS.**

**b) Successional Processes**

*(1) Landscape Ecosystems*

**Today, the forested acres on the Kisatchie National Forest are classified as 77 percent pine, 7 percent bottomland hardwood, 6 percent upland hardwood, 10 percent mixed hardwood-pine and mixed pine-hardwood. The age class distribution of the Forest is displayed in Table 6 below.**

| Table 6: Age Class Distribution | | | | | | |
|---|---|---|---|---|---|---|
| By Forest Type[2] | | | | | | |
| Forest Type | Age Class | | | | | |
| | 0-10 | 11-30 | 31-70 | 71-90 | 90+ | Total |
| Shortleaf/Oak-Hickory (includes shortleaf pine) | 908 | 1,037 | 3,939 | 5,792 | 4,342 | 16,018 |
| Loblolly/Hardwood | 137 | 4,620 | 8,026 | 15,543 | 6,432 | 34,758 |
| Longleaf Pine | 2,960 | 14,960 | 59,881 | 41,893 | 3,517 | 123,211 |
| Slash Pine | 58 | 3,301 | 18,297 | 5,804 | 10 | 27,470 |
| Loblolly Pine | 1,012 | 87,790 | 122,262 | 47,794 | 14,789 | 273,647 |
| White Oak/Red Oak/Hickory | 9 | 1,212 | 9,254 | 15,886 | 5,055 | 31,416 |
| Bottomland Hardwood | 62 | 2,138 | 14,849 | 38,570 | 15,090 | 70,709 |
| Total | 5,146 | 115,058 | 236,508 | 171,282 | 49,235 | 577,229 |
| Percent | < 1 | 20 | 41 | 30 | 9 | 100 |

Throughout the gulf coastal plains, fire has played a key role in the development of forest ecosystems. Fire influences many components of the forest environment: plant species and communities, insects, parasites and fungi, and wildlife habitat patterns and populations. The frequency, duration, intensity, and extent of fires bear on major ecosystem processes and characteristics such as nutrient cycling, energy flow, succession, diversity, productivity, and stability.

Generally open, park-like stands of mature timber covered the Forest prior to European settlement. These stands have gradually been altered by timber management practices and fire protection. Much of what was once natural longleaf pine country is now dominated by stands of loblolly pine. This is due to extensive fire protection and stand conversion to faster-growing and easier-to-regenerate species. These activities have created a mosaic landscape of clearings, age classes, and vegetation patterns.

The biological effects of fire profoundly influence the composition, structure, and function of forest ecosystems. In the prolonged absence of periodic, low-intensity fire, these ecosystems would undergo rapid changes in species composition and structure. These, in turn, often become predisposing factors to epidemic insect and disease outbreaks and severe stand-replacement wildfires. Restoring and sustaining short-interval fire-adapted ecosystems on the Forest is expected to be a difficult future challenge.

[2] Sources: 2007 GIS inventory data for the Kisatchie National Forest.

*(2) Old growth*

**Only minimal work was done in old growth patches during the first five years of Revised Plan implementation. Therefore it is still too early for meaningful analysis.**

*(3) Imbedded Communities*

**Species that survive in extreme habitats often become rare if habitat conditions change. Some tolerate life in habitats too harsh for common plants. Others have adapted to specific niches in specialized habitats. Species which grow only in calcareous prairies, for example, depend on specific soil types, fire regimes, and the absence of an overstory for their continued existence, and survive drought better than woodland herbaceous species. Some plants are adapted to life on rock outcrops, in riparian forests, or in sandy woodlands. Certain species have specific survival requirements that can be satisfied only by bogs with wetland soils.**

**Of primary concern are losses of bog and prairie habitat. These two community types can be considered amongst our rarest, and contain more than 26 of our rare plant species. These unique inclusionary habitats are open and relatively free of a woody midstory and overstory. This open aspect was maintained in pre-settlement times by a short fire-return interval that excluded the woody midstory and overstory, while favoring the herbaceous layer where rare plants are found. Since settlement, periods of fire suppression have resulted in increased woody plant growth in these plant communities, leading to an alarming loss of open prairie and bog habitat and the rare species found there. Although an aggressive prescribed fire program has been reinstituted on the Kisatchie, the severely overgrown areas on certain prairies and bogs are often not penetrated by fire, and continue to "succeed" to a heavily woody aspect. This is a serious concern for PETS plant populations.**

*(4) Exotics*

**Hundreds of exotic plant species can be found on Kisatchie land, and all are undesirable. However, the exotic plant species that are invasive are of greatest concern. Even without disturbance, invasive species can spread into and persist in native plant communities.**

**c) Projected Future Actions**

*(1) Landscape Ecosystems*

**Current management direction is concentrated in the RCW HMAs. Management activities are mainly thinning within mature longle**

**through current management activities. This regeneration is a result of removing loblolly or slash pine types through timber sales. Management and vegetative changes within shortleaf/oak-hickory, loblolly/hardwood, and riparian hardwood has been limited; most resulting from prescribed burning, wildfire, or storm-related disturbances.**

**If this trend continues, projected time frames for achieving Forestwide and Management Area restoration objectives are not likely to occur. Either the Forest Plan direction will need to be modified (less emphasis on restoration-by-regeneration of off-site species), or more future projects will need to include proposals for restoration harvests.**

**Service-wide emphasis on restoration and integration should continue to increase and emphasize prescribed burning in the restoration of fire-dependent ecosystems, especially longleaf pine. In addition, the emphasis of prescribed burning in the wildland-urban interface (WUI) is expected to continue in the foreseeable future. These WUI lands are usually more challenging to burn due to risk management concerns. Increased use of mechanical fuel treatments and utilization of biomass in the WUI can be expected.**

**Funding for prescribed burning activities is expected to stay at current levels or increase in the future. The primary funding mechanism for prescribed burning should continue to be hazardous fuels reduction. The use of site preparation burning will stay at the current low levels due to a decrease in the amount of regeneration activities being conducted. Burning for wildlife habitat improvement and Threatened and Endangered Species (TES) management will continue to be deemphasized due to lack of funding in those areas.**

**An increased emphasis on growing season burning above the 10-20 percent identified in the Plan to 20-30 percent of the total prescribed fire program may be expected. Increased reliance on growing season burning will aid in the restoration of fire-dependent ecosystems, improve habitat for rare and endangered wildlife species, and increase the window and total acres treated for hazardous fuels. This increased window is especially important in years where the dormant season weather is not conducive to accomplishment.**

*(2) Old growth*

**None known.**

*(3) Imbedded Communities*

**Increased proposals for the use of prescribed fire will play an important role in restoring rare plant habitats to desired conditions. However, thick shrub growth on bogs and prairies has accumulated over years of fire suppression, and current prescribed fire is not always penetrating these locations. The result may be a degradation of rare plant habitat as the shrub layer shades out rare plants found in the herbaceous layer. Also, growing season burns are more effective at controlling the shrub layer than dormant season burns; consequently, an increase in growing season burns is expected.**

**Continued timber thinning, particularly in pine forests, is a desirable activity, as it allows light to penetrate to the forest floor, favoring the growth of rare plants in the herbaceous layer.**

**Proposed direction will likely restrict OHV use to only designated roads and trails. This will greatly reduce the likelihood of damage to rare plant habitat - particularly glades, prairies, and bogs.**

**Projected pipeline projects should not affect rare plant habitat, as they typically occur within already established pipeline corridors.**

**More hand thinnings in bogs and prairies is foreseeable. Heavily overgrown bog and prairie habitat need to be cleared by hand (chainsaw), burnt on a more frequent basis than the surrounding forest matrix, and treated with herbicide to minimize re-growth of woody shrubs. This is not currently being done on the Kisatchie, and it is not budgeted for in the future.**

*(4) Exotics*

**The effect of NNIS on wildlands in the United States has become one of the most serious problems facing land managers. In fact, the Chief of the U.S. Forest Service has recognized NNIS as one of the four major threats facing the agency. The implementation of a NNIS program should lead to the reduction, control and eventual eradication of targeted species, particularly kudzu and trifoliate orange.**

### d) Reasonably Foreseeable Events Outside Agency Control

*(1) Landscape Ecosystems*

**Unplanned regeneration due to wildfire, storms and stands damaged from prescribed burning have averaged approximately 125 acres annually over the Forest for the past few years. These sites were predominately planted with tree seedlings of their site management type, mainly longleaf. This unplanned restoration is expected to continue at the same rate.**

*(2) Old Growth*

**None known.**

*(3) Imbedded Communities*

**None known.**

*(4) Exotics*

**None known.**

## 3. Comparison of Existing Conditions/Trends to Desired Conditions

*(1) Landscape Ecosystems*

**Concentration of timber harvesting activities to within RCW HMAs is moving the Forest closer to the desired condition for longleaf pine ecosystems.**

**Shortleaf/oak-hickory acres remain much as they were with the exception of small openings created by mortality and some reduction in understory hardwoods from prescribed burning.**

**Prescribed burning goals were accomplished for all years except FY2005, when the prescribed burning goals were not accomplished due to insufficient burning windows. Still, over 95% of the target was met, with 40,761 acres in growing season burns. That was the second year in a row that the growing season acres exceeded 40,000 acres, which was a first for the Forest.**

**In FY2004, growing season and late dormant season burning areas exhibited notable mortality in loblolly stands, especially in poletimber-sized plantations.**

**Current prescribed burning levels of 80-105,000 acres treated annually appear inadequate to fully meet DFCs for fire-maintained ecosystems. Projected needs for prescribed burning are expected to approach maximums of recent years (110,000 to 130,000 acres).**

*(2) Old growth*

**Only minimal work was done in old growth patches during the first five years of Plan implementation. Therefore it is still too early to make a meaningful comparison to expected DFCs for these areas.**

*(3) Imbedded Communities*

**Of primary concern are losses of bog and prairie habitat. These two community types can be considered amongst our rarest, and contain more than 26 of our rare plant species. Although an aggressive prescribed fire program has been reinstituted on the Kisatchie, the severely overgrown areas on certain prairies and bogs are often not penetrated by fire, and continue to "succeed" to a heavily woody aspect. This is a serious concern for PETS plant populations.**

*(4) Exotics*

**Kisatchie had a non-existent or sporadic approach to controlling and eradicating NNIS prior to 2005. With the budgeting of regular annual funds from the Region, the Forest has begun an active NNIS program, and is now treating for kudzu, Japanese climbing fern, privet, tallowtree, bamboo, trifoliate orange and honeysuckle.**

## 4. Results from Past Management Reviews, Audits, Annual Monitoring and Evaluation Reports

*(1) Landscape Ecosystems*

**During the first five years of Revised Plan implementation, projects primarily focused on basic silvicultural needs, pre-commercial thinning, salvage, and RCW habitat management objectives. Almost all projects were designed to restore, maintain or improve the forest ecosystems and plant communities of the Forest. The number and size of timber final harvesting projects fell below the Plan's**

**expected intensity for restoration. Project decisions for harvest treatment of longleaf and shortleaf/oak-hickory communities continued to backlog, due partially to limitations in budgets for implementation.**

**In FY2001, as the Forest was still transitioning to the Revised Plan, there were few projects developed to achieve the new desired future conditions, with the exception of prescribed burning.**

**In FY2002, management practices designed to achieve the desired future conditions as presented by the Revised Plan began to again be implemented on the Forest.**

**Decisions signed in FY2003 through FY2005 included a variety of prescribed treatments. General direction on the Forest was to concentrate projects within RCW HMAs. As a result, most treatments were limited to mainly longleaf restoration and thinnings. These included the following:**

- **314 acres planned for uneven-aged management**
- **Even-aged management using clearcut with reserves to restore longleaf on 894 acres**
- **Site preparation treatments using a range of methods, including fire, mechanical, and herbicide**
- **Commercial thinning on 35,735 acres was used to accomplish a mixture of goals including RCW habitat enhancement, longleaf ecosystem restoration, hardwood enhancement, and forest health/pest prevention.**

**While acres planted to longleaf pine was below estimated annual average of 1,400 acres longleaf restoration, project decisions with restoration cuts increased over the five year period. Although slow at the beginning, more project decisions under the Revised Plan have begun to be implemented. Thinning prescriptions within RCW HMAs should also help to provide, on the whole, better composition within stands being managed as upland longleaf communities. Table 7 below, shows acres planted each year, by species. From the table, it would appear that total planted acres declined. This trend occurs for two reasons: (1) the first few years were follow-ups from the previous Plan's timber sales; (2) in 2003, there were quite a few plantation failures, so for a few years the Forest was planting what was cut plus what had failed. Also, as we transitioned from the previous Plan, most new timber sales were for thinnings in RCW habitat. Since most of these thinning called for cutting of loblolly first and leaving all longleaf, there was a major shift in stand forest types, not just those converted to longleaf by final harvests.**

| Table 7: Forest Acreage Planted | | | |
|---|---|---|---|
| Fiscal Year | Longleaf Pine | Shortleaf Pine | Loblolly Pine-Hardwood |
| 2001 | 655 | 150 | 0 |
| 2002 | 408 | 239 | 0 |
| 2003 | 500 | 55 | 0 |
| 2004 | 308 | 93 | 0 |
| 2005 | 432 | 0 | 11 (interplanted) |

**Mixed hardwood-loblolly regeneration harvest treatments were not implemented; these forest types exceed long-term desired future conditions by 89%.**

**Recommendations have been to perform post-implementation field checks on thinnings to ensure sufficient longleaf emphasis and evaluate species compositions changes. Continue restoration treatments on shortleaf/hardwood sites where there is high priority for regeneration such as stands damaged by disease, insect or storm damage. For mixed hardwood-loblolly forest types, prescribe regeneration cuts on off-site stands where there is a high priority for regeneration (such as stands damaged by disease, insect or storm damage). Continue to monitor management practices being implemented within streamside and riparian area protection zones for compliance with the Forest Plan, through timber sale contract administration, and other field checks. Continue to consider selective thinning treatments within riparian areas to encourage hardwood component.**

- **Prescribed Burning**

**Prescribed burning activities throughout the period continued to move closer to Forest Plan average estimated outputs. As shown in Table 8 below, prescribed burning occurred on most landtype associations (LTAs).**

| Table 8: Annual Prescribed Burning | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| By LTA and Season[3] | | | | | | | | | | |
| Fiscal Year & Season of Burn | Landtype Association (LTA) | | | | | | | | | |
| | 1 - High Terrace Rolling Uplands | 2 - Kisatchie Sandstone Hills | 3 - Undulating Clayey Uplands | 4 - Alluvial Floodplains and Stream Terraces | 5 - Winn Rolling Uplands | 6 - Fort Polk Rolling Uplands | 7 - Red River Alluvial Plain | 8 - Caney Lakes Loamy Uplands | 9 - North Louisiana Clayey Hills | All LTAs |
| FY2001 acres | | | | | | | | | | |
| Dormant Season | 30,366 | 12,276 | 4,879 | 1,437 | 844 | 0 | 0 | 0 | 0 | 49,802 |
| Growing Season | 16,211 | 0 | 208 | 0 | 0 | 0 | 0 | 0 | 0 | 16,419 |
| % Growing Season | 53 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 33 |
| FY2002 acres | | | | | | | | | | |
| Dormant Season | 51,086 | 20,652 | 8,208 | 2,417 | 702 | 0 | 0 | 0 | 0 | 83,065 |
| Growing Season | 13,826 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13,826 |
| % Growing Season | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 |
| FY2003 acres | | | | | | | | | | |
| Dormant Season | 58,678 | 17,564 | 6,891 | 1,018 | 3,102 | 6,438 | 0 | 0 | 5,476 | 99,167 |
| Growing Season | 23,891 | 4,875 | 0 | 0 | 5,977 | 2,641 | 0 | 0 | 0 | 37,384 |
| % Growing Season | 41 | 28 | 0 | 0 | 193 | 41 | 0 | 0 | 0 | 38 |
| FY2004 acres | | | | | | | | | | |
| Dormant Season | 46,518 | 11,824 | 11,589 | 3,415 | 4,633 | 6,438 | 0 | 0 | 3,758 | 88,175 |
| Growing Season | 22,912 | 5,206 | 2,616 | 0 | 8,994 | 2,641 | 0 | 0 | 0 | 42,369 |
| % Growing Season | 49 | 44 | 23 | 0 | 194 | 41 | 0 | 0 | 0 | 48 |
| FY2005 acres | | | | | | | | | | |
| Dormant Season | 42,728 | 10,688 | 8,616 | 4,792 | 5,869 | 6,023 | 288 | 0 | 1,085 | 80,089 |
| Growing Season | 26,547 | 5,478 | 3,500 | 633 | 3,028 | 1,575 | 0 | 0 | 0 | 40,761 |
| % Growing Season | 62 | 51 | 41 | 13 | 52 | 26 | 0 | 0 | 0 | 51 |
| Total acres | | | | | | | | | | |
| Dormant Season | 229,376 | 73,004 | 40,183 | 13,079 | 15,150 | 18,899 | 288 | 0 | 10,319 | 400,298 |
| Growing Season | 103,387 | 15,559 | 6,324 | 633 | 17,999 | 6,857 | 0 | 0 | 0 | 150,759 |
| % Growing Season | 45 | 21 | 16 | 5 | 119 | 36 | 0 | 0 | 0 | 38 |
| Average Annual Acres | | | | | | | | | | |
| Dormant Season | 45,875 | 14,601 | 8,037 | 2,616 | 3,030 | 3,780 | 58 | 0 | 2,064 | 80,060 |
| Growing Season | 20,677 | 3,112 | 1,265 | 127 | 3,600 | 1,371 | 0 | 0 | 0 | 30,152 |
| Both | 66,553 | 17,713 | 9,301 | 2,742 | 6,630 | 5,151 | 58 | 0 | 2,064 | 110,211 |

[3] LTAs 1, 2, 5, and 6 were historically longleaf pine ecosystems, maintained by periodic fire. Desired future conditions (DFCs) on these landscapes are to establish and maintain the longleaf pine ecosystem through the use of prescribed fire, including growing season fire.

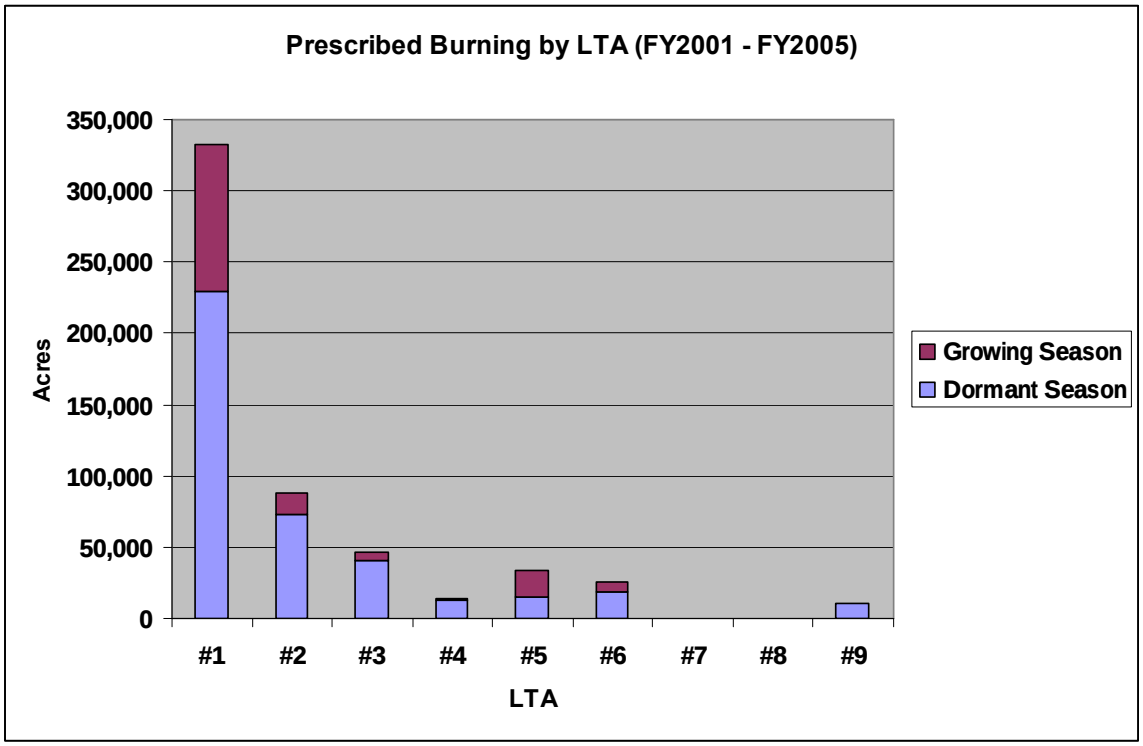



**Figure 5**

**An aggressive prescribed burning program was applied on the Kisatchie landscapes. However, continued use of growing season burns must be implemented to achieve the desired future conditions. Recommendations have been to increase acreage of growing season burns on longleaf and shortleaf pine/oak-hickory landscapes, and continue to work with research to determine effects.**

*(2) Old growth*

**A geographic information systems (GIS) theme showing the location of old-growth patches on the Kisatchie National Forest was developed and made available in FY2001. Scorecards for evaluating old-growth attributes within these patches were also developed. Recommendations were to review existing designated old growth patches during the field examination process, and use old growth attribute scorecards to rank quality.**

**A 2003 project-level decision document involved management practices designed to develop old-growth forest attributes. Thinning activities to remove loblolly and hardwood and enhance RCW and old-growth characteristics were planned on 266 acres. In 2004, another project utilized thinning activities to enhance RCW and old-growth characteristics on an additional 386 acres. These actions were consistent with Plan standards and guidelines for longleaf pine dominated old-growth patches. Recently, little more has been done to develop the Forest's designated old-growth patches.**

**Recommendations have been to complete the inventories of designated old-growth patches and determine which forest ecosystem is represented within each patch. Personnel should continue to complete field visits and review NEPA documents involving old-growth patches to determine compliance with the Forest Plan.**

*(3) Imbedded Communities*

**No Forest-level information was reported in annual monitoring reports. Site level assessments were made as part of environmental documentation for individual projects. In most cases, mitigation measures were used to protect these communities. In a few cases, particularly in bog areas, development opportunities were implemented.**

**Projects are now being submitted annually to open the overgrown midstory on inclusionary communities such as bogs, prairies, and sandy woodlands, allowing the herbaceous layer – rich in rare plants – to thrive. Methods used include clearing by hand and chainsaw, herbicide application, and increased use of fire.**

*(4) Exotics*

**No Forest-level information was reported in annual monitoring reports. Site level assessments were made as part of environmental documentation for individual projects. The Forest is gradually becoming more aware of the presence of NNIS and proposing mitigation or treatment where needed.**

**NNIS are surveyed on Kisatchie lands regularly, including project-specific walking surveys by botanists, and random driving surveys. Of these species, the Kisatchie is actively eradicating kudzu, Japanese climbing fern, privet, tallowtree, bamboo, trifoliate orange and honeysuckle.**

**Cogongrass has not been found on the Kisatchie at this time, but has been reported from land adjacent to the Kisatchie near Colfax and Leesville, LA. Cogongrass surveys are ongoing and if found on Kisatchie land it will assume the highest priority for eradication.**

## *B. Animal/Plant Habitats*

### 1. Existing Conditions and Trends

*(1) MIS*

**(a) Plants**

**Plant management indicator species (MIS) represent the issues, concerns, and opportunities relating to the diverse plant resources and habitats on the Forest. These plant MIS include both individual species and communities. Where several plant species of concern grow together in a single unique community, selection of that community as a MIS reflects both the concern for the individual species as well as the habitat that supports them. On a broader scale, MIS for broad**

**landscape-scale communities help the Forest track the health of those communities and the maintenance of their biodiversity. The final list of MIS and communities resulted from a review of all species likely to occur on the Forest. Emphasis for selection was focused at the landscape scale with additional consideration given to small, unique, or under-represented inclusional communities.**

**No comprehensive survey of plant species for the Kisatchie National Forest exists. Parish surveys, surveys in Research Natural Areas (RNAs), other localized studies, and herbarium records add to the knowledge of the taxa. Currently, botanists actively review these lists in**

| | | | | |
|---|---|---|---|---|
| Red-Headed Woodpecker | stable | --- | LL | acceptable |
| White-Eyed Vireo | stable | --- | MHL - early | deficient |
| Hooded Warbler | decreasing | --- | MHL - mid & late | acceptable |
| Wood Thrush | stable | --- | MHL - mid & late | acceptable |
| Yellow-Billed Cuckoo | stable | --- | MHL - mid & late | acceptable |
| Pileated Woodpecker | increasing | --- | MHL - mid & late | acceptable |
| Red-Cockaded Woodpecker | increasing | Endangered | MHL - mid & late | acceptable |
| Worm-Eating Warbler | decreasing | Conservation | RIP - large stream | acceptable |
| Northern Parula | stable | --- | RIP - large stream | acceptable |
| White-Breasted Nuthatch | stable | Conservation | RIP - large stream | acceptable |
| Kentucky Warbler | increasing | --- | RIP - large stream | acceptable |
| Pileated Woodpecker | increasing | --- | RIP - large stream | acceptable |
| Warbling Vireo | unobserved | Conservation | RIP - large stream | acceptable |
| Acadian Flycatcher | decreasing | --- | RIP - small stream | acceptable |
| White-Eyed Vireo | stable | --- | RIP - small stream | acceptable |
| Yellow-Billed Cuckoo | stable | --- | RIP - small stream | acceptable |
| Louisiana Waterthrush | stable | Conservation | RIP - small stream | acceptable |
| Prairie Warbler | decreasing | --- | SOH - early | acceptable |
| Eastern Wood-Pewee | decreasing | --- | SOH - mid & late | surplus |
| Summer Tanager | decreasing | --- | SOH - mid & late | surplus |
| Cooper's Hawk | stable | Conservation | SOH - mid & late | surplus |
| Pileated Woodpecker | increasing | --- | SOH - mid & late | surplus |
| Red-Cockaded Woodpecker | increasing | Endangered | SOH - mid & late | surplus |

**Aquatic management indicators (MI) were selected to represent the issues, concerns, and opportunities relating to aquatic resources on the Forest. In measuring the biological integrity of the aquatic ecosystem, combinations of species were used to represent aquatic habitats and communities. Fish were used as indicators to reflect the ability of aquatic organisms to move within and among stream reaches. A stream reach with high water quality, however, may contain no fish because of culvert impediments downstream, structural voids,**

**seasonal flow changes, range limitations, or migration. The Louisiana pearlshell mussel is included as a management indicator because there may be environmental factors that impact filter feeders, because of their sessile nature, that may not be as apparent in fish. Table 10 displays the aquatic management indicators.**

| Table 10: Aquatic Management Indicators | |
|---|---|
| **Aquatic Habitat Category** | **MIS** |
| **Swift-flowing – sand/gravel bottom** | **Brown madtom**<br>**Redfin darter**<br>**Louisiana pearlshell mussel** |
| **Slow-flowing – silt/clay bottom** | **Pirate perch**<br>**Blackspotted topminnow** |
| **Impoundments and ponds** | **Largemouth bass**<br>**Sunfish** |

*(2) PETS*

**(a) Plants**

**No federally listed threatened or endangered plant is known to occur on the Forest; however, the Kisatchie lies within the range of earthfruit (***Geocarpon minimum***), a federally threatened plant, and there is likely habitat for that plant on Kisatchie land. Furthermore, the U.S. Fish and Wildlife Service, in accordance with the Endangered Species Act of 1973 (87 Stat. 884, as amended, 16 U.S.C. 1531 et seq.) has directed the Kisatchie to consider earthfruit when making management policy (USFWS official letter. 2007). Consequently, earthfruit will be considered in forest level planning, as well as in the NEPA process. The Forest tracks 86 rare plants. Each plant species falls into 1 of 3 categories of rarity: sensitive plants (24 species), conservation plants (61species), and one federally threatened plant (earthfruit). See Table 11 below. Generally speaking, the sensitive species list includes species rare throughout their range, while conservation species occur more commonly outside Louisiana but are rare within the State. In a few cases these conservation species occur at only one or a few sites in Louisiana or on the Forest. Species are listed and delisted as additional information becomes available, so periodic revisions to the list are necessary.**

**An individual species' status, distribution, and subsequent designation are based upon occurrence records, information and knowledge of the Forest Service, U.S. Fish and Wildlife Service, the state Natural Heritage Program, and The Nature Conservancy.**

| Table 11: Plant PETS | | | | | |
|---|---|---|---|---|---|
| By Status and Rank | | | | | |
| # | Scientific Name | Common Name | Status | | Status*/Rank |
| | | | USFWS | USFS | State (LNHP) |
| 1 | *Agrimonia incisa | Incised agrimony | | S [4] | S1 |
| 2 | *Amorpha paniculata [5] | Panicled false indigo | | S | none |
| 3 | *Amsonia ludoviciana | Louisiana bluestar | | S | S3 |
| 4 | *Carex decomposita | Cypress-knee sedge | | S | S1 |
| 5 | *Cyperus grayioides | Mohlenbrock's umbrella-sedge | | S | S2 |
| 6 | *Cypripedium kentuckiense | Northern lady's slipper | | S | S1 |
| 7 | *Euphorbia discoidalis | Summer spurge | | S | - |
| 8 | *Geocarpon minimum [6] | Earthfruit | T | T | S1,G2 |
| 9 | *Lachnocaulon digynum | Pineland bogbutton | | S | S3 |
| 10 | *Liatris tenuis | Slender gay feather | | S | S1 |
| 11 | *Marshallia trinervia | Broadleaf Barbara's buttons | | S | S1 |
| 12 | *Platanthera integra | Yellow fringeless orchid | | S | S3 |
| 13 | *Prenanthes barbata | Barbed rattlesnakeroot | | S | S2 |
| 14 | *Pteroglossaspis ecristata | Giant orchid | | S | S2 |
| 15 | *Rhynchospora macra | Large beakrush | | S | S2 |
| 16 | *Rudbeckia scabrifolia | Sabine coneflower | | S | S3 |
| 17 | *Schisandra glabra | Bay starvine | | S | S3 |
| 18 | *Schoenolirion wrightii | Texas sunnybell | | S | S2 |
| 19 | *Silene subciliata | Scarlet or Louisiana catchfly | | S | S2 |
| 20 | *Spiranthes longilabris | Giant spiral ladies' tresses | | S | - |
| 21 | *Tridens carolinianus | Carolina fluff grass | | S | S2 |
| 22 | *Verbesina walteri | Carolina crownbeard | | S | - |
| 23 | *Xyris drummondii | Drummond's yellow-eyed grass | | S | S3 |
| 24 | *Xyris louisianica | Louisiana yellow-eyed grass | | S | S2S3 |
| 25 | *Xyris scabrifolia | Harper's yellow-eyed grass | | S | S2 |

T = Federally threatened, S = Federally sensitive; S1-S4 = State rankings and are as follows: S1= Critically imperiled in Louisiana because of extreme rarity; S2 = Imperiled in Louisiana because of rarity; S3 = Rare and uncommon in Louisiana; S4 = Apparently secure in the state; SH of historical occurrence in Louisiana but no recent records verified within the state.
Source: USDA Forest Service, 1998, revised 2007.

**For purposes of NEPA document writing and other ecological analysis, the Kisatchie National Forest recognizes and utilizes the Louisiana Natural Heritage Program's (LNHP) system of natural community classification. Although descriptions of the following communities are based largely on LNHP literature,**

[4] Subset of Regional Forester's Sensitive Species list with known or expected occurrence on the Kisatchie National Forest

[5] Recently found on the Kisatchie National Forest.

[6] Recently found on the KNF. Occurs on only a very small part of the Forest.

they have been amended or elaborated upon when literature or personal observation specific to Kisatchie lands offers further management insight. Initially, the LNHP gathered data for this classification system from secondary sources such as existing inventories, scientific literature, and consultation with experts. The resulting classification was then refined using data collected during LNHP field surveys. While this database is extensive, there are still many natural areas in Louisiana that have not been surveyed and potential community categories not yet defined. New community records are continuously being added to the database, and current records are updated as new information becomes available. Therefore, the LNHP natural community classification is a dynamic system. Individual categories may be added, preexisting ones may be subdivided or merged, or deletions may occur as additional information comes to light. Updated approximations will be periodically produced, and can be found at LNHP website:
http://www.wlf.state.la.us/apps/netgear/index.asp?cn=lawlf&pid=1178.

According to LNHP's current natural community classification (June 2007), Louisiana has 66 community types found within the 6 eco-regions. Botanical surveys of the Kisatchie identify 15 LNHP community classes occurring on the Kisatchie (Grace and Smith 1995; Martin and Smith 1991, 1993; Williams and Smith 1995). The associations of sensitive plants with community types were developed using data from the Kisatchie Land Resource Management Plan (Revised Plan 1999), personal observations from Kisatchie botanists (Hyatt), LNHP, and Small (1933).

There are “additional” community classifications associated with Kisatchie lands that are not described by the LNHP natural community classification. Their origins include literature specific to the Kisatchie, local botanical experts, and Forest botanists. Although these additional community classifications are uncommon, and not often used in Kisatchie documents, they are retained as possible community classes in the interest of descriptive completeness.

The number of rare plants or their population structure is not completely known. Ongoing botanical surveys throughout the Forest are adding to the knowledge of abundance, distribution of rare plant species and, to a lesser extent, for all plant species found in the Kisatchie flora.

A full understanding of rare plant habitat requirements remains inconclusive. Several factors are considered when choosing species for listing as sensitive or conservation species. For example, such factors as the limited range of the Louisiana bluestar, or the wide range but low numbers of the Kentucky lady’s slipper. These rare plant species’ lists also cover species such as those of prairie environments, in decline because of habitat disturbance from human activities such as fire suppression.

The Forest exchanges data with the LNHP, and enters rare plant locations into the Forest geographic information system. The LNHP also provides the Forest with historic data on sensitive species, and periodically furnishes updates on new rare plant locations reported to them by other individuals and agencies.

**Additional historic records may be obtained as time permits the review of specimens housed at various herbaria. Field surveys and research of cooperators have uncovered the majority of known rare plant sites to the Forest.**

**Activities that might threaten the continued existence of any plant species may be deferred or modified to provide adequate protection for the plants. Depending on the species, this may not require the protection of every individual plant or population.**

**The Forest tracks 86 rare plants. Each plant species falls into 1 of 3 categories of rarity: sensitive plants (24 species), conservation plants (61 species), and one federally threatened plant (earthfruit). The number of rare plants' species occurs in various Forest habitats as follows:**

**Hillside Seepage Bog ..... 14**
**Baldcypress (-Tupelo) Swamp ..... 2**
**Bottomland Forest ..... 15**
**Forested (wooded) Seep ..... 4**
**Bayhead Swamp ..... 13**
**Pine Flatwood (Savannah) ..... 16**
**Small Stream (Riparian) Forest ..... 3**
**Cook Mntn/Jackson Calcareous Prairie ..... 12**
**Sandstone Glade/Barren ..... 5**
**Calcareous Forest ..... 4**
**Hardwood Slope Forest (Mesic Slopes) ..... 17**
**Shortleaf Pine/Oak-Hickory Forest ..... 1**
**Mixed Hardwood/Loblolly Forest ..... 4**
**Western Upland Longleaf Pine Forest ..... 7**
**Sandy Woodlands ..... 19**
**Large Stream: Sandy Banks ..... 1**
**Limestone Outcrops ..... 4**
**Lakebank ..... 1**

**See Section IV (Vegetative Communities > Imbedded Communities) of this report for more detailed descriptions of imbedded plant communities and the rare plants found within them.**

**(b) <u>Animals</u>**

**Table 12: Animal PETS**

**By Status and Rank**

| # | Scientific Name | Common Name | Status | | Status*/Rank |
|---|---|---|---|---|---|
| | | | USFWS | USFS | State (LNHP) |
| 1 | **Picoides borealis* | Red-cockaded Woodpecker | E | E | E |
| 2 | *Haliaeetus leucocephalus* | Bald Eagle | DM | S | E |
| 3 | *Margaritifera hembeli* | Louisiana pearlshell mussel | T | T | T |
| 4 | *Ursus americanus luteolus* | Louisiana black bear | T | T | T |
| 5 | *Alligator mississippiensis* | American alligator | TSA | TSA | TSA |

| | | | | | |
|---|---|---|---|---|---|
| **6** | **Aimophila aestivalis* | **Bachman's Sparrow** | | **S** [7] | **S3** |
| **7** | *Ammocrypta clara* | **Western sand darter** | | **S** | **S2** |
| **8** | | | | | |

## 2. Factors Influencing Conditions and Trends

### a) Disturbances

*(1) MIS*

**(a) Plants**

**Current habitat conditions on the Forest are largely a function of past uses and management activities. Most of the native overstory was removed during extensive logging that occurred in the early 1900's. A large portion of the area harvested during this period was succeeded by off-site tree species that had not historically occupied these landscape types. The fire regime that shaped the upland habitats of the earlier forests was significantly altered as well. These factors have changed the character and pattern of forest vegetation on much of the Forest (Figure 6).**

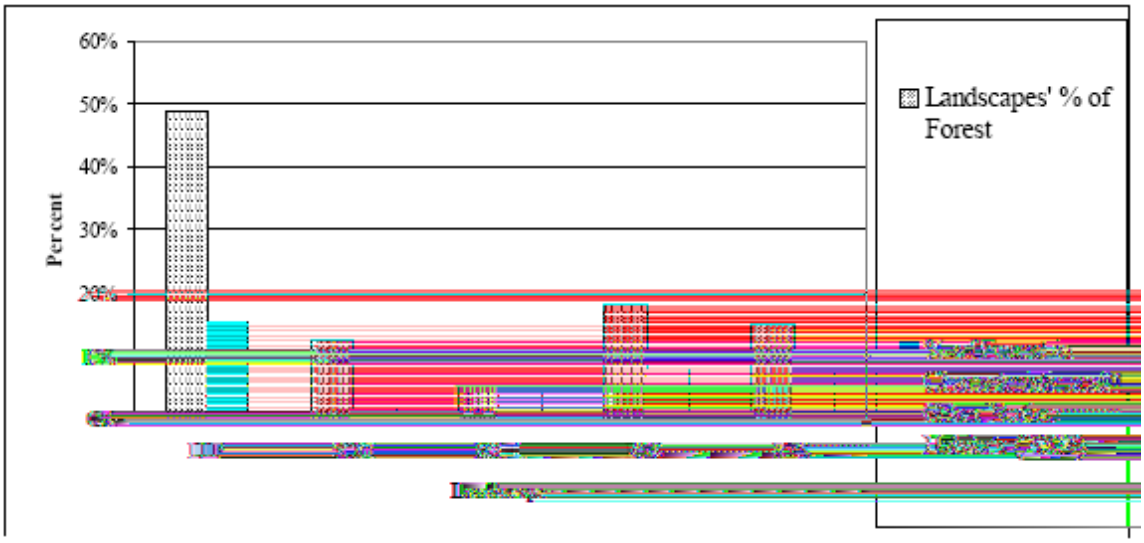



**Figure 6: Percentage of Kisatchie National Forest total acreage within each landscape type and, within landscape type, the percent of total Forest acreage occupied by the characteristic habitat of the landscape type and other native Forest habitats ([Landscapes' % of Forest]*[% of Landscape in Characteristic and Other Native Habitats]) in 2003. (LLF = Longleaf Pine, SOH = Shortleaf Pine/Oak-Hickory, MHL = Mixed Hardwood/Loblolly Pine, RSS = Riparian Small Stream, and RLS = Riparian Large Stream.) (MIS Report 2005)**

**The most apparent landscape-level changes in habitat conditions have occurred as a result of the reduction in longleaf pine forests. The area providing the open, park-like habitat conditions of these forests, which once dominated the Forest's land base, has been reduced by nearly 70% within the Longleaf Pine landscape type. Additionally, a large portion of the remaining longleaf pine forests exist as smaller fragments isolated from other longleaf pine tracts by stands of off-site pine species (loblolly pine or slash pine), with dramatically different habitat conditions. Unlike longleaf pine forests, these stands generally have a relatively**

**closed canopy, a dense midstory, and a less diverse, more sparse and shade-tolerant understory. (MIS Report 2005)**

**The shortleaf pine / oak-hickory habitats have also been dramatically reduced. Many of these areas were either planted in or succeeded to off-site species after early to mid-century harvests. The existing forests within the landscape type have relatively closed canopies, and few within-canopy hardwoods or shortleaf pines. A greater proportion of the characteristic forests of this landscape type have been lost than those of any other landscape type (Figure 6) (MIS Report 2005).**

**Although the majority of the mixed hardwood / loblolly pine landscape type is in characteristic habitats, little of the landscape type is currently in mixed pine / hardwood. Management direction in any particular mixed stand has historically been toward either a pine or a hardwood type. Even with recent emphasis to increase the acreage of mixed types in these areas, it still remains well below that which occurred prior to European settlement. (MIS Report 2005)**

**Riparian habitats have also changed from historic conditions, but remain primarily in native habitat types (i.e., habitats that are native to the Forest, but are not characteristic of the landscape type). Small stream areas appear to retain a small percentage of their characteristic habitats, while large streams have been somewhat less impacted. However, because small stream riparian habitats are embedded within all of the other landscape types and some small stream habitats have not been exclusively delineated in [inventory] data, the true amount of habitat remaining within this landscape type is not estimable. Hydrological features define riparian zones, but, for the sake of efficiency, riparian zones on the Forest were delineated using a buffer around existing streams in a GIS coverage. Therefore, some surrounding uplands may have been included in the riparian zones and may account for a large percentage of native forest types detected within the riparian areas (MIS Report 2005).**

**(b) <u>Animals</u>**

**All of the above-mentioned changes to the Forest have altered the distribution, extent, and quality of vegetative communities and the associated habitats available to wildlife.**

*(2) <u>PETS</u>*

**(a) <u>Plants</u>**

**Many plants tolerate a wide range of conditions. They therefore occur commonly and cover wide areas. The plant communities of the Kisatchie National Forest change as environmental conditions vary. Changes in land uses, including fire exclusion, farming, timbering, and other activities have most likely altered the abundance of many plant species on the Forest. Changes in habitat conditions have caused some plants to become rare, while others have likely always been rare and limited to specialized habitats.**

**Species that survive in extreme habitats often become rare if habitat conditions change. Some tolerate life in habitats too harsh for common plants. Others have adapted to specific niches in specialized habitats. Species which grow only in calcareous prairies, for example, depend on specific soil types, fire regimes, and the absence of an overstory for their continued existence, and survive drought better than woodland herbaceous species. Some plants are adapted to life on rock outcrops, in riparian forests, or in sandy woodlands. Certain species have specific survival requirements that can be satisfied only by bogs with wetland soils.**

**While these plants survive under harsh conditions, they often cannot tolerate changes in their habitat. For example, if a road altered the water flow into a bog, causing the bog to dry out, the habitat could be changed to the extent that upland plants invade the bog, displacing the wetland species. When humans modify these habitats over wide areas, such plants become even scarcer.**

**In order to thrive, some rare plant species may depend on the disturbance created by fire. Fire reduces competition because it kills some species. To effectively seed-in and grow, many herbaceous plants native to the longleaf ecosystem need fire-created open spaces that have been bared to mineral soil. Decades of effective fire suppression have limited the open spaces these plants need, thereby causing them to drift toward rarity.**

**(b) <u>Animals</u>**

**Disturbances can adversely affect rare species (PETS and Conservation species) more so than non-rare species (most of Kisatchie National Forest's MIS, non-game species, and game species) because of rare species' narrower ecological niches; rare species do not adapt as well as more common species with broader ecological niches. Humans are the primary disturbers of terrestrial wildlife on Kisatchie National Forest: cross-country 4-wheeler riders, trail riders on designated trails, year-round recreationists (including hunters) throughout the Forest, USFS personnel and contractors conducting timber management, recreation management, and wildlife management activities can have an adverse impact on terrestrial species. Adherence to Kisatchie National Forest's Revised Forest Plan negates the adverse impacts of disturbances to wildlife to an acceptable level.**

**b) <u>Successional Processes</u>**

*(1) <u>MIS</u>*

**(a) <u>Plants</u>**

**Habitats on the Forest changed little between 1995 and 2003, aside from aging, which is consistent with the direction of the Revised Forest Plan. The greatest change occurred in early successional loblolly pine, which declined from 9.8% to 1.5% of the Forest (85% decrease). The remaining early successional classes of other habitats declined as well, but the magnitude of change was less. The**

**general trend toward older successional classes and reductions in early successional classes was evident in all Forest habitats (MIS Report 2005).**

**[See also the Vegetative Communities section]**

**(b) Animals**

**Early successional habitats currently occupy a greater amount of the forested landscape types than they did within the original forests. These habitat patches are generally larger in size and more uniformly distributed across the Forest. This condition has increased the amount and distribution of edge habitats and associated effects, both positive and negative, on wildlife species (MIS Report 2005).**

*(2) PETS*

**(a) Plants**

**[See Vegetative Communities section]**

**(b) Animals**

**Habitat succession (and eventual regeneration) is a natural process and wildlife species have an innate ability to appropriately respond to natural changes in their habitat. Habitat succession, like disturbance, can adversely affect rare species (PETS and Conservation species) more so than non-rare species (most of Kisatchie's MIS, non-game species, and game species) because of rare species' narrower ecological niches; rare species do not adapt as well as more common species with broader ecological niches. Adhering to the Revised Forest Plan will ensure an appropriate mix of successional classes for the benefit of wildlife.**

**c) Projected Future Actions**

*(1) MIS*

**(a) Plants**

**To estimate 2010 expected conditions based on forest management direction, stands were aged 10 years by adding 10 years to the 2000 stand age and the forest modeling program FORPLAN, was used to identify stands likely to be subject to even-aged management as the Forest Plan is implemented. Increases in longleaf pine and shortleaf pine / oak-hickory habitats, and decreases in shortleaf pine and loblolly pine habitats are anticipated (MIS Report 2005, Table 5, Figure 3). Additionally, a large portion of the Forest will continue to transition into the later successional classes, potentially increasing the amount of forest in old growth conditions with the associated habitat features such as downed logs, standing snags, and tree cavities. These changes are consistent with the stated objectives in the Forest Plan and would be the initial step in restoring historical habitats within the landscape types. Past, present, and expected future habitat conditions are discussed by landscape types below.**

**Under the Revised Plan, the number of acres burned annually increased to approximately 83,000 acres/year. This level of prescribed fire treatment is planned through the 10-15 year planning period, and is expected to increase to approximately 130,000 acres per year for the remainder of the planning horizon (150 years). Approximately 20-30% of the projected burn acreage will receive growing season burns, which may more effectively reduce the hardwood dominated understory and midstory forest layers, and the remainder will be burned in winter. The projected increase in acreages burned is partially the result of efforts to restore historic conditions within landscape types in addition to historic uses for wildlife/range habitat improvement, fuels reduction, old growth stand improvement, and amenity (visual and recreational) enhancement (Plan FEIS 1999, pages 4-33 to 4-34 and Table 4-7).**

**(b) Animals**

**Prescribed burning is required to meet the Revised Forest Plan objectives of restoration of forest types historically occurring on the Forest and maintaining conditions suitable for many native plants and wildlife. MIS populations will be monitored, but the majority of species are not expected to significantly change in abundance on the Forest in response to increased prescribed fire. Many species that are restricted to fire-maintained landscapes will potentially benefit from increased burning frequency. The range of some shrub and midstory nesting species using overgrown fire-maintained habitats will be reduced, but ample suitable habitat for those species will be available on the Forest in infrequently and/or unburned forest types (MIS Report 2005).**

*(2) PETS*

**(a) Plants**

**An aggressive prescribed fire program will continue in the foreseeable future, with a goal of burning much of Kisatchie lands on a 3-5 year rotation. This fire frequency will play an important role in restoring rare plant habitats to pre-settlement conditions, which is desirable. However, thick shrub growth on bogs and prairies has accumulated over years of fire suppression, and current prescribed fire is not always penetrating these locations. The result is a degradation of rare plant habitat as the shrub layer shades out rare plants found in the herbaceous layer. Hand thinning of bogs and prairies is needed in addition to prescribed fire. Also, growing season burns are more effective at controlling the shrub layer than dormant season burns; consequently, an increase in growing season burns is desirable.**

**Continued timber thinning, particularly in pine forests, is a desirable activity, as it allows light to penetrate to the forest floor, favoring the growth of rare plants in the herbaceous layer.**

**New regulations restrict OHV use to authorized roads and trails. This will greatly reduce damage to rare plant habitat - particularly glades, prairies, and bogs.**

**Projected pipeline projects should not affect rare plant habitat, as they will occur within established pipeline corridors.**

**(b) Animals**

**Under the Plan as amended, the new USFWS Recovery Plan guidelines (Plan Amendment #5) will be implemented. This modified direction utilizes best available information for managing RCW habitat on federal lands.**

**As more is known about habitat needs and population distribution, additional guidance is expected for managing the Louisiana pearlshell mussel and Louisiana pine snake.**

**d) Reasonably Foreseeable Events Outside Agency Control**

*(1) MIS*

**(a) Plants**

**Habitat changes caused by events occurring on private lands may have indirect or cumulative effects to plants on the Forest.**

**(b) Animals**

**Habitat changes caused by events occurring on private lands may have indirect or cumulative effects to animals on the Forest.**

*(2) PETS*

**(a) Plants**

**Habitat changes caused by events occurring on private lands may have indirect or cumulative effects to plants on the Forest.**

**(b) Animals**

**Habitat changes caused by events occurring on private lands may have indirect or cumulative effects to animals on the Forest.**

**The LPM is continually threatened by the inundation of beaver dams. The FS contracts with the USDA Animal and Plant Health Inspection Service and spends a considerable amount of the wildlife budget each year to trap beavers and destroy dams that are a threat the LPM.**

## 3. Comparison of Existing Conditions/Trends to Desired Conditions

*(1) MIS*

**(a) Plants**

**Although stand age increased, the composition of habitat types within the Forest did not significantly change (MIS Report 2005). Almost 50% of the Forest**

**remained in loblolly pine forest. Marginal increases in pine / hardwood, and hardwood / pine habitats, and a decrease in slash pine habitat occurred.**

**Increases in longleaf pine and shortleaf pine / oak-hickory habitats, and decreases in shortleaf pine and loblolly pine habitats are slowly occurring. Additionally, a large portion of the Forest continues to transition into the later successional classes, potentially increasing the amount of forest in old growth conditions with the associated habitat features such as downed logs, standing snags, and tree cavities. These changes are consistent with the stated objectives in the Forest Plan and would be the initial step in restoring historical habitats within the landscape types (MIS Report 2005).**

**See also Vegetative Communities, in sub-section A.**

**(b) Animals**

**The only habitat shortage (mixed hardwood-loblolly pine (early seral stages)) had a corresponding management indicator species (White-Eyed Vireo) which had a stable population density. The "surplus" habitat type (shortleaf pine/oak-hickory (mid and late seral stages)) had two management-indicator species that decreased in population density, two species that increased, and one species that remained stable. The habitat types that were within Kisatchie National Forest Plan standards had approximately equal numbers of management indicator species that were increasing, remaining stable, or decreasing in population density. The management implication is that factors (such as habitat quality throughout their summer and winter range, human disturbances, etc) other than habitat quantity are impacting Kisatchie National Forest's management indicator species (MIS Report 2005).**

**See also Tables 13 and 14 under Subheading 4, below.**

*(2) PETS*

**(a) Plants**

**[See Vegetative Communities, in sub-section A.]**

**(b) Animals**

**Forestwide Desired Future Condition (Revised Plan pg 2-3):**

> **"The Forest provides 1 recovered population and 4 support populations to the overall Red-cockaded Woodpecker recovery. Other species formerly listed as rare because of unfavorable habitat conditions now find suitable habitat and are no longer at risk."**

**Compared to Existing Kisatchie National Forest Conditions/Trends: Kisatchie National Forest is making steady progress toward its 2003 USFWS RCW Recovery Plan goal of 1 primary core population (Vernon/Ft Polk RCW population), 1 secondary core populations (Catahoula RCW population), and 3 significant support populations (Evangeline RCW population, Kisatchie RCW population, and Winn RCW population). Kisatchie National Forest's RCW**

**population goals are: Vernon/Ft Polk (goal = 350 active clusters; currently, Vernon 152 active clusters and Ft Polk 52 active clusters), Catahoula (goal = 250 active clusters; currently, 43 active clusters), Evangeline (goal = 231 active clusters; currently, 107 active clusters), Kisatchie (goal = 292 active clusters; currently, 29 active clusters), and Winn (goal = 263 active clusters; currently, 19 active clusters). Kisatchie National Forest still has rare species; these species find suitable habitat on the Forest. Louisiana (and Kisatchie National Forest) always will have rare species; the rarity of these species will be due primarily to their scarcity off Forest.**

## 4. Results from Past Management Reviews, Audits, Annual Monitoring and Evaluation Reports

*(1) MIS*

**(a) Plants**

**A botany MIS survey was initiated in 2002, and surveys were conducted at sites associated with Red-cockaded Woodpecker habitat. In 2004 data collection ceased with the vacancy of the Forest botanist position, and has not yet been resumed. A review of the collected data found that the methods being used had two problems. First, data collected by different observers was collected using slightly different methods. Secondly, there were very few occurrences of plant MIS species within plots (Hyatt 2003). It has been recommended that the plant MIS list be modified to include more commonly occurring native plants that occupy a wider range of forest habitat types. Additionally, the survey protocol should be reexamined and possibly revised. Also, successful botany MIS programs from other forests in Region 8 should be considered as models, and statisticians and vegetation ecologists should participate in the review of a new Kisatchie MIS protocol.**

**(b) Animals**

**As shown in Tables 13 and 14 below, the Forest appears to have a surplus of shortleaf pine/oak-hickory (mid-late stages) and a deficiency of mixed hardwood-loblolly pine (early stages). This apparent difference is due in part to re-classification (re-mapping) work done at the project level, which separated out stands originally managed for loblolly pine, into landscapes to be managed for mixed shortleaf pine/oak-hickory (SOH). This re-classification put more acreage into the early stage SOH category while reducing the acreage in the early mixed hardwood-loblolly pine (MHL) stage. In addition, as time passed and with little new MHL regeneration occurring, a large proportion of the early MHL stands moved into the mid-late stages. Other habitat types/successional stages are near Forest Plan expectations. Overall, Kisatchie NF is meeting its goal of providing a biologically diverse ecosystem. Recommendations have been to continue to adhere to Revised Kisatchie Plan guidance.**

| Table 13: Comparison of Expected and Actual Forest Landscapes | | | | | | |
|---|---|---|---|---|---|---|
| By Assessment Year | | | | | | |
| Landscape Community | Acres | | | | | |
| | Forest Plan Estimation[8] | FY2001 | FY2002 | FY2003 | FY2004 | FY2005 |
| Longleaf pine, all stages | 121,000 | 127,415 | 120,483 | 122,503 | 119,245 | 125,661 |
| Shortleaf pine/oak-hickory, early stages | 0 | 1,633 | 2,897 | 626 | 1,149 | 1,182 |
| Shortleaf pine/oak-hickory, mid-late stages | 16,000 | 48,050 | 34,912 | 45,610 | 36,396 | 45,450 |
| Mixed hardwood-loblolly pine, early stages | 42,000 | 14,351 | 15,519 | 6,811 | 9,720 | 3,053 |
| Mixed hardwood-loblolly pine, mid-late stages | 252,000 | 261,024 | 247,710 | 259,284 | 253,922 | 267,186 |
| Riparian, small streams | 85,000 (no annual change) | 85,000 | 85,000 | 85,000 | 85,000 | 85,000 |
| Riparian, large streams | 92,000 (no annual change) | 92,000 | 92,000 | 92,000 | 92,000 | 92,000 |

| Table 14: Comparison of Planned and Actual Forest Habitats | | | | | | |
|---|---|---|---|---|---|---|
| By Assessment Year | | | | | | |
| Successional Habitat (all Forest Types) | Acres | | | | | |
| | Forest Plan Estimation[9] | FY2001 | FY2002 | FY2003 | FY2004 | FY2005 |
| Early (0-10 years) | ≥ 20,000 | 26,882 | 24,921 | 13,189 | 14,339 | 14,859 |
| Middle (31-50 years) | ≥ 50,000 | 86,898 | 55,265 | 82,780 | 66,452 | 78,445 |
| Late (71+ years) | ≥ 75,000 | 163,120 | 151,111 | 179,201 | 175,024 | 189,636 |

**To measure trends of MIS in streams, a measure of stability was obtained from monitoring relative abundance (abundance of a species in the sample/total**

[8] Estimates are acreages projected for the end of the first 10-year Plan period (FY2010).

[9] Estimates are acreages expected by the end of the first 10-year Plan period (FY2010).

**abundance of all species in the sample). With relative abundance, much of the sampling bias resulting from different sampling techniques and sampling efforts is eliminated. We regressed relative abundance (arcsine square root transformed) against time to assess population trends in MIS. Our analysis included samples from 1985 to 2003 for electrofishing data and 1965 to 2004 for seine data and showed that forest management activities by Kisatchie National Forest do not seem to be negatively impacting lotic systems within the Forest. None of the aquatic management indicator species showed an appreciable decline in relative abundance and all showed the presence of juveniles/recruitment. If management activities had altered the habitat conditions an effect should have been evident in at least one of the indicator species (Byrd 2005).**

*(2) PETS*

**(a) Plants**

**No known occurrences of threatened or endangered plant species exist on the Kisatchie National Forest. The Forest's prescribed burning program was the most important practice used for restoration of pre-settlement habitats, which is proving to be very effective in protecting, improving and maintaining TESC species. On a small scale some prairies and bogs were managed for the benefit of sensitive and conservation species, by clearing of encroaching shrubs and trees – a result of fire suppression over decades. Additionally, treatment of non-native invasive species has improved habitat for TESC species.**

**Recommendations have been to continue the current prescribed burn program of 125,000 to 150,000 acres per year. Growing season burns are critical for successful gains in restoration efforts. Increase efforts to remove encroaching woody plants in the Winn District prairies and bogs throughout the Forest, as these habitats host many of the plant TESC species.**

**(b) Animals**

**As shown in Tables 15 through 17 and Figure 7, it appears that early successional (0-10 years) pine habitat has diminished since the base year 1999 (the year the Kisatchie Revised Forest Plan was published); mid-successional pine habitat has stayed approximately the same since 1999; and older successional pine habitats have increased since the base year. For mixed forest types and hardwood forest types, early successional habitat remains approximately the same as the base year; mid-successional habitat remains approximately the same as the base year; and older successional habitats have increased since the base year. For all forest types, forestwide, early successional habitat has decreased since the base year; mid-successional habitat remains approximately the same; and late successional habitat has increased since the base year.**

| Table 15: Successional Class Changes 1999-2005 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| For Pine Forest Types | | | | | | | | |
| Stand Age: | 0-10 Years | | 11-30 Years | | 31-80 Years | | 81+ Years | |
| Year: | 2005 | 1999 | 2005 | 1999 | 2005 | 1999 | 2005 | 1999 |
| Longleaf acres | 5,587 | 13,614 | 14,909 | 10,179 | 85,470 | 95,690 | 19,383 | 4,162 |
| Slash acres | 44 | 618 | 3,995 | 7,392 | 33,233 | 31,273 | 37 | 11 |
| Loblolly acres | 2,694 | 38,880 | 90,871 | 81,214 | 155,189 | 147,014 | 26,041 | 15,382 |
| Shortleaf acres | 968 | 938 | 745 | 927 | 6,737 | 8,000 | 6,250 | 4,799 |
| Subtotal acres | 9,293 | 54,050 | 110,520 | 99,712 | 280,629 | 281,977 | 51,711 | 24,354 |
| Subtotal % | 2.1 | 11.7 | 24.4 | 21.7 | 62.1 | 61.3 | 11.4 | 5.3 |
| Forestwide % | 1.6 | 9.0 | 18.5 | 16.6 | 47.0 | 47.0 | 8.7 | 4.1 |

| Table 16: Successional Class Changes 1999-2005 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| For Mixed Forest Types | | | | | | | | |
| Stand Age: | 0-10 Years | | 11-30 Years | | 31-80 Years | | 81+ Years | |
| Year: | 2005 | 1999 | 2005 | 1999 | 2005 | 1999 | 2005 | 1999 |
| Pine-Hardwood acres | 482 | 1,200 | 4,638 | 4,593 | 11,735 | 15,024 | 8,849 | 4,438 |
| Hardwood-Pine acres | 42 | 371 | 1,470 | 2,958 | 18,027 | 25,071 | 15,476 | 8,229 |
| Subtotal acres | 524 | 1,571 | 6,108 | 7,551 | 29,762 | 40,095 | 24,325 | 12,667 |
| Subtotal % | 0.9 | 4.9 | 10.1 | 23.7 | 49.0 | 125.8 | 40.1 | 39.7 |
| Forestwide % | 0.1 | 0.3 | 1.0 | 1.3 | 5.0 | 6.7 | 4.1 | 2.1 |

| Table 17: Successional Class Changes 1999-2005 |
|---|
| For Hardwood Forest Types |

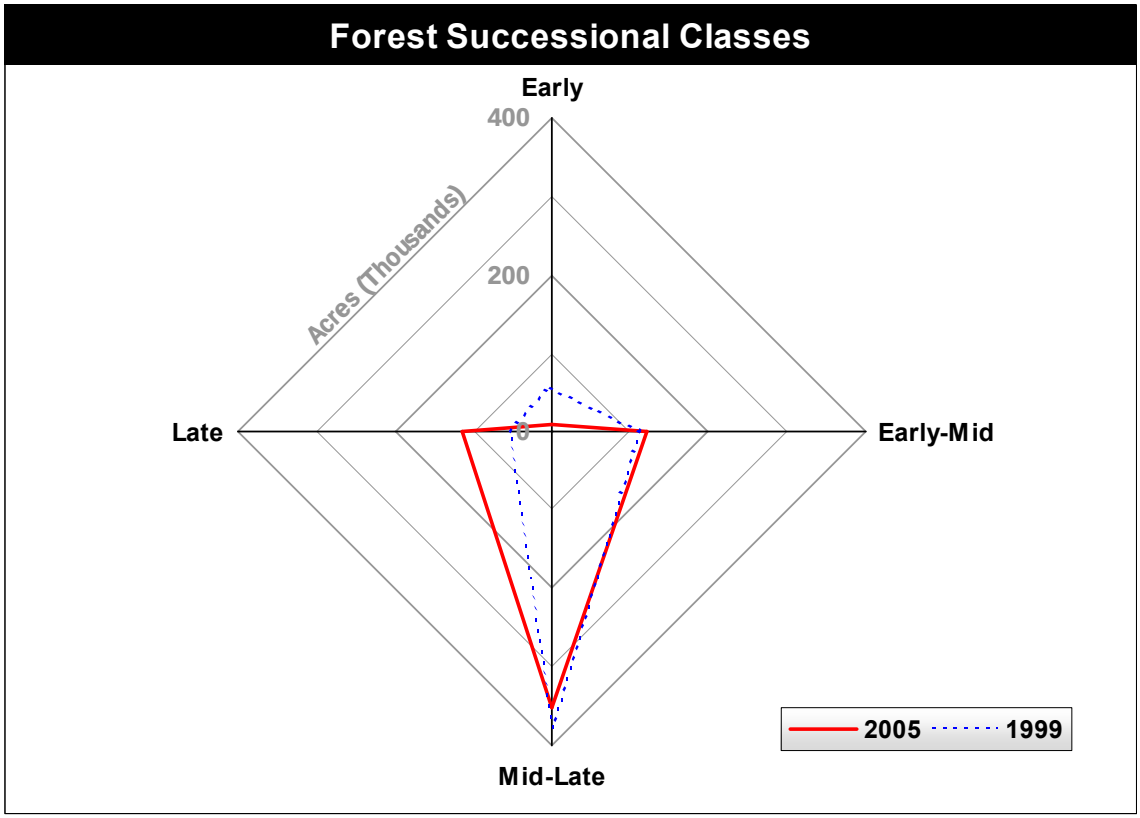



Figure 7

**Recommendations have been to adhere to the land management practices described in the Revised Land Management Plan for Kisatchie NF, which calls for relatively older timber stands.**

**Kisatchie National Forest's terrestrial wildlife PETS species include the Red-Cockaded Woodpecker (endangered species), Bald Eagle (delisted and monitored), Louisiana pine snake (USFWS candidate species), Louisiana slimy salamander (USFS R8 Sensitive species), Bachman's Sparrow (USFS R8 Sensitive species), Rafinesque's big-eared bat (USFS R8 Sensitive species), and Southeastern myotis (USFS R8 Sensitive species). Populations of Red-Cockaded Woodpeckers and Bald Eagles on Kisatchie National Forest are at least slightly increasing. Other PETS species exist in relatively low numbers; not enough information exists to estimate a current trend for these species. Summarily, Kisatchie National Forest habitat conditions seem to be acceptable to Kisatchie PETS species (MIS Report 2005).**

## *C. Fish and Wildlife*

### 1. Existing Conditions and Trends

*(1) Terrestrial Habitat*

**Game species' population densities on the Kisatchie National Forest are estimated to be: white-tailed deer – 1 deer / 50 acres on Caney District to 1 deer / 200 acres on Evangeline Unit; Wild Turkey – 1 turkey / 100 acres on Kisatchie District to 1 turkey / 300 acres on Caney District; fox squirrel – 1 squirrel / 5 acres upland hardwoods; gray squirrel – 1 squirrel / 3 acres bottomland hardwoods; and Northern Bobwhite – 1 covey / 1,800 acres. All game species' population densities could be at least tripled on the Forest and still be within biological carrying capacity of the land. Relatively long hunting seasons and large bag limits, permissive off-season allowance for training hunting dogs, extensive year-round cross-country motorized recreation, Kisatchie National Forest's dense road network, and relatively few law enforcement officials available to deter law-breakers contribute to game species' sparseness. For the most part, habitat quality and quantity has little correlation with the Kisatchie National Forest's game species' population densities.**

*(2) Lake/Ponds*

**The presence of at least 87 fish species have been documented on the Kisatchie National Forest. These species occur in a variety of habitats — reservoirs, lakes, ponds, and streams. Perennial, intermittent, and ephemeral streams occur within 35 watersheds. Stream conditions on the Forest are typical of the lower Gulf Coastal Plain and range from clear, swift-flowing streams to sluggish, murky bayous. Natural lakes and sloughs provide additional aquatic habitats.**

**Streams provide the dominant aquatic habitat on the Kisatchie National Forest. Streams on the Forest can generally be differentiated into two categories — fast- to moderate-flowing streams with sand or gravel bottoms and slow-flowing, sluggish streams with silt or clay bottoms.**

**Artificial impoundments that are managed for recreational fishing range from 2 to 1,350 surface acres. These lakes surrounded by piney uplands are typically neutral to slightly acidic in pH and characterized as oligothrophic to mesotrophic systems. Lake gamefish populations consist of bass, sunfish, catfish and crappie.**

**Water quality on FS lakes was within the norms associated with infertile oligotrophic systems of the sandy coastal plains. The following restoration projects were prescribed to maintain and enhance lake productivity and habitat:**

- **In FY2001, applications of 262 tons of agricultural lime were applied to six lakes and ponds to increase and maintain pH and alkalinity. The Blue Hole and Valentine Lake were fertilized to increase primary production, therefore increasing survival rates of young-of-year fish, and suppressing unwanted aquatic weeds. The introduction of spawning beds, cover for juvenile fishes,**

**and erosion control measures were accomplished by strategically spreading 28 yards of pea gravel in the Blue Hole.**

- **Following a levee failure at Fullerton Lake in FY2001, a structure repair was completed. The 70-year-old lake has reached pool stage and has been re-stocked.**
- **In FY2002, applications of lime and fertilizer on nine ponds and lakes (totaling 115 acres) were applied to increase and maintain pH and alkalinity, increase primary production; therefore increasing survival rates of young-of-year fish, and suppressing unwanted aquatic weeds.**
- **Infestations of** *hydrilla verticillata* **continued to threaten spawning habitat and fish population balance in Caney Lakes. A contract was awarded in FY2005 to repair the control structures and an aquatic environmental evaluation was conducted to deal with this intrusive species.**
- **In FY2003, applications of lime and fertilizer on eleven ponds and lakes (totaling 101 acres) were applied.**
- **In FY2004, applications of lime and fertilizer on fourteen ponds and lakes (totaling 180 acres) were applied.**
- **In FY2005, applications of lime and fertilizer on eleven ponds and lakes (totaling 92 acres) were applied.**

**In 2003, the Forest provided 48,483 acres of riparian/bottomland habitat for waterfowl and wetland wildlife; in 2004, 45,509 acres (525 stands) of riparian/bottomland habitat for waterfowl and wetland wildlife; and in 2005, 49,336 acres (559 stands) of riparian/bottomland habitat for waterfowl and wetland wildlife.**

## 2. Factors Influencing Conditions and Trends

### a) Disturbances

#### *(1) Terrestrial Habitat*

**Disturbances can adversely affect rare species (PETS and Conservation species) more so than non-rare species (most of Kisatchie National Forest's MIS, non-game species, and game species) because of rare species' narrower ecological niches; rare species do not adapt as well as more common species with broader ecological niches. Humans are the primary disturbers of terrestrial wildlife on Kisatchie National Forest: cross-country 4-wheeler riders, trail riders on designated trails, year-round recreationists (including hunters) throughout the Forest, USFS personnel and contractors conducting timber management, recreation management, and wildlife management activities can have an adverse impact on terrestrial species. Adherence to Kisatchie National Forest's Revised Forest Plan negates the adverse impacts of disturbances to wildlife to an acceptable level.**

*(2) Lake/Ponds*

**Factors that continue to impact fish and aquatic ecosystems may include:**

- **Localized water quality problems — fecal coliform, low pH, total dissolved solids, and turbidity — that could potentially impact stream fisheries.**
- **Low dissolved oxygen due to lake turnover, resulting in die-off of plankton and fish communities.**
- **Short-term and long-term impacts of sedimentation, siltation, and hydrocarbon pollution resulting from military activities, timber harvest, road construction and maintenance, and minerals extraction.**
- **Lack of a full understanding of the occurrence and / or vulnerabilities of many mussels, crayfish, gastropods, and other aquatic species which may lead to their imperilment.**
- **Placement of road culverts which may become impediments to the movements of many stream fishes, reducing their ranges and limiting their function as mussel *glochidia* hosts.**
- **Major highway development and construction disrupting the natural hydrology of the watershed.**
- **Any timber, agricultural or commercial activities on private land that do not practice BMPs.**

**b) Successional Processes**

*(1) Terrestrial Habitat*

**Habitat alteration/degradation off Kisatchie National Forest in Louisiana and in neotropical migratory bird wintering areas adversely impact Kisatchie terrestrial wildlife species. The adversity of the impact of habitat alterations is directly correlated with the narrowness of a species' ecological niche; as the extent and severity of habitat alteration off the Forest increase, the negative impact to rare species also increases. As habitat off the Forest in Louisiana becomes more unsuitable, a species' population off the Forest in Louisiana diminishes which negatively impacts the population dynamics of the Kisatchie management indicator species, game species, and PETS species.**

*(2) Lake/Ponds*

**For a population to sustain itself there must be recruitment of new individuals through reproduction and/or immigration to counterbalance losses to mortality. A population without smaller sized individuals would be in danger of local extirpation within the upcoming generations. Recruitment of young individuals into the population is a measure of sustained viability. This rule holds true for any population, and applies here to both fish and mussels. The Aquatic Management Indicator Species Population Trends Report (Byrd, 2005) provides a detailed analysis of population dynamics and trends of MI on the Forest.**

**The long-term viability of the LPM mussel is dependent upon the availability and movements of its host fish. To learn more about the life history of the LPM, the aquatic biologist with the FS initiated a Pearlshell Taskforce, and as a result, is now working with the USFWS Natchitoches Fish Hatchery to potentially identify host fishes for the LPM and learn more about its reproductive cycle. While studying the LPM, we've learned more about other species of fish and mussels that utilize the same watersheds.**

### c) Projected Future Actions

*(1) Terrestrial Habitat*

**Habitat alterations/degradations off the Forest and in the neotropical migratory bird wintering grounds will continue. The Forest Service controls activities on the Kisatchie National Forest and it will comply with the management direction in the 1999 Kisatchie National Forest Revised Land and Resource Management Plan which safeguards against activities which are excessively detrimental to terrestrial wildlife. Therefore, no projected future actions on Kisatchie National Forest that are detrimental to terrestrial wildlife species are likely to occur without mitigation. Off the Forest and in neotropical migratory bird wintering grounds, however, habitat alterations/degradations undoubtedly will continue which will not bode well for Kisatchie management indicator species, game species, and PETS species.**

*(2) Lake/Ponds*

**The FS will continue to protect the watersheds on the Forest and manage for viable populations of fish and aquatic species. Kisatchie National Forest was established, in part, to protect the headwater streams that ultimately replenish and recharge our water table. The Forest has strict guidelines in place to protect our streamside and riparian zones.**

**The Forest will continue to manage for recreational fishing.**

### d) Reasonably Foreseeable Events Outside Agency Control

*(1) Terrestrial Habitat*

**Off the Forest in Louisiana and in neotropical migratory bird wintering grounds, habitat alterations/degradations will continue which will not bode well for Kisatchie management indicator species, game species, and PETS species; these activities/events are outside Forest Service control.**

*(2) Lake/Ponds*

**Stochastic events, such as severe thunderstorms, floods, and hurricanes, can re-define stream channels, move tremendous loads of sediment and silt, collapse trees over mussel beds, bury mussels and destroy fish nests. Drought can reduce water levels and strand beds of mussels or increase water temperatures to stressful levels. The aquatic fauna that live on the Kisatchie have adapted well**

**to habitat changes and learned to survive. However, harmful anthropogenic events, such as dumping of sewage or chemicals, are difficult to predict or control. Lack of funds for adequate staffing of law enforcement across the Forest makes it difficult to enforce the habitat protection measures we have adopted on this Forest, especially in regard to ATV's illegally riding in streams and habitat sensitive areas where they are forbidden.**

**The LPM is continually threatened by the inundation of beaver dams. The FS contracts with the USDA Animal and Plant Health Inspection Service and spends a considerable amount of the wildlife budget each year to trap beavers and destroy dams that are a threat the LPM.**

## 3. Comparison of Existing Conditions/Trends to Desired Conditions

*(1) Terrestrial Habitat*

**Forestwide Desired Future Condition (Revised Plan pg 2-3):**

**"Biological diversity, although variable at the landscape and stand levels, is essentially maintained at the Forest level. Forest management strategies aimed at the landscape level and designed to restore or maintain the natural diversity of forest composition, structure, and function provide habitat conditions necessary to maintain viable populations of all native and desirable nonnative wildlife, fish and other aquatic species, and plant species occurring on the Kisatchie."**

**Compared to Existing Kisatchie National Forest Conditions/Trends: Kisatchie National Forest management and annual monitoring and evaluation are directed at the landscape level and are designed to restore or maintain the natural diversity of forest composition, structure, function and provide habitat conditions necessary to maintain viable populations of all native and desirable nonnative wildlife, fish and other aquatic species, and plant species occurring on the Kisatchie.**

**Forestwide Desired Future Condition (Revised Plan pg 2-3):**

**"Habitat conditions and wildlife species associated with older forest stands are more common. In particular, those wildlife communities associated with open longleaf pine forests and mixed forests of pines and hardwoods find large areas of suitable habitat. Forest conditions provide effective breeding habitats for neotropical migratory birds that nest on the Forest or important stopover habitat for those migrating through. Wetland ecosystems provide improved habitat for a variety of waterfowl and other wetland wildlife. The Forest continues to provide huntable populations of all important game species."**

**Compared to Existing Kisatchie National Forest Conditions/Trends: Kisatchie National Forest timber stands are growing older; Kisatchie National Forest successional habitat is as follows: early succession (0-10 years) = 14,859 acres, mid-succession (31-50 years) = 78,455 acres, and late succession (71+ years)189,636 acres. Based on breeding bird surveys, no evidence exists that**

**Kisatchie National Forest habitat does not provide effective breeding and/or stopover habitat. Kisatchie National Forest contains 49,336 acres of wetland habitat for a variety of waterfowl and other wetland wildlife. Kisatchie National Forest has relatively long hunting seasons, large bag limits, and long hunt-training seasons despite the low density of game populations.**

*(2) Lake/Ponds*

**Applications of lime and fertilizer have improved the water quality, growth rates and population sizes of fish on our smaller lakes and ponds (40 acres and less). Lake records are continually being broken and healthy, large creels of fish are being caught. If left unmanaged, these water bodies would produce very little and the population assemblage would be unbalanced. The lakes (all sizes) are further enhanced by our stocking efforts (USFWS Natchitoches Fish Hatchery, LDWF Booker-Fowler Fish Hatchery) and habitat improvements.**

## 4. Results from Past Management Reviews, Audits, Annual Monitoring and Evaluation Reports

*(1) Terrestrial Habitat*

**Compared to the goals established in the 1999 Kisatchie National Forest Revised Land and Resource Management Plan, Kisatchie National Forest has approximately a 180% (29,000 acre) surplus of shortleaf pine/oak-hickory (mid-late stages) and approximately a 1,270% (38,947 acres) deficiency of mixed hardwood-loblolly pine (early stages). Acreages for other habitat types/successional stages [longleaf pine (all stages (0-100+ yrs)), shortleaf pine / oak-hickory (early stages (0-10 yrs)), mixed hardwood-loblolly pine (mid-late stages (31+ yrs)), riparian, small streams, and riparian, large streams] approximately are within Kisatchie National Forest Plan standards (MIS Report 2001, 2005).**

**Planned and actual acreage by successional habitat are shown in the table below. The Forest appears to have a shortage of early successional habitat, but is within the Plan guidelines for middle and late successional habitats.**

| Table 18: Changes in Forestwide Habitat Acreage[10] | | | | | | |
|---|---|---|---|---|---|---|
| For All Forest Types By Habitat Stage | | | | | | |
| Successional Habitat | Acres | | | | | |
| | Forest Plan Goal | Year 2005 | Year 2004 | Year 2003 | Year 2002 | Year 2001 |
| Early (0 - 10 years) | >= 20,000 | 14,859 | 14,339 | 13,189 | 24,921 | 26,882 |
| Middle (31 - 50 years) | >= 50,000 | 78,455 | 66,452 | 82,780 | 55,265 | 86,898 |
| Late (71+ years) | >= 75,000 | 189,636 | 175,024 | 179,201 | 151,111 | 163,120 |

**Recommendations have been to continue to adhere to Revised Kisatchie Plan guidance.**

**Estimated population densities of select game species on Kisatchie NF are shown below in Table 19. Populations of squirrels were stable. Deer populations are and have been considerably below the habitats' carrying capacity; herd densities are too low to provide adequate aesthetic enjoyment for non-consumptive users. Catahoula and Evangeline deer numbers are based on the LSU deer abundance survey during late fall 2005. Bobwhite population densities are low region-wide.**

| Table 19: Estimated Game Population Densities [11] | | | | | | |
|---|---|---|---|---|---|---|
| By Species and District | | | | | | |
| Species | Ranger District | 2001 | 2002 | 2003 | 2004 | 2005 |
| | | Acres/Animal | | | | |
| White-Tailed Deer | Catahoula | 90 | 90 | 110 | 100 | 140 |
| | Calcasieu (Evangeline Unit) | 90 | 90 | 120 | 100 | 200 |
| | Kisatchie | 90 | 90 | 110 | 100 | 110 |
| | Winn | 75 | 75 | 90 | 85 | 100 |
| | Calcasieu (Vernon Unit) | 75 | 75 | 75 | 75 | 75 |
| | Caney | 50 | 50 | 50 | 50 | 50 |
| Wild Turkey | Catahoula | 200 | 200 | 200 | 200 | 200 |
| | Calcasieu (Evangeline Unit) | 300 | 300 | 300 | 300 | 300 |

[10] Estimates are based on GIS inventory queries run and reported annually for the Forest's M&E Report.

[11] The population densities above have been/are estimated in collaboration with LDWF Region 3 personnel except for the Catahoula and Evangeline d

| Table 19: Estimated Game Population Densities [11] | | | | | | |
|---|---|---|---|---|---|---|
| By Species and District | | | | | | |
| Species | Ranger District | 2001 | 2002 | 2003 | 2004 | 2005 |
| | | Acres/Animal | | | | |
| | Kisatchie | 100 | 100 | 100 | 100 | 100 |
| | Winn | 150 | 150 | 150 | 150 | 150 |
| | Calcasieu (Vernon Unit) | 250 | 250 | 250 | 250 | 250 |
| | Caney | 300 | 300 | 300 | 300 | 300 |
| Fox Squirrel (upland hardwoods) | Catahoula | 5 | 5 | 5 | 5 | 5 |
| | Calcasieu (Evangeline Unit) | 5 | 5 | 5 | 5 | 5 |
| | Kisatchie | 5 | 5 | 5 | 5 | 5 |
| | Winn | 5 | 5 | 5 | 5 | 5 |
| | Calcasieu (Vernon Unit) | 5 | 5 | 5 | 5 | 5 |
| | Caney | 5 | 5 | 5 | 5 | 5 |
| Gray Squirrel (bottomland hardwoods) | Catahoula | 3 | 3 | 3 | 3 | 3 |
| | Calcasieu (Evangeline Unit) | 3 | 3 | 3 | 3 | 3 |
| | Kisatchie | 3 | 3 | 3 | 3 | 3 |
| | Winn | 3 | 3 | 3 | 3 | 3 |
| | Calcasieu (Vernon Unit) | 3 | 3 | 3 | 3 | 3 |
| | Caney | 3 | 3 | 3 | 3 | 3 |
| Northern Bobwhite (acres/covey) | Catahoula | 1,800 | 1,800 | 1,800 | 1,800 | 1,800 |
| | Calcasieu (Evangeline Unit) | 1,800 | 1,800 | 1,800 | 1,800 | 1,800 |
| | Kisatchie | 1,800 | 1,800 | 1,800 | 1,800 | 1,800 |
| | Winn | 1,800 | 1,800 | 1,800 | 1,800 | 1,800 |
| | Calcasieu (Vernon Unit) | 1,200 | 1,800 | 1,800 | 1,200 | 1,800 |
| | Caney | 1,800 | 1,800 | 1,800 | 1,800 | 1,800 |

**Recommendations have been to implement hunting seasons comparable to those of Louisiana Department of Wildlife and Fisheries' Wildlife Management Areas with similar habitat in central and northern Louisiana. Also, implement management guidelines concerning the use of free-ranging hunting dogs that are comparable to those of other Louisiana public hunting lands.**

*(2) Lake/Ponds*

**Predator/prey populations across the Forest were found to be sufficient for a sustainable recreational fishery. In FY2001, supplemental stocking of 44,625 largemouth bass fingerlings (provided by the USFWS) were stocked in Forest lakes and ponds, with 42,400 going to Corney Lake. In FY2002, supplemental stocking of 5,165 largemouth bass fingerlings and 900 sunfish were stocked in**

**Fullerton and Caney Lakes. In FY2003 and FY2004, supplemental stocking of 3,500 largemouth bass fingerlings were stocked in Caney Lakes, the Bombing Range Pond, and Highline Pond. In FY2005, supplemental stocking of 2,275 largemouth bass fingerlings were stocked in Government, Little Cypress and Fullerton Lakes on the FS, and Engineer, Alligator, North Bonner, South Bonner and Peason Lakes at Ft. Polk.**

**In FY2001, FY2002, and FY2003, sixteen miles of FS streams were surveyed to assess the fish assemblage, measure water quality and characterize habitat. In FY2004 and FY2005, forty-five and ten miles of FS streams, respectively, were surveyed. In all cases, water quality was within acceptable norms (LDEQ), and population trends of MIS (MIS Report 2001, 2005) suggest that BMPs and streamside habitat protection zones (SHPZs) are adequately protecting the integrity and quality of watersheds within the Forest. Young-of-year and recruitment of all age classes is evidence that sediment has not inhibited reproduction of fishes or altered habitat beyond natural conditions.**

**In FY2002, the Blue Hole underwent a habitat restoration project to prevent sediments from entering the pond. Bank stabilization was achieved by planting vegetation through a cooperative effort with the Natural Resource Conservation Service. Also, a diversion dam was constructed at Anderson pond to prevent further sediment and debris from entering the pond due to road construction. In FY2003, artificial reefs (castles and logs) were placed in the Blue Hole and Valentine Lakes with the help of Louisiana College students through a Challenge Cost Share Agreement. The artificial reefs are being monitored and are expected to increase overall standing crop of fishes, both forage and prey. In FY2004, a track-hoe was rented to restore the banks and levees at the Bombing Range Pond, and is expected to also reduce the amount of nuisance aquatic weeds.**

**Recommendations have been to establish size and creel limits on the Forest to ensure recruitment and sustainability of the resource; continue to monitor and assess (analyze and interpret data) the effectiveness of management strategies on the Forest concerning aquatic resources; and continue to monitor and identify any future restoration projects, which may include renovation of older ponds when funds are available**

**Relative weights of largemouth bass indicated healthy populations and adequate forage bases. There was no evidence of primary or secondary infections and disease.**

**Presence of forage fish and omnivores were evaluated in FS lakes and action was taken to ensure a continuation of fish population balance. A Fall/Winter draw-down prescribed for Corney Lake for aquatic weed control, habitat restoration, and fish population manipulation (balance the ratio of predator/prey/omnivores) was planned and completed.**

## *D. Soil and Water*

### 1. Existing Conditions and Trends

*(1) Water Quality*

**The Kisatchie National Forest lies within two water resource regions: the lower Mississippi and the Arkansas-Red-White. The Forest lies within three water quality management basins: the Calcasieu River Basin, the Ouachita River Basin, and the Red River Basin. The Forest contains 35 watersheds within these drainage basins. The average surface yield from the**

**Monitoring results have indicated that soil productivity is being maintained throughout the Forest.**

**Each year watershed improvement activities are implemented on small projects across the Forest. The Forest had a watershed improvement target of about 54 acres in Fiscal Year 2007, which is fairly typical from year to year.**

## 2. Factors Influencing Conditions and Trends

### a) Disturbances

**The types of activities normally thought of as potentially influencing soil and water conditions and trends on the National Forest include timber management activities (harvest and site preparation), road and trail construction, and prescribed fire. These activities involve use of heavy mechanized equipment capable of exposing soil, mixing soil, and compacting and rutting soil. In addition, prescribed fire can remove soil cover over broad areas exposing them to erosive forces, primarily storm runoff. Excessive loss of surface soil can lower soil productivity and impact water quality. Poorly constructed fire lines can erode and become rills or gullies. Skid trails and log landings inadequately stabilized, and roads and trails not properly constructed and/or maintained can erode excessively.**

**Another activity with potential and documented soil and water impact is recreational ORV operation on the Forest. User created ORV trails can and have caused highly disturbed stream banks and excessive erosion in both the uplands and riparian areas. In many cases riders use firelines as ORV trails, destroying erosion controls on the firelines, which results in accelerated erosion and stream sedimentation. Areas adjacent to designated ORV trails also suffer from unauthorized use. Riders frequently ride off the designated trails and cause erosion in sensitive areas. Four wheel drive vehicles operating in wet conditions on low level roads can and do cause damage to road surfaces and road drainage, which can then erode and cause sedimentation.**

**Designated ORV trails themselves can be erosion and sediment concerns. Some receive heavy use. Multiple passes, especially in wet conditions and with careless operation resulting in excessive wheel slippage, can and do result in soil movement. Without good control of users and proper trail maintenance these trails become significant erosion problems.**

### b) Successional Processes

#### *(1) Water Quality*

**The average age of the forested stands on the Forest is slowly getting older. As this occurs over time, taller canopies should provide more shading (lowering stream temperatures). With more forested area, trees may also increase their intake of water, thereby possibly lowering water tables in some areas on the Forest**

*(2) Soils*

**Little, if any major effects to soil quality are expected. Some minor, isolated effects to soil chemistry may occur as changes in pH vary under different canopy species.**

### c) Projected Future Actions

*(1) Water Quality*

**Actions proposed for the future would utilize water protection mitigation prescribed in the Plan's standards and guidelines. Therefore, no Forest Service actions are expected to have any major effects. As projects are proposed, site-specific data will be used to determine effects and needed mitigation.**

*(2) Soils*

**The Forest is in the process of adopting an updated travel management plan which is expected to eliminate cross country ORV operation on the Forest, and will restrict ORV and vehicular travel to designated roads, trails, and areas. Many roads would be identified for either permanent or seasonal closure. Closed roads should revegetate and naturally stabilize to a great extent. Seasonal roads should stabilize to a lesser extent. This should result in significant reduction of erosion from these uses and impacted areas.**

**Law enforcement on the Forest currently plays a role in protecting soil and water conditions. Law Enforcement Officers and Forest Protection Officers make regular contact with the public. They serve to educate Forest users and issue citations to violators causing soil and water damage. Possible grant funding may provide additional law enforcement presence and/or surveillance capability for future enforcement actions.**

### d) Reasonably Foreseeable Events Outside Agency Control

*(1) Water Quality*

**Catastrophic events such as storms, wildfire, or insect epidemics could cause adverse effects on water quality. However, mitigation measures typically prevent degradation in water quality if applied properly. For these types of events, site-specific analyses would provide the information needed to prescribe the best mitigation.**

*(2) Soils*

**Catastrophic events such as storms, wildfire, or insect epidemics could cause adverse effects on soil properties. For these types of events, site-specific analyses would provide the information needed to prescribe any needed mitigation.**

## 3. Comparison of Existing Conditions/Trends to Desired Conditions

**On the whole, existing soil and water conditions on the Forest compare well with DFC. With the noted exception of off road vehicles, conditions are continually improving. As the travel management plan is implemented the pace of that trend should increase.**

## 4. Results from Past Management Reviews, Audits, Annual Monitoring and Evaluation Reports

**Annual monitoring was conducted on selected areas that experienced timber sale activity or prescribed fires. Areas were selected either randomly or because there was some special soil or water interest in that area. Monitoring focused primarily on implementation of Forest Standards and Guides, but also on any evidence of soil and water impacts, i.e. evidence of soil movement or sediment delivery to streams. Rarely were S&G's not implemented or was there evidence of unusual soil movement or sedimentation. In those cases direction was provided to the Districts for any mitigation or corrective action.**

**Timber removal and burning operations were monitored on the Forest using procedures developed for assessing implementation of Forest Plan standards and guidelines for protection of water quality (BMPs). Review teams consisted of the Kisatchie Ecological Conservation Team Leader, Hydrologist/Soil Scientist, district timber staff, and on some occasions, a representative of the Louisiana Dept. of Environmental Quality, Non-Point Pollution Control staff. Overall, district personnel did an acceptable job of implementing Plan standards and guidelines. In addition, the following specific observations were made on some of the monitoring study sites[12]:**

- **Equipment was used only during dry conditions and there was little or no evidence of rutting or compaction.**
- **Streamside zones were correctly implemented on most streams.**
- **Site preparation burn sites had a good cover of litter so that minimal bare soil was exposed to potential soil loss.**
- **Using natural barriers, roads, etc., as much as possible, minimized the use of fire lines. Minimizing fire lines helped to reduce erosion and subsequent sedimentation.**
- **Permanent fire lines and water bars, which can be reused, were being constructed along private land.**
- **Bladed lines as opposed to plowed lines were constructed on prescribed burn areas, greatly reducing soil disturbance and the potential for erosion.**

---

[12] **It should be noted that some of the sites were "problem sites" that had been identified by district personnel.**

- **The effectiveness of most practices as rated on scorecards was excellent on most of the units. There were no signs of sedimentation on most units.**
- **The scorecard rating for one site prep/burned site indicated the need for corrective action. On the lower position of the site-prepped site, waterbars were diverting sediment to a swale area towards a stream. The week after the review, district personnel reconstructed the line and adequate water bars were constructed according to specifications. This was done just in time to prevent erosion/ sedimentation that could have resulted from heavy rains that occurred the following week. The line was successfully re-vegetated.**
- **On another site, a fireline crossed an ephemeral stream channel that had been filled in the past to provide a crossing. The berm/crossing had well-established vegetation growing on it. The fireline then turned and paralleled a large stream in a riparian area. Most of the fireline was greater than 50 feet from the stream but ran to within 5 feet of the channel in one area. The end of the fireline was bladed to a point that was about 20 ft from the stream channel. A berm was constructed and the fireline hand raked down to the channel.**
- **On another site, a large gully was observed close to the fireline. The gully was eroding towards the fireline and the adjacent private land. The gully was eroding due to runoff from adjacent cleared private land and water flow from culverts on Racetrack Rd. Waterbars were constructed on the slope of the fireline down to a stream. Waterbars were well constructed and were diverting runoff and sediment off of the fireline onto undisturbed forest vegetation. A berm was constructed about 33 feet from the channel and the fireline hand raked down to the stream.**

**The water quality of nine streams on the Kisatchie was monitored quarterly in cooperation with the La. Dept. of Environmental Quality (LDEQ). The data is being incorporated into the State's Clean Water Act Sect. 305b Water Quality Inventory www.deq.state.la.us/surveillance/wqdata/wqnsites.stm. The individual streams (site numbers) are:**

- **Cress Creek (0556)**
- **Beaver Creek (0570)**
- **Bayou Clear (0554)**
- **Loving Creek (0555)**
- **Long Branch (0572)**
- **Castor Creek (0573)**
- **Little Bayou Clear (0574)**
- **Brown Creek (0571)**
- **Saline Bayou (0553)**

**The monitoring data indicates that all these streams meet the criteria for designated uses, including propagation for fish and wildlife. Almost all samples**

**from these streams have turbidity levels well below 25 NTU, which is the criterion for natural and scenic streams. Additional parameters being monitored are metals (arsenic, chromium, cadmium, copper, lead, mercury, and nickel), nutrients (carbon, phosphates, potassium, nitrogen, nitrites, and nitrates) and sulfates. The monitoring data indicate minimal or trace levels of some of these substances but no contamination that would affect fish or wildlife.**

**From FY2002 thru 2003, water samples were collected monthly at sites on three of the streams on the Calcasieu District that are habitat of the threatened La. Pearlshell mussel (Little Bayou Clear, Long Branch, and Loving Creek). Most of the watersheds draining into these streams were burned by the Forest Service in January 2002. The data from the streams is being analyzed and will be related to LDEQ/US EPA water quality standards and other water quality criteria. The study will address any effects on water quality due to the burning activities in these watersheds and any potential effects on the threatened La. Pearlshell mussel.**

**Bi-weekly testing of fecal coliform levels at Stuart Lake, Kincaid Lake and Caney Lake swim beaches indicated that water quality standards for protection of public health and safety were met.**

**Annual recommendations have been to continue coordination with LDEQ on monitoring the water quality of streams on the Kisatchie, conduct monitoring on streams draining watersheds where management burning was conducted to determine any impacts on water quality, and continue required monitoring of water quality of Kisatchie swim beaches.**

**Between four and six timber removal units on the Kisatchie were randomly selected each year and rated for compliance with standards and guidelines (best management practices) to protect soil resources. Overall, implementation of most erosion control practices was very good on most of these sites. There was good placement of skid trails and landings. Equipment was used on the sites during dry conditions and there was little or no evidence of rutting or compaction. Site preparation burns had a good cover of litter so that minimal bare soil was exposed to potential soil loss.**

**Using natural barriers, roads, etc., as much as possible, minimized the use of fire lines. This minimizing of fire lines is an important way to reduce impacts of erosion and sedimentation due to management burning. Bladed lines as opposed to plowed lines were constructed on the prescribed burn areas, which reduced soil disturbance and the potential for erosion. Re-vegetation was very good on these lines. Fire lines were "contoured" which allows runoff to flow off the line reducing soil movement. Some permanent fire lines and water bars, which can be reused, were constructed along private land. Training of the district fire and timber staff was conducted as a part of the reviews. Erosion control guidelines were also discussed.**

**In FY2005, field reviews of prescribed burning activities on two ranger districts showed that appropriate standards and guidelines were correctly implemented except for two instances. One compartment on each of two districts had these two minor departures: (1) fireline diversion berms less than 50 feet from the**

stream channel or diversions less frequent than desired, and (2) firelines not well re-vegetated. Re-vegetation had failed due to dry weather after burning was completed. In one case, unauthorized ORV use exacerbated the minor departure by breaking down constructed diversions, and destroyed vegetation planted in firelines. In both instances, the districts had already planned additional re-vegetation after adequate soil moisture occurred. No sediment was observed to have been delivered to any streams in spite of the minor departures.

In FY2001, soil loss was measured at three sites that were site prepared by herbicide and burning methods. The estimated annual soil loss ranged from .08 to .45 tons per acre. During FY2002 and 2003, soil loss was measured at several sites on two districts that were site prepared by chop and burning methods. The estimated annual soil loss on these sites ranged from 0.19 to 3.4 and averaged 1.24 tons per acre per year. In all instances, the amount of soil losses was below the maximum allowable for the particular soil types.

In FY2001, Emergency Watershed Protection (EWP) activities were conducted for tornado damage that occurred in the recreation areas around Caney Lakes. The work was done through an interagency agreement with the Natural Resources Conservation Service (NRCS). The activities included implementing extensive erosion and sediment control practices on about 113 acres that drain into Caney Lake. Measures that were implemented for the EWP project included the following:

- Stumps and debris were hauled from the area.
- Disturbed areas were smoothed and shaped and stump holes filled in.
- Hauled-in topsoil was placed on selected areas.
- Water diversions and erosion control structures were constructed where needed.
- Terraces and grassed waterways were repaired and reconstructed.
- Seedbed preparation, fertilizing, liming, seeding, and mulching were performed.

Riparian area restoration and sediment control was done on Corney Bayou and erosion control work (including seeding of native species) was done in the Kisatchie Hills Wilderness, also during FY2001.

In FY2002 and FY2003, projects included reconstruction of a stream terrace/berm along Iatt Creek to protect research plots established by the Bottomlands Hardwood Research Center; stream bank stabilization along a National Scenic River (Saline Bayou); stream bank stabilization along FS539; sediment control above Moses Blake pond; and stabilization of a gully that threatened Red Cockaded Woodpecker trees. Many projects included erosion/sediment control for ORV related damage particularly on Kisatchie District.

During FY2004 and FY2005, borrow pit restoration was performed on the Evangeline Unit and areas damaged by off road vehicles were rehabilitated. Projects on all districts included erosion/sediment control for ORV-related damage.

For all years, all targets for watershed improvement work were accomplished using watershed improvement funding.

Preliminary findings from the Long Term Soil Productivity Study being conducted by the Southern Research Station indicate that when sites located on several soil types with a severe compaction hazard rating were subjected to experimental compaction, bulk densities recovered to near original undisturbed levels within ten years and pine productivity was unaffected. Results also indicate that soil productivity may be decreased by slash removal or increased by phosphorus fertilization on phosphorus-deficient sites. In general, less productive sites are more susceptible to detrimental harvesting impacts than highly productive sites. The Long Term Soil Productivity Study is a national study being conducted to evaluate the effects of various timber management practices on the productivity of soil. Research plots are located at various locations around the U. S. including the Catahoula and Calcasieu Ranger Districts.

## *E. Riparian Habitats*

### 1. Existing Conditions and Trends

The Forest has approximately 5,400 miles of stream channels and 4,500 surface-acres of water. There are roughly 67,000 acres of mapped alluvial floodplains on the Forest (SFEIS 1999). Orders 1 and 2 streams are generally considered ephemeral in that they flow only in response to precipitation events. In general, about 1,300 miles of stream channel are considered to be intermittent or perennial streams (Order 3 through 7), in that they have a defined channel which lies below the ground water table at least during the wet season.

Forest streams have been classified by order. In general, orders 1 through 3 streams have no continuous year-round flow. Order 1 streams may only flow 2 to 3 months out of the year, whereas order 3 and 4 streams may flow for 6 to 10 months and only stop flowing during the dry season. Order 5 and higher streams generally flow continuously year round, except during periods of extended drought. Some lower order streams are exceptions to this generality, though, in that they are spring fed and have perennial flow. The approximate breakdown of stream channel by stream order is as follows:

- Order 1 — 2,800 miles
- Order 2 — 1,300 miles
- Order 3 — 700 miles
- Order 4 — 300 miles

- **Order 5 — 200 miles**
- **Order 6 — 50 miles**
- **Order 7 — 50 miles**

**In addition to the roughly 67,000 acres of mapped alluvial floodplains on the Forest, more acres of relatively narrow floodplains occur along many smaller streams. These floodplains are the flat or level landform on either side of a stream channel. They consist of alluvial soils which are hydric, seasonally wet, or at least occasionally flooded. These landforms and their associated aquatic and vegetation communities comprise the majority of the Forest's riparian areas.**

**Of the wetland communities on the Forest, 9,300 acres have been identified and mapped as jurisdictional wetlands.**

**A Forestwide watershed assessment was conducted in 2001. Thirty-one fifth level watersheds were analyzed in this assessment. The Kisatchie National Forest administers more than 22 per cent of only eight of these watersheds, and more than 50 per cent of only one (Bear Creek). The analysis concluded that, generally, waters flowing from the National Forest are of high quality. Based on the assessment, four of the watersheds were considered to be in Condition Class 1.**

## 2. Factors Influencing Conditions and Trends

### a) Disturbances

#### *(1) Watershed*

**Watersheds are land areas from which water flows. A number of factors determine how water comes off a watershed, or runoff, and the quality of that water. These factors include watershed drainage area, slope, shape, aspect, geology, soils, impervious area, drainage density, and vegetation.**

**Any activity in the watershed which affects any one of these parameters can affect runoff. Some of these parameters are fairly fixed and not easily altered by human activity. Others are more susceptible to management effects, such as impervious area, vegetation, soil characteristics, and drainage density. Land conversions such as roads, urban development, industrial development, or commercial development increases imperviousness, resulting in more runoff to stream flow. Vegetative conversions, such as converting forests to crops, pastures, or rights-of-ways can reduce rainfall interception, evapotranspiration, and infiltration capacity of the soil, resulting in more runoff. Even converting from one forest cover to another can affect seasonal antecedent soil moisture content, therefore runoff, due to differences in evapotranspiration by the different forest types. Road and trail drainage systems, or any feature that routes storm water to streams, can increase drainage density and reduce the time of concentration by intercepting surface runoff and directing more water to streams faster than before. Even recreation activity can affect runoff by compacting soils, removing vegetation, and increasing drainage density through developed or user created**

**trails. These watershed changes can affect the total runoff from a watershed, the timing of runoff, or both.**

**Flowing water possesses kinetic energy, and delivers that energy to the channels in which it flows. Stream channels, therefore, are affected by the stream flow. As stream flow increases, erosive potential increases, and channels are more prone to erosion. As flow decreases, streams can't carry as much sediment, and, if sediment supply remains the same, channels may begin to fill in due to sediment deposition.**

**Not only does stream flow affect channel form and stability, but so do other factors. Of particular importance in the gulf coastal plain are sinuosity, vegetation, and large woody debris. Channel sinuosity increases channel length through the floodplain, which reduces the channel slope, thereby reducing water velocity and channel erosion. Streamside vegetation increases root density along the stream banks, which helps strengthen the channels and increases resistance to channel erosion. Woody debris offers resistance to flow and helps lower erosive velocities.**

**Roads and trails can also affect stream channels. Bridge and culvert crossings can alter stream energy in the channel by constricting flow or otherwise changing channel slope over short distances. The effects are easily seen at many crossings by looking upstream and downstream. One may observe sediment or debris accumulation, or erosion, above crossings, and channel bars and eroded banks below crossings.**

**Energy gradient changes can be caused by other actions, such as channel realignments. These energy gradient changes can have upstream effects. Channels adjust to new energy slopes and can head cut for some distance upstream until new stable slopes are established. The effects can carry for a long distance into the upper watersheds, and considerable channel sediment can result.**

**Whether through watershed alterations affecting runoff, or channel alterations affecting channel gradients, activities that affect in-channel stream energies can have long lasting and significant effects with resultant physical stream habitat impacts. Dramatic examples of channel adjustments to watershed and channel alterations can be seen in Camp Claiborne on the Calcasieu District and Camp Livingston on the Catahoula District. The channels and upper watersheds are in a continuing state of flux as they adjust to alterations that occurred over 60 years ago. Though less dramatic than Camps Claiborne and Livingston, stream channels in much of the Forest may be experiencing similar morphological adjustments due to legacy effects from previous decades.**

*(2) Riparian*

**Riparian ecosystems, as defined by the Eastern Region of the United States Forest Service, are areas "extending away from the bank or shore to include land with direct land-water interactions, and whose areal extent is variable based on its ability to perform ecologic functions" (Verry, Hornbeck, and Dolloff 2000).**

**Essential to this ecosystem then are water supply, soil, and the associated vegetation.**

**Water has to be in sufficient quantity and be accessible to the ecosystem. Water quantity can be altered in a number of ways, such as diversions, water withdrawals, or watershed alterations that change runoff patterns. If water quantity is sufficiently reduced, then it is not available for delivery to the riparian ecosystem.**

**Water access can be affected by channel changes which prevent water from reaching the riparian ecosystem. For instance, if a channel erodes such that stream flows which used to flood out of the banks stay inside the channel instead, then water isn't delivered to the riparian ecosystem. This can also result in increased channel erosion due to floods and erosive energy being confined to the channel and not distributed to riparian areas and flood plains. This condition can further reduce water access to riparian ecosystems.**

**Riparian soils are exposed to erosion from floods in streams or wave action along shore lines, and of course, soils removed from a riparian ecosystem are not available as a component of that system. Vegetation is important to holding those soils in place. Trees, vines, shrubs, and herbaceous vegetation help protect from floods or waves by slowing the erosive velocities of water and by providing cover from water erosion. Roots of these and other plants, especially sedges and other densely rooted herbaceous vegetation, hold tightly onto soil particles so they aren't easily detached and carried away. Another factor affecting riparian soils is physical disturbance from off highway vehicles (OHVs). Operating OHV's in riparian areas destroys riparian vegetation, soil structure, and soil cohesiveness, and reshapes physical riparian form.**

**Sediment from floods is important to replace riparian soil lost through erosion. Water velocities slow as floods spread over stream riparian areas. Slower water doesn't hold as much sediment as faster water, so sediment drops from suspension. Dense vegetation also physically traps sediment from the water. Therefore, floods that can rob soils from riparian ecosystems through erosion serve a dual role of soil replenishment.**

**Vegetation that is so important in holding riparian soils in place makes up the above ground component of riparian ecosystems. Riparian vegetation provides nesting and foraging habitat for the associated fauna, but it also is an important energy source for aquatic biota. Factors affecting typical riparian vegetation presence or density include canopy closure, OHV's and other dispersed or developed recreation, and off site vegetation such as dense loblolly pine stands.**

**Riparian trees that completely crown over reduce sunlight for some more intolerant vegetation. This can reduce stem density, soil cover, and some fine root density, not only affecting the vegetative component but also the soils. Direct physical destruction by OHV's of riparian vegetation and soils is widely documented on the Forest. The same is true of other recreation activities occurring in riparian areas.**

**b) Successional Processes**

**Pines transpire more of the year than some other deciduous species, so some riparian soils might be drier during otherwise dormant seasons, reducing favorable conditions for more typical riparian vegetation. Pines respond differently to fire than other riparian vegetation, and vegetation of the forest floor under dense pines is also different from other riparian species. Both of these**

protecting bogs, wetlands, and streams on the Forest. Completed projects met at least 90% compliance with Forest Plan direction, project design, and NEPA decision direction.

### 4. Results from Past Management Reviews, Audits, Annual Monitoring and Evaluation Reports

The application of harvesting techniques consistently included streamside habitat protection zones and riparian area protection. No broad scale actions have been taken which might impact these areas. Recommendations have been to conduct silvicultural surveys and prepare documents addressing management practices where needed, on approximately ten percent of the Kisatchie National Forest ownership every year, and document the actions taken to manage in and near streamside habitat protection zones.

## *F. Insects and Disease*

### 1. Existing Conditions and Trends

The mosaic representing the Kisatchie National Forest's current condition developed from the early reforestation efforts to reclaim cutover and often burned-over lands. Watershed protection was then the primary goal of this effort. Thousands of acres were planted with loblolly and slash pine. Today the Kisatchie is predominately a pine forest.

Influences of insect and disease interactions are more significant within the pine management types of the Forest. Predominant insect pests are the southern pine beetle (SPB) and other associated bark beetles. During endemic population levels, the SPB attacks primarily overstocked or overmature pine stands and trees with low vigor, drought-induced stress, or other factors such as root disease. RCW cavity trees and lightning-struck trees are also vulnerable.

Insect and disease problems in the Forest's hardwood component are relatively minor, with some damage caused by insect borers and decay fungi. Decay fungi enter the host through fire scars, mechanical injury, dead branch stubs, insect wounds, and storm damage. Reducing injury-causing agents and promptly salvaging storm damage lessens the impact of decay fungi and hardwood borers.

The SPB is most destructive during periodic epidemic outbreaks. During the 1985–86 epidemic, the Kisatchie lost an estimated 490 million board feet of growing stock. The loss equaled approximately 8 percent of the Forest's total growing stock.

Incidental attacks by *Ips* beetles and black turpentine beetles also indicate stress conditions within host stands. Primary hosts are loblolly, slash, shortleaf, and occasionally longleaf pines.

**The most prevalent pathological interactions within a southern pine forest include fusiform rust, annosus root disease, brown-spot needle blight, and red heart decay. Loblolly and slash pines are the predominant hosts for fusiform rust. Disease initiation usually occurs during the seedling-sapling stage. Galls and cankers are formed, which cause mortality or persist through the life of the host, resulting in weakened or deformed trees. Fusiform rust incidence is scattered within the Forest. The most damage has occurred in plantations established from the 1930's through the 1950's.**

**Annosus root disease is associated with well-drained sandy-to-loamy soils, the number of susceptible host trees, and the frequency and intensity of thinnings of host stands — primarily plantations. The most susceptible hosts on these sites are loblolly and slash pines. The reproductive sporophores of the annosus fungus have been found in thinned pine stands on all of the ranger districts. Although mortality and visible symptoms have been s**

**Windthrown, broken stems and tops, and root-pulled trees are the result and damage is dependant upon the severity of the storms. Damage due to hurricanes is infrequent but generally is widespread. High wind gusts and rain-saturated grounds can cause windthrown, stump-pulled and broken-stemmed trees. Mortality from such storms has been tracked one to two seasons following the actual storm. Opportunistic insects such as the southern pine engraver beetles (*Ips*), black turpentine beetles (BTB) and stem borers often infest the damaged pines within a few months following the storms.**

**Overstocked, over-aged, and off-site pine stands are prone to attack by bark beetles.**

**Excessive natural or man-caused fires within stands may stress trees through cambial, root damage or excessive crown damage, thereby making them prone to bark beetle attacks.**

**The reintroduction of needed prescribed fire to fire suppressed longleaf pine stands has the potential to cause mortality to mature longleaf pine. Mortality can result due to increased duff layer around the base of the tree which burns longer and at high temperatures cooking the cambium layer and fine roots that have colonized the O horizon. While a natural and needed part of the ecosystem, the reintroduction of fire has the potential to increase mortality in the mature longleaf favored by the RCW.**

**Soil type, tree vigor and repeated soil disturbances are contributing factors to "pine decline". Repeated disturbances, such as multiple growing season burns followed by logging, on drier soil types with history of agricultural use may cause an increase in "pine decline".**

**b) <u>Successional Processes</u>**

**Through systematic thinnings of overstocked stands and reduction of competing vegetation not only is the health of the stand improved but also the potential for severe fires reduced. Such stands' residual trees grow more vigorously and if dominant and co-dominant trees are selected for, and diseased and deformed, trees selected against, then the resultant stands are more insect and disease resistant.**

**Carrying stands beyond their normal life expectancy is not recommended, (example: 100+ year old loblolly). It would be preferable if longer-lived species were chosen for such sites, (example: longleaf or shortleaf).**

**Too frequent or too infrequent burns within stands should be avoided. The one hand may tend to stress the trees through repeated root and stem scorching and the other hand may tend to kill the trees through excessive heat killing the roots, cambium and/or crowns.**

**With current emphasis on Red-cockaded Woodpecker management, red heart is considered a vital component of RCW habitat which provides suitable nesting cavity trees. The number of potential red heart trees available for RCW cavity excavations is dependent upon site / species, age, and spacing, which all**

influence heartwood development. Decay incidence is more likely to occur on poor sites in pine species with large limbs, such as loblolly, but tree survival and the longevity of RCW cavities is greater in longer-lived species such as longleaf.

As rotation ages for hardwoods are extended, some increases in heartwood and butt rot decay can be expected. A possible threat to the Forest's hardwood stands is the potential of gypsy moth infestation. This is an exotic pest that defoliates oaks, sweetgum, and other hardwoods. The pest has not yet been found in Louisiana, but the Forest's hardwood stands are suitable hosts. Gypsy moth infests much of the forest in the northeastern U.S. Isolated gypsy moth infestations outside of the generally infested area have been reported in Arkansas, Georgia, North Carolina, Tennessee, and Virginia. Transport from one area to another is by egg masses attached to vehicles, campers, and other household goods.

### c) Projected Future Actions

Surveillance and monitoring for SPB and gypsy moth infestations are ongoing efforts of integrated pest management. Although not yet documented on the Forest, additional pest concerns may include non-native exotic insects, diseases and plants. In line with the Healthy Forest Initiative, increased monitoring and management for such pests will increase.

Management to reduce losses caused by SPB includes thinning of overstocked stands, maintaining aerial surveillance for early detection, and removal of infested trees prior to spot expansion.

Some of the more known non-native insects of concern are gypsy moth, emerald ash borer, Sirex woodwasp, pine shoot beetle, elm bark beetle and the European Oak bark beetle.

Some of the more known non-native diseases of concern are oak decline, and oak wilt.

Non-native plants of concern are voluminous but a few of the more severe are kudzu, tree-of-heaven, mimosa, Paulownia, Chinese privet, tallowtree, Russian olive, bush honeysuckles, climbing yams, non-native wisteria, giant reed, tall fescue, cogongrass, bamboos, Japanese climbing fern, garlic mustard, Shrubby and Chinese Lespedeza and tropical soda apple.

The risk of annosus root disease may increase as the Kisatchie National Forest initiates more first-time thinnings in loblolly and slash pine plantations. This is especially true on high-risk sites that have predominately sandy and sandy-loam soils. Risk on these sites can be mitigated through stump treatments and other silvicultural methods, and by the eventual conversion of these high-risk stands to longleaf pine.

Stems with existing fusiform rust canker damage should be removed through planned harvest and thinnings. Conversion of high-risk loblolly and slash pine stands to longleaf pine should also reduce the impacts of fusiform rust. Although the Kisatchie's future may include increased longleaf pine acreage, the effects of

**brown-spot needle blight should diminish with improved regeneration technologies and integrated forest pest management.**

### d) Reasonably Foreseeable Events Outside Agency Control

**Financial cutbacks adversely affecting the present Prevention/Restoration Program that allows for funding of pre-commercial thinnings on the national forests would cripple the districts. Without such a program, many overstocked stands would remain so until fire or opportunistic insects killed them.**

**An SPB epidemic on the scale of the mid-1980's would have a dramatic impact on timber management activities on the Forest. In addition, procurement of funding for control activities takes longer now than it did then. If such an epidemic were to occur, it may take several months before funding could be procured to adequately address the problem. In addition, many of the FS personnel now present on the districts have never faced such epidemics and lack training. This latter issue can be addressed with on-site classes but with the lack of available SPB spots to visit, such training would be strictly "textbook oriented." On-job-training will likely occur and the development of an incident command program will be needed.**

## 3. Comparison of Existing Conditions/Trends to Desired Conditions

**The present lack of any noticeable southern pine beetles in the last six years anywhere in Louisiana, Texas, Arkansas, Oklahoma and many other states is unsettling. Available host material and weather certainly are not lacking. In the last 40 years of tracking SPB in the south, such non-existent activity over such a large area is unheard of. Whether this can be construed as an "existing condition" is questionable. Obviously, such a condition would be desirable, but**

fungal pathogen such as oak decline should appear this may alter the picture. [A positive center has recently been identified in a nursery just north of Jackson, MS. The consequences of this will play out over the next year or two.]

## 4. Results from Past Management Reviews, Audits, Annual Monitoring and Evaluation Reports

The Forest continued working towards its goals for achieving healthy forest ecosystems. Much of this was accomplished through treatments planned for restoration of longleaf and shortleaf pine on areas where off-site loblolly pine stands occur.

During FY2001 and FY2002, the Forest completed 3,026 acres and 1,959 acres, respectively, of timber stand improvement (TSI) projects. These projects also contributed toward restoration efforts and were designed to improve overall forest health.

Over 3,000 acres of thinning treatments specific to high hazard SPB stands were planned each year during FY2003 and FY2004. In FY2004, 13,400 acres of thinning were planned for RCW habitat improvement, native forest restoration, and reduction of disease and insect losses. Part of the 13,400 acres planned for RCW thinning should result in a change in forest type to predominately longleaf. An added 7,689 acres of thinning treatments were planned in FY2005 for RCW and forest health improvement.

The Kisatchie National Forest did not have any reported SPB spots or mortality from Annosus root disease between FY2001 and FY2005. However, there was a decline noted in some shortleaf pine on the Winn District in FY2005. Forest Health specialists attributed this to a root fungus (i.e. loblolly decline, littleleaf disease). Forest management practices to convert off-site species through regeneration and thinning are expected to help reduce any associated mortality.

Recommendations included:

- Continue identifying restoration and forest health needs through the inventory process.
- Utilize early growing season burns within young longleaf pine plantations to improve ecosystem health.
- Implement backlog of NEPA covered timber stand improvement treatments, including pre-commercial thinning and first thinnings at an increased rate while the aid of Forest Health funding opportunities are available.
- Continue to monitor areas for shortleaf decline and bug spots through flights.

## *G. Wildfire Protection*

### 1. Existing Conditions and Trends

**Extreme burning conditions on the Kisatchie are the exception rather than the rule. The most important reasons for this are the condition of forest fuels in well maintained, short rotation, fire dependent ecosystems; low hazardous fuels buildup levels associated with these conditions; and typically frequent rainfall.**

**The Forest averages about 70 wildfires per year, 60 of which are human-caused. These fires burn an average of 2,600 acres on National Forest and 450 private acres annually. These figures are based on the previous 6-year average, 1999-2004.**

**Provide a level of wildfire protection which emphasizes cost effective wildfire prevention and suppression while minimizing loss of resources. The appropriate management response to wildfire will be used. Human-caused fires or fires with a protection objective will be suppressed. The appropriate management response for these fires can range from initial attack to a combination of strategies to confine the fire. The primary criteria for choosing the appropriate management response and the supporting fire suppression strategies are to maximize safety, while minimizing suppression costs, resource loss, and environmental damage. Suppression strategies and tactics should not be tailored to achieve resource benefits, do not spend suppression dollars with the objective of achieving resource benefits.**

**A wide variety of techniques and practices are currently used to minimize resource loss and suppression costs from wildland fires.**

**Currently, the LRMP allows for Wildland Fire Use in Management Areas 5, 6, 11, and 13, however, due to public safety and resource protection concerns, this tool will not be considered for use at this time. The requirements to protect firefighters, private land, and RCW nest trees will not allow Wildland Fire Use until such time as adequate studies can be completed.**

**The Forest maintains no detection resources, instead relying on the Louisiana Office of Forestry to provide detection under terms set forth in a cooperative agreement between the two agencies. The State employs a system of aerial and fixed detection resources to provide national forest coverage. Due to the Forest's extensive road system and sophisticated communications systems now in widespread use, Forest visitors, contractors, and permittees have become a significant part of the total detection system. While increased use of the Forest raises the risk of human-caused fires, it also contributes to early detection — and in some cases, suppression of small fires. The increasing presence of rural fire departments also contributes to overall early detection and suppression of small fires.**

**The fire organization is equipped with modern mechanized fire fighting equipment, including tractor-plow units, used for plowing bare-earth firelines**

around wildfires, and small engines, some of which use foam. Helicopters and large air tankers are sometimes used, but are considered less cost-efficient than a tractor-plow unit.

Tractor-plow units are by far the most common suppression tool. An exception is Kisatchie Hills Wilderness, where preferred methods of suppression emphasize minimum-impact-suppression techniques using hand tools such as rakes, flaps, axes, shovels, backpack pumps, and aerial or ground delivery of water and retardants.

A cooperative agreement and annual fire action plan is maintained with the State. This agreement specifies initial attack responsibilities for all lands within and directly adjacent to the Forest. It also provides for cooperation between agencies.

The Forest operates a State coordination center that is responsible for coordinating most fire activities for all federal land management agencies in the State, including the National Park Service and the U.S. Fish and Wildlife Service.

## 2. Factors Influencing Conditions and Trends

### a) Disturbances

Wildfire is among the oldest of natural phenomena. Today, 96 percent of all wildfires in the South result from humans and 4 percent from lightning. Most fires on the Kisatchie National Forest are of low to moderate intensity and are suppressed at a small size. This is a result of frequent and widespread prescribed burning that keeps forest fuels at low energy levels, and fire suppression organizations with mechanized fire suppression equipment. The majority of human-caused fires are arson-related, averaging about 70 percent. The largest and most intense fire in recent history, however, was probably lightning-caused: 7,500 acres burned within the 8,700-acre Kisatchie Hills Wilderness in April 1987.

### b) Successional Processes

As the average age of the Forest becomes older, surface wildfires are expected to result in less damage to stands, especially in upland areas. Also, as longleaf pine ecosystems become established, wildfire may provide some of the same benefits as prescribed fire. As more mixed hardwood-pine stands and streamside zones develop, wildfire may become less of a threat in these areas; hardwood leaves on the surface of these areas typically hinder the spread of fire.

### c) Projected Future Actions

Recent GIS analysis of the Forest revealed that the Forest consists of 70% wildland-urban interface (WUI) lands.

### d) Reasonably Foreseeable Events Outside Agency Control

**Fuel conditions on adjacent unburned ownerships increase the hazard of large fires. Disincentives for prescribed fire treatment on adjacent lands, such as liability, cost and differing management objectives are expected to continue.**

**As the WUI continues to expand throughout the Forest Proclamation Boundary, control of wildland fires will become more complex and expensive annually. More equipment, personnel and funding will be necessary to control wildland fires in the WUI. Short and Long term suppression tactics will have to be modified to deal with the ever changing WUI across the Forest.**

## 3. Comparison of Existing Conditions/Trends to Desired Conditions

**The resources at hand (equipment and personnel) to control wildfire at this time are less than the Most Efficient Level indicated by the National Fire Management Analysis System outputs. Recent increases in accomplishment in hazardous fuels reduction have served to offset that shortfall to a great extent due to successful reduction of hazardous fuel loading.**

## 4. Results from Past Management Reviews, Audits, Annual Monitoring and Evaluation Reports

**Wildland fire preparedness was still below the most efficient level. As a result, wildland fire losses were not being minimized due to the funding shortfall. The Forest still could not fill vacant firefighter positions. Recommendations have been to continue requesting wildland fire preparedness funding at the 100% efficiently level and staff accordingly.**

**Resources identified in NFMAS are being made available in accordance with budget funding level. Table 20 below shows the annual acreage lost to wildland fires between FY2001 and FY2005. For all years except FY2005, the Forest was below the acceptable range of 2,108 acres. FY2005 was an unusually dry year.**

**Table 20: Forest Acreage Lost to Wildland Fires**

| Fiscal Year | Acres |
|---|---|
| 2001 | 751 |
| 2002 | 1,570 |
| 2003 | 1,863 |
| 2004 | 342 |
| 2005 | 3,360 |

**Recommendations have been to manage for productive and healthy forest ecosystems by utilizing prescribed fire to prevent and minimize resource losses to wildland fires.**

## *H. Air Quality*

### 1. Existing Conditions and Trends

**All areas of the Kisatchie National Forest are in attainment of the National Ambient Air Quality Standards (NAAQS) including NAAQS for ozone. Monitoring data for ozone was continuously collected at the LDEQ air monitoring station located on the Catahoula Ranger District at the Bentley site in Grant Parish until the station was destroyed by fire in August 2005. Indications from LDEQ are that the Bentley station will not be re-established in the foreseeable future.**

**The Forest follows the direction and parameters as set in the Louisiana Smoke Management Voluntary Guidelines. Burn plans were prepared for all proposed prescribed fire burn units, identifying smoke sensitive areas and targets with existing visibility or air quality problems. In addition, site specific concerns and smoke management criteria for individual burn units are identified in the burn plans.**

### 2. Factors Influencing Conditions and Trends

#### a) Disturbances

**Prescribed burning and wildfires have the highest potential for adversely affecting air quality on the Forest. In order to mitigate these effects, daily fire weather forecasts include smoke management parameters for transport wind speed, mixing height and dispersal. Burns are not ignited unless a forecast is obtained and all smoke management prescription parameters were met. A smoke-screening map is required to be attached to the burn plans identifying forecasted wind direction and the projected smoke plume. Smoke dispersal is monitored throughout the burn period of each fire. Smoke plume direction and spread is monitored via helicopter. Post burn evaluation is performed and includes a requirement to note any smoke management violations.**

#### b) Successional Processes

**As longleaf pine ecosystem restoration progresses on the Forest, prescribed fire has become an important tool in its maintenance. Increased use of prescribed fire, especially during spring or summer, has contributed an increased potential to adversely affect air quality across the Forest.**

#### c) Projected Future Actions

**In order to establish and maintain more and more fire-dependent communities like longleaf pine, the Forest will utilize prescribed fire more frequently. This will have the potential to increase particulate emissions during the burning seasons.**

### d) Reasonably Foreseeable Events Outside Agency Control

**Construction projects (especially major highways) and burning on adjacent private lands will likely continue in the near future. Increases in population and travel through the Forest will also continue to rise slowly. These events will contribute to the effects of the Forest's actions on air quality.**

## 3. Comparison of Existing Conditions/Trends to Desired Conditions

**Existing conditions/trends are in line with those expected for the Forest.**

## 4. Results from Past Management Reviews, Audits, Annual Monitoring and Evaluation Reports

**The LDEQ has been monitoring particulate matter with a Federal Reference Method PM 2.5 monitor located in Alexandria (Rapides Parish) since 1999. PM 2.5 refers to particulate matter that has a diameter of 2.5 micrometers or less. The monitoring data indicates that the NAAQS for particulates is being met. Recommendations have been to continue coordination with LDEQ Air Quality Dept. on monitoring.**

**The implementation of standards and guidelines for smoke management activities were reviewed on each of the districts. The findings indicated that districts were continuing to use the capabilities of GIS for planning burns, to aid in identifying sensitive sites, and to project smoke dispersal so that sensitive sites are protected. In addition to sensitive sites, the districts made extra efforts to seek out smoke sensitive individuals and took measures to insure that they were protected from the smoke.**

**Recommendations have been to continue reviewing burn plans to evaluate how Louisiana Smoke Management Guidelines are being followed and to develop a protocol to monitor particulate matter concentrations in the air within the sensitive communities near the Forest before, during, and after prescribed burning operations. The first part would be to model the production, dispersion, and transport of PM 2.5 emissions, and potential impacts of those emissions on local communities. The second part would be real-time, localized, particulate matter monitoring using portable samplers. The particulate samplers would be placed at strategic locations within or near smoke sensitive areas identified in the burn plan.**

# V. Social and Economic

## *A. Recreation*

### 1. Existing Conditions and Trends

*(1) Dispersed*

**The Kisatchie National Forest is the second largest supplier of public recreation lands in Louisiana. The Forest encompasses approximately 603,769 acres. More than 560,000 acres are open for dispersed recreation activities. The Forest's theoretical maximum annual outdoor recreation capacity for dispersed recreation activities is determined by the amount of acreage within each ROS class. Under the current Forest Plan 527,897 acres are classified as roaded natural, 33,096 acres are classified as semi-primitive, and 2,615 acres are classified as rural.**

**The theoretical maximum annual capacity is based on the assumption that the Forest is used consistently throughout the year by the maximum possible number of people. This condition is unlikely to occur, since most use is grouped into specific time periods, not spread over an entire year. For Forest planning purposes, reasonable outdoor recreation capacity provides a more accurate account of dispersed recreation capacity. The Forest's total reasonable dispersed recreation capacity is approximately 2.16 million RVDs.**

**The Forest's 1997 RIM reported more RVDs for hunting, driving for pleasure, motorcycle and ATV riding, and fishing than for any other type of dispersed recreation. Hunting accounted for 115,901 RVDs; driving for pleasure, 73,900 RVDs; OHV riding, 47,460 RVDs; and fishing, 29,847 RVDs. Camping has historically been the most popular activity at developed sites. Total dispersed and developed camping accounted for 137,436 RVDs. Other popular developed recreation included swimming, 41,600 RVDs; and picnicking, 36,100 RVDs. In 1997 the total reported RVDs for all recreation activities on the Forest was 621,845. These and other activities are displayed in Table 21.**

| Table 21: Recreation Use (RVDs[13]) | | | | |
|---|---|---|---|---|
| Recreation Information Management Summary Comparison[14] | | | | |
| Activity | 1999 Rank | 2005 Rank | 1999 RVDs | 2005 RVDs |
| Camping | 1 | Same | 137,436 | Same |
| Hunting | 2 | Same | 115,901 | Same |
| Driving for pleasure | 3 | Same | 73,900 | Same |
| OHV use | 4 | Same | 47,460 | Same |
| Viewing activities | 5 | Same | 45,200 | Same |
| Swimming and waterplay | 6 | Same | 41,600 | Same |
| Picnicking | 7 | Same | 36,100 | Same |
| Fishing | 8 | Same | 29,847 | Same |
| Horseback riding | 9 | Same | 14,800 | Same |
| Motorboating | 10 | Same | 14,700 | Same |
| Nature study | 11 | Same | 13,100 | Same |
| Hiking and walking | 12 | Same | 12,200 | Same |
| Recreational cabin use | 13 | Same | 10,501 | Same |
| Bicycling | 14 | Same | 9,200 | Same |
| Gathering forest products | 15 | Same | 5,500 | Same |
| Receiving information | 16 | Same | 4,400 | Same |
| Waterskiing and water sports | 17 | Same | 4,000 | Same |
| Canoeing | 18 | Same | 3,200 | Same |
| Sports, games and play | 19 | Same | 2,800 | Same |
| Forest Total | | | 118,744 | Same |

**The newer RVD estimates shown above are relatively the same as those estimated for the beginning of the Plan period, even with new sites. However, we are no longer measuring use the same way on the Forest. The National Visitor Use Monitoring (NVUM) Program[15] survey has taken the place of this process, but is not considered accurate at this time, especially with relatively recent extended periods of Forestwide closure due to rain events and hurricanes (Table 22).**

[13] Recreation Visitor Days.

[14] Comparison is made with 1999 Plan FEIS, p. 3-59, Table 3-26. No significant changes to RVDs are known to have occurred during the first 5 years (personal communication with Shanna Ellis, Forest Recreation staff).

[15] This effort collects information on National Forests and Grasslands about visitor satisfaction and use. Annual summary reports and individual forest and grassland reports are available.

| Table 22: Activity Participation on Kisatchie National Forest[16] | | | |
|---|---|---|---|
| Activity | Total Activity Participation (%) | Was Main Activity (%) | Average Hours Doing Main Activity (Hours) |
| Viewing Natural Features | 38.2 | 21.7 | 1.8 |
| Viewing Wildlife | 33.8 | 5.7 | 3.4 |
| Relaxing | 32.5 | 8.7 | 12.5 |
| Hiking / Walking | 26.6 | 7.4 | 3.0 |
| Fishing | 25.4 | 19.7 | 4.4 |
| Picnicking | 21.4 | 5.7 | 4.5 |
| Other Non-motorized | 15.1 | 7.9 | 2.7 |
| Hunting | 14.6 | 12.6 | 7.0 |
| Developed Camping | 14.1 | 7.0 | 22.6 |
| Motorized Trail Activity | 10.8 | 6.8 | 6.6 |
| Bicycling | 10.8 | 7.8 | 2.4 |
| Driving for Pleasure | 10.7 | 2.1 | 1.6 |
| Horseback Riding | 7.4 | 5.7 | 3.5 |
| Nature Study | 6.1 | 0.2 | 1.0 |
| Nature Center Activities | 6.0 | 0.0 | . |
| OHV Use | 5.5 | 3.5 | 5.4 |
| Gathering Forest Products | 5.1 | 0.7 | 0.7 |
| Motorized Water Activities | 3.9 | 1.6 | 6.2 |
| Primitive Camping | 3.5 | 0.1 | 6.7 |
| Some Other Activity | 3.4 | 1.9 | 3.3 |
| Backpacking | 2.4 | 1.2 | 16.6 |
| Visiting Historic Sites | 2.4 | 0.0 | . |
| Non-motorized Water | 1.5 | 0.2 | 2.2 |
| Other Motorized Activity | 1.0 | 0.1 | 2.8 |
| Resort Use | 0.4 | 0.0 | . |
| No Activity Reported | 0.2 | 0.8 | . |
| Downhill Skiing | 0.2 | 0.0 | . |
| Snowmobiling | 0.0 | 0.0 | . |
| Cross-country Skiing | 0.0 | 0.0 | . |

**The PAOT Table (Table 3-23, p. 3-55, of the Plan FEIS) that shows our capacity is probably what we need to be using for now since it shows what we are capable of handling and is the direction we are going in management, i.e., to take care of what we have and be very careful about new construction and expansion. For example, camping was occurring at Loran Camp (2006) before the developed campground was constructed. In the RVD table, dispersed and developed camping was lumped together, so basically it was already occurring and accounted for in the table. Many of the Activities used in the RVD table are not used in the other types of use surveys, so it's very difficult to sort out. The use changes are not significant enough at this time to change.**

[16] Source: FY2005 NVUM survey for Kisatchie National Forest.

*(2) Developed*

**The Kisatchie currently maintains 118 recreation sites featuring 357 improved camping sites, 25 horse camping sites, 332 primitive camping sites, 14 boat launches, 4 swim sites, 11 group picnic shelters, 228 family picnic units, 11 overlooks, 4 interpretive sites, and more than 408 miles of trails — displayed in Tables 23, 24, and 25.**

| Table 23: Developed Recreation Sites[17] | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| By Ranger District | | | | | | | | | |
| Ranger District | Recreation Sites | Improved Camping | Primitive Camping | Boat Launch | Swimming Sites | Group Shelters | Picnic Units | Vistas/ Overlooks | Interpretive Sites |
| | Number of Units | | | | | | | | |
| Calcasieu | 44 | 173 | 130 | 4 | 1 | 6 | 102 | 0 | 2 |
| Caney | 24 | 101 | 54 | 5 | 2 | 2 | 74 | 0 | 0 |
| Catahoula | 12 | 8 | 90 | 0 | 1 | 1 | 18 | 0 | 2 |
| Kisatchie | 23 | 42 | 50 | 0 | 0 | 1 | 18 | 11 | 0 |
| Winn | 16 | 33 | 8 | 5 | 0 | 1 | 16 | 0 | 0 |
| Total | 119 | 476 | 332 | 14 | 4 | 11 | 228 | 11 | 4 |

| Table 24: Recreation Site Capacity[18] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| By Ranger District | | | | | | | | |
| Ranger District | Improved Camping | Primitive Camping | Boat Launch | Swimming Sites | Group Shelters | Picnic Units | Vistas/ Overlooks | Interpretive Sites |
| | People-At-One-Time (PAOT) | | | | | | | |
| Calcasieu | 865 | 650 | 510 | 500 | 390 | 500 | 0 | 110 |
| Caney | 505 | 270 | 370 | 980 | 230 | 370 | 0 | 0 |
| Catahoula | 40 | 575 | 0 | 110 | 100 | 90 | 0 | 230 |
| Kisatchie | 210 | 250 | 0 | 0 | 50 | 90 | 195 | 0 |
| Winn | 165 | 40 | 150 | 0 | 30 | 80 | 0 | 0 |
| Total | 1,785 | 1,785 | 1,030 | 1,590 | 800 | 1,130 | 195 | 340 |

[17] From Plan FEIS, p. 3-55, as modified in 2007 by input from Shanna Ellis.

[18] From Plan FEIS, p. 3-55, as modified in 2007 by input from Shanna Ellis.

| Table 25: Trails[19] | | | | | | | |
|---|---|---|---|---|---|---|---|
| By Ranger District | | | | | | | |
| Ranger District | Trail Name | Length (miles) | Hiking | Horse | ATV/ Motorcycle | Bike | Canoe |
| | | | Permitted Uses | | | | |
| Calcasieu | Big Branch | 10.0 | x | x | | x | |
| | Claiborne North Loop | 30.0 | x | x | x | x | |
| | Claiborne Woodworth Loop | 28.0 | x | x | x | x | |
| | Claiborne Boy Scout Loop | 31.0 | x | x | x | x | |
| | Enduro | 30.0 | x | x | x | x | |
| | Fullerton | 1.6 | x | | | x | |
| | Hogback Ridge | 2.5 | x | | | | |
| | Indian Ridge | 0.5 | x | | | x | |
| | Kincaid | 9.0 | x | | | x | |
| | Lakeshore | 7.0 | x | | | x | |
| | Lamotte Creek | 2.6 | x | | | x | |
| | Magnolia Walk | 0.5 | x | | | x | |
| | Ol' Sarge | 0.5 | x | | | | |
| | Valentine | 3.0 | x | | | x | |
| | Ouiska Chitto | 10.0 | x | | | x | |
| | Wild Azalea | 27.0 | x | | | x | |
| | Wild Azalea Spur | 2.0 | x | | | x | |
| | Turkey Pen | 2.2 | x | x | | | |
| | *[All Calcasieu Trails]* | *[197.4]* | | | | | |
| Caney | Sugar Cane | 6.3 | x | | | x | |
| | Lost Man Loop | 3.5 | x | | | x | |
| | Beech Bottom | 3.5 | x | | | x | |
| | *[All Caney Trails]* | *[13.3]* | | | | | |
| Catahoula | Breezy Hill (under construction) | 66.0 | x | | x* | x | |
| | Glenn Emery | 2.2 | x | | | x | |
| | Livingston-Hickman Loop | 14.0 | x | x | x | x | |
| | Livingston-South Loop | 7.0 | x | x | x | x | |
| | Socia Branch | 0.5 | x | | | | |
| | Stuart Lake | 1.2 | x | | | | |
| | Old LSU Site | .25 | x | | | | |
| | *[All Catahoula Trails]* | *[91.15]* | | | | | |

[19] From Plan FEIS, p. 3-55, as modified in 2007 by input from Shanna Ellis.

* Motorcycles only

| Table 25: Trails[19] | | | | | | | |
|---|---|---|---|---|---|---|---|
| By Ranger District | | | | | | | |
| Ranger District | Trail Name | Length (miles) | Hiking | Horse | ATV/ Motorcycle | Bike | Canoe |
| | | | Permitted Uses | | | | |
| Kisatchie | Backbone | 7.0 | x | x | | | |
| | Caroline Dorman | 13.0 | x | x | | x | |
| | Explorer | 0.5 | x | x | | | |
| | High Ridge | 1.5 | x | x | | | |
| | Longleaf Vista | 1.5 | x | | | | |
| | Turpentine Hill | 1.5 | x | x | | | |
| | Sandstone | 36.0 | x | x | x | x | |
| | *[All Kisatchie Trails]* | *[61.0]* | | | | | |
| Winn | Gum Springs | 22.0 | x | x | | x | |
| | Bayou | 3.2 | x | | | x | |
| | Dogwood | 1.5 | x | | | | |
| | Saline Bayou | 19.0 | | | | | x |
| | *[All Winn Trails]* | *[45.7]* | | | | | |
| Forest Total | | 408.45 | | | | | |

## 2. Factors Influencing Conditions and Trends

### a) Natural Disturbances/Processes

*(1) Dispersed*

**Catastrophic events such as storms, wildfire, or insect epidemics could cause adverse effects on dispersed recreation quality. The effects would expected to be short-term.**

*(2) Developed*

**Hurricanes Katrina and Rita (2005) directly and indirectly temporarily affected the use pattern of dispersed and developed recreation opportunities. Recreation areas were closed for extended periods of time due to safety concerns and/or for damage repairs. During those closures, no use was occurring. When the areas reopened, there was some extended use by displaced evacuees in addition to the reduced use by the public.**

**The 'two inch rain rule' for closure to motorized use has been consistently used across the Forest for several years now. It has generally been successful in reducing motorized use impact during inclement conditions. It does increase the impact to staff time in preparing a Supervisor's Closure Order and getting it posted for the public to see and be aware. It has confused the public and, at times, created negative feedback on the process. Over time, however, that has lessened extensively through education.**

**b) Projected Future Actions**

*(1) Dispersed*

**The proposed Travel Management Rule may impact motorized use opportunities and overall management in the dispersed and developed setting. By restricting motorized travel to designated routes only, maintenance will be reduced in the dispersed area and will then be concentrated on the designated routes. While the maintenance needs on the designated routes may increase, it will be in a controlled area rather than spread throughout a large undetermined area. Some recreational opportunities will be reduced for those that are reliant on motorized vehicles for access.**

*(2) Developed*

**Gum Springs Reservoir construction near Winnfield, LA will increase some recreational opportunities for that area. Also, the Breezy Hill Single Track Trail, which is under construction near Dry Prong, LA, will be a part of the designated route system for motorcycles.**

**c) Reasonably Foreseeable Events Outside Agency Control**

*(1) Dispersed*

**None known.**

*(2) Developed*

**The Federal Land Recreation Enhancement Act (REA) was passed in the 2005 Consolidated Appropriations Act (PL 108-447) signed into law by President Bush on December 8, 2004. The 10-year Act authorizes the Secretaries of the Interior and Agriculture to establish, modify, charge and collect recreation fees at Federal recreation lands and waters as provided for in the Act. The types of fees and where they will be charged are now closely watched. The Regional Recreation Fee Board reviewed and approved the fees that are currently being charged. Several of the day-use fees were dropped as a result of the REA requirements. Any changes to fees or new fees now will have to go through a rigid process and before the Recreation Advisory Committee. The RAC will meet 1-2 times per year to review and recommend fee changes.**

**During the next 50 years demand should increase for many recreational activities such as mountain biking, fishing, hiking or walking, sailing, non-consumptive wildlife**

**uses, horseback riding, developed camping, and driving for pleasure. The demand for public recreational use space and access is also expected to continue increasing.**

## 3. Comparison of Existing Conditions/Trends to Desired Conditions

*(1) Dispersed*

**The Kisatchie has historically been an "open unless designated closed" forest for motorized vehicle use. Currently, the Kisatchie is proposing to eliminate off-route motorized travel across the Forest. The Forest is in the process of determining those routes that would allow motorized use. There would be a shift of recreational OHV use from cross country to designated trail, which will allow the recreational opportunity to continue, but in a more focused and controlled environment.**

*(2) Developed*

**The Forest was able to adequately provide for recreational activities by maintaining and/or improving existing facilities and by developing new facilities. The ways that demands are being met are changing for some types of recreational use.**

**The Old LSU Site Trail was constructed and opened for use in 2005; the Trail was formally dedicated in 2006; and interpretative signage was dedicated in 2007. The trail is receiving consistent moderate to high use levels throughout the year every day of the week. The ¼ mile accessible trail is located next to the Supervisor's Office, across from the VA Hospital, and in the City of Pineville. As the result of a cooperative effort between the Forest Service, Rapides Foundation, and LSU, there are historical interpretive stations, benches, and two picnic units located on the site.**

**Reg5Ck5C,i(9Dg6kj9C,9DCjk6,l(9DDH6kj9C, (CD596,f(ADC18H8,e(6D9111C,d(AjDH9H1k, (A8D6**

**leingonsatcati aln rRevfcrepoicn**

**accomplished. ROS class eligibility changes are dependant, primarily, on changes in road density and OHV management status. Some changes may occur in the next few years due to new travel management designation direction.**

**Recommendations have been to evaluate the feasibility of developing an automated GIS system that would periodically determine the ROS class eligibility of Forest lands as funding and personnel constraints permit.**

*(2) Developed*

**Meaningful Measures costing data was updated to the corporate INFRA database. Critical standards are being met. Full compliance with all Meaningful Measures standards is not possible at current funding level.**

**The Forest was selected to beta test a Regional comment card. The test period began October 1, 2003. The Beta Test was concluded. It is not known if the Region will go forward with this program at this time.**

**The Forest completed the National Visitor Use Monitoring Survey project. Customer service response has continued to improve with the assignment of a Customer Service Representative. The Customer Service Representative receives requests, questions, or complaints. She then answers or refers to appropriate district or source for best response.**

**Recommendations have been to: continue the annual update of INFRA data; continue management of the recreation program using the Meaningful Measures system and the Recreation Realignment Process; and continue to improve customer service through the customer service representative.**

**Table 26: Activity Participation on Kisatchie National Forest (NVUM FY2005)**

| Facility Type | Percent Of NF Visits Using The Facility |
|---|---|
| None of these Facilities | 36.4 |
| Scenic Byway | 20.8 |
| Designated ORV Area | 18.6 |
| Developed Swimming Site | 16.9 |
| Developed Fishing Site | 15.5 |
| Motorized Single Track Trail | 13.7 |
| Motorized Dual Track Trails | 6.4 |
| Interpretive Displays | 5.9 |
| Information Sites | 2.7 |
| Forest Roads | 2.6 |
| Visitor Center or Museum | 0.5 |

## *B. Scenery*

### 1. Existing Conditions and Trends

**Most of the land that is now Kisatchie National Forest had been cleared by timber harvest or for agriculture prior to acquisition by the Federal Government in the 1930's. Today most of Forest is perceived visually as a natural, heavily forested, gently rolling landscape supporting dominant overstories of loblolly, shortleaf and longleaf pine with scattered hardwoods. Areas of hardwood overstory occur primarily along river and stream drainages.**

**Over much of the landscape, mid- and understory vegetation is sparse. This allows viewing depths up to 1/4 mile, but the relatively flat terrain makes distant landscape views or panoramas rare. An exception to this is the Kisatchie District; its hilly topography contains numerous vistas.**

**The sparse mid- and understory depends on frequent prescribed burning, so the visual character of infrequently burned or unburned areas is much different. Riparian areas and transitional zones not normally exposed to fire often support a dense understory of shrubs and small trees, contributing to the overall visual variety of the landscape.**

**Because of the Forest's dominant evergreen pine overstory, fall color displays are not a major scenic attribute, although areas with a heavier deciduous hardwood component sometimes exhibit moderate levels of color. Flowering trees and shrubs — such as dogwood and wild azalea — growing primarily on moister sideslopes consistently produce impressive spring flower displays.**

**Within the overall matrix of this landscape, some small areas or inclusions such as bogs, rock outcroppings, and cypress swamps possess unique visual characteristics. This contributes to the variety and attractiveness of the landscape.**

**The Forest Service has developed and adopted a system for the management of visual or scenic resources: the Scenery Management System, or SMS. The SMS provides an overall framework for**

**ht overaphs ymajC7C5,si(AjDH9, ($="cA8WkD9jC7A95DW7=d lte ys hhissH9HkW,n,s(A1DH**

| Table 27: Forest SIO Assignments | | |
|---|---|---|
| **Displayed in Acres and Percent [20]** | | |
| **SIO Assignment** | **Acres** | **Percent** |
| **Very high -** *preservation* | **8,699** | **1.4** |
| **High –** *retention* | **93,980** | **15.5** |
| **Medium –** *partial retention* | **89,155** | **14.7** |
| **Low -** *modification* | **415,020** | **68.2** |
| **Very low –** *maximum modification* | **1,278** | **0.2** |

**National Meaningful Measures standards for wilderness management were completed in FY2003. In FY2004, the Kisatchie Ranger District increased awareness to the public by hosting a Kisatchie Hills Wilderness Day. Although the management of Kisatchie Hills Wilderness has been in compliance with the Forest Plan standards and guidelines, in FY2005 the Forest finished developing a 10-Year Strategy Plan to bring Kisatchie Hills Wilderness into compliance with the new national Wilderness Meaningful Measures Standards.**

## 2. Factors Influencing Conditions and Trends

### a) Natural Disturbances/Processes

**The vast majority of the Forest supports a forest canopy; however, some temporary openings have been created by timber harvests or natural events such as tornadoes or southern pine beetle infestations. These openings can appear visually out of place in a heavily forested setting, particularly in the first year following their creation. They do, on the other hand, contribute spatial diversity and opportunities for viewing a progression of successional vegetation stages.**

### b) Projected Future Actions

**Management activities and projects with potential to cause visual deviations from a natural-appearing landscape would continue to occur, but may vary in size and frequency. Areas with large or frequent alterations would be difficult to mitigate, while areas with small or infrequent alterations would be more easily mitigated. Areas where historic vegetation is restored would in the long run be beneficial to scenic conditions, and the overall perceived attractiveness of the landscape, even though initial regeneration activities would produce visual contrasts.**

[20] **From FEIS, Appendix F, Table F-7**

c) Reasonably Foreseeable Events Outside Agency Control

**Natural events such as tornadoes or southern pine beetle infestations are expected to continue. These openings would appear visually out of place in a heavily forested setting. On the other hand, as stated above, they would also contribute spatial diversity and opportunities for viewing a progression of successional vegetation stages.**

### 3. Comparison of Existing Conditions/Trends to Desired Conditions

**The Forest has adopted and is implementing the new SMS as a component of the Revised Forest Plan. Conditions and trends are continuing to move favorably toward expected desired conditions.**

### 4. Results from Past Management Reviews, Audits, Annual Monitoring and Evaluation Reports

**Comparisons of project designs with SIO guidance were not made due to staffing limitations during FY2001 and FY2002. After that, consultations with district staff revealed management actions were in compliance the SIO. Recommendations have been to dedicate additional resources to accomplishing this task and continue to review proposed projects for SIO compliance.**

**The realignment process assisted the Recreation Staff in identifying projects that may be associated with Special Interest Areas (SIAs). The public learned more about these areas through education efforts.**

**The Forest continued working with the Louisiana Department of Wildlife and Fisheries (LDWF) to protect the Saline Bayou Scenic River. The triploid carp were monitored by a monitoring device and the Fisheries biologist. Fifteen miles of the Saline Bayou was maintained by sign placement and paint. The realignment process continues to assist in this area. Recommendations have been to work with the Winn Ranger District to complete fifteen miles of the Saline Bayou Scenic River boundary maintenance by sign placement and paint.**

## *C. Heritage*

### 1. Existing Conditions and Trends

**In FY2001 and FY2002, No significant or potentially significant heritage sites were evaluated for eligibility to the National Register of Historic Places. During that time, the number of backlogged sites dropped from 419 to 416. Beginning in FY2003, the Forest began to evaluate one potentially significant heritage sites for eligibility to the National Register of Historic Places (NRHP), and the number of backlogged sites increased from 416 to 452 in FY2005. Given the annual funding and staffing levels, we were not able to satisfy compliance with Section**

110 of the NHPA, requiring assessments of NRHP eligibility for all known cultural properties.

To date, approximately 46 percent of the Forest has been inventoried or surveyed for the presence of heritage resources. Slightly more than 4,100 sites have been recorded, 3,762 of which belong to the *prehistoric* period and 338 of which are of the *historic* period. Almost 1,920 sites are in protective status, pending evaluation for NRHP eligibility. Most of the inventory has been conducted in support of various timber activities, land exchanges, road construction, and recreation development.

As is the case elsewhere, sites on the Forest are not distributed randomly across the landscape. They were selected for use or occupation by past inhabitants because of certain environmental variables, particularly during prehistoric times. The Kisatchie site predictive model which is derived from studies by the Forest Service, private contract archeologists, notes the primary variable as distance to permanent water sources. The model breaks the landscape down into 3 "geographic zones," these being *Zone 1* — NRCS mapped floodplains; *Zone 2* — 200 meter buffer around the floodplain soils or mapped water source; and *Zone 3* — all other areas.

Inventory shows variable site frequencies per 100 acres in each zone, with Zone 2 having the highest site frequency at roughly 2 sites per 100 acres, and Zone 3 having the least at 0.25 sites per 100 acres. These figures apply only to prehistoric period sites because historic sites follow a slightly different pattern. For the most part, historic homesites and associated features most commonly occur near historic transportation routes often located in higher elevations along ridge lines.

## 2. Factors Influencing Conditions and Trends

### a) Natural Disturbances/Processes

Prehistoric sites represent all time periods — *Paleo-Indian*, about 12,000–8,000 years ago; *Meso-Indian* or *Archaic*, 8,000–4,000 years ago, and *Neo-Indian*, from 4,000 years ago to about AD 1550. Site types range from small areas to large base camps. Smaller areas were probably single-use lithic reduction, or stone toolworking, areas often less than 50 square yards in size. Large base camps of 10–12 acres were probably used almost year un, fo s o, mpe o a years Mod t a spesimig timo yed
F sueh sr tere an,at ,iCt s w sh ss byrinl vlaies.si,diurs osimt on rhe boresei0

**however, additional sites are likely to be rare. During the first half of the 19th century, settlement was sparse in the pine uplands. That population increased during the latter half as small landholders were gradually pushed out of the fertile alluvial valleys into the surrounding pine hills. Some evidence of Civil War actions may be present on the Kisatchie District.**

**During the latter decades of the 19th century, the booming timber industry accounted for the majority of historic sites. This includes both large industrial communities and complexes, such as the Fullerton Mill and Town, which is on the National Register of Historic Places, and small homesteads in associated communities.**

**Important vestiges of the early to mid- 20th century are best typified by sites relating to the 8 Civilian Conservation Corps camps on the Forest. These include several recreation areas still in use today. The Forest also hosted 2 large World War II military camps, Livingston and Claiborne, which are also designated as historic sites.**

**b) <u>Projected Future Actions</u>**

**Inventory is ongoing, as are refinements to the site predictive model. As field inventory progresses into more areas of higher predicted probability — often beyond the boundaries of project actions — site frequencies per acre, particularly of areas in or adjacent to riparian zones, can be expected to change.**

**The Forest is moving toward full integration of survey data and predictive modeling with the Forestwide GIS database. Inventoried areas and new site recordings are updated on a regular basis, to enhance both on-the-ground management and predictive models.**

**The Kisatchie National Forest has drafted a programmatic agreement with the Advisory Council on Historic Preservation and the Louisiana State Historic Preservation Officers and Tribes. One aspect of this agreement streamlines the reporting process for compliance with Section 106 of the National Historic Preservation Act. Under provisions of the programmatic agreement some projects or project types can be excluded categorically from full review procedures. This means that the Forest is able to schedule its heritage resource workforce to better concentrate accomplishments on higher-impact projects on the Forest. This would be important in future efforts to fill in data gaps, especially in non-project related portions of the Forest.**

**The Kisatchie also has a partnership with Northwestern State University in Natchitoches to mutually administer from one to three graduate-level internships in the masters-level cultural resource management curriculum. These interns obtain real-life work experience on Forest Service projects, for which they receive graded course credits.**

**There is growing public recognition that facilities or experiences with a historical focus are an increasingly popular recreational activity. To satisfy this public need, in 1989 the Forest Service created the Passport in Time (PIT) program. The**

program encourages and solicits volunteers to assist in projects such as site excavation, rehabilitating historic buildings, conducting oral interviews, or historic records research. The Kisatchie has offered at least 2 projects per year since 2003. Because of their success, PIT would continue as an integral part of the Forest's heritage and recreation programs.

c) Reasonably Foreseeable Events Outside Agency Control

No reasonably foreseeable future events or proposals were identified.

## 3. Comparison of Existing Conditions/Trends to Desired Conditions

The Kisatchie has a large number of unevaluated sites that are in protected status. These sites should be evaluated and it is the current thought that the majority of these will prove to be ineligible and therefore removed from protective status. The Kisatchie also has a number of eligible sites that are not listed on the NRHP. Efforts should be made to complete the evaluation (working with the Tribes) of these sites and get them listed on the NRHP.

## 4. Results from Past Management Reviews, Audits, Annual Monitoring and Evaluation Reports

All compliance reviews and consultations pursuant to Section 106 of the National Historic Preservation Act (NHPA) were completed prior to agency decisions. Due to a lack of management projects during FY2001, FY2002, and FY2003, requests for inventory were much reduced from previous years. This slowdown was partially in response to startup of new tactical planning under the Revised Plan and partially a result of court injunctions. FY2004 and FY2005 saw an increase in request for surveys. In FY2004, a total of 4,072 acres were inventoried and 16 new sites were added to the Kisatchie heritage database. In FY2005, a total of 26,421 acres were inventoried and 169 new sites were added to the Kisatchie heritage database. For both years, the survey acres were in support of timber, recreation or special uses.

The Forest continued government-to-government relations with five federally recognized tribal nations. These include the Caddo Tribe of Okalahoma, the Chitimacha Indian Tribe, the Coushatta Indian Tribe, the Jena Band of the Choctaw, and the Tunica Biloxi Tribe. In 2003, the Forest started relations with the Choctaw Tribe of Oklahoma. Recommendations have been to continue working with interested tribes to establish required government-to-government relations and partnerships and to complete the Programmatic Agreement with the SHPO and Tribes.

From four to forty heritage sites were revisited each year to determine the extent of internal or externally caused damage. No evidence of damage due to Forest activities at these sites was noted, but external damage (unauthorized site looting) was recorded in a number of instances. In FY2001, one formal Law Enforcement case report was generated, but the investigation was unable to

**identify persons responsible. No other formal Law Enforcement case reports were generated. However, in FY2004, nineteen new historic properties were discovered in a post review. One of these saw damage and the timber sale was modified and closed. The SHPO and the Caddo Nation were notified. There were insufficient funds for Law Enforcement Officers and Heritage Specialists to physically monitor all sites at risk. Recommendations have been to request and receive funding to increase monitoring efforts, with an eye towards using remote sensing-technology to supplement physical monitoring.**

**The Forest Service continued its annual contributions to Louisiana Archaeology Week. Heritage Specialists visited primary and secondary level classrooms to make presentations on Louisiana history and archeological ethics. Specialists also taught continuing education to the Louisiana Forest Association. Through a grant from the Rapides Foundation, a walking trail was constructed at the Old LSU site. This site is listed on the NRHP.**

**Public responses from public presentations indicate a general increase in awareness and sensitivity about the nonrenewable cultural resource base. The walking trail has numerous visitors each day. Recommendations have been to enhance public awareness by continuing to offer PIT projects, classroom and civic organization presentations, and partnerships with the LA SHPO to interpret the old LSU site and participate in Louisiana Archeology Week.**

## *D. Forest Products*

### 1. Existing Conditions and Trends

*(1) Timber*

**Within the bidding area for the Kisatchie National Forest, demand for timber products is strong. Products such as poles are in high demand. The pulpwood market has remained stable to increasing in most of the area due to new oriented-strand board mills coming on line. The demand for plywood is down due to imports, but sawtimber still sells well.**

*(2) Other Products*

**Demand for Other Forest Products (Special Forest Products – SFP) on the Kisatchie National Forest has remained steady. The most requested SFP is fuelwood, and the Kisatchie usually offers a minor amount each year, depending on the number of regeneration cuts the previous year. Some downed timber is also offered as fuelwood. Additionally, there are small amounts of lightered pine, pinestraw, and cedar posts gathered on the Forest each year.**

## 2. Factors Influencing Conditions and Trends

### a) Natural Disturbances/Processes

*(1) Timber*

**The two hurricanes that impacted Louisiana in 2005 had a dampening effect on the timber market initially. With so much timber on the ground in Mississippi, Louisiana, and Texas, most purchasers were trying to process as much of the damaged timber as possible before it became unusable. However, the purchase of green timber continued to remain strong through the period, and has since become stronger. Since the majority of the damage was not in the Kisatchie National Forest bidding area, the effects on the timber program were minor.**

**There has been no major Southern Pine Beetle outbreak in the past 5 years, and none is anticipated in the next year. However, that is always subject to change.**

*(2) Other Products*

**Since only dead and downed trees are offered for fuelwood, windstorms and other natural disturbances, there will naturally be opportunities for offering these products whenever there is an occurrence.**

### b) Projected Future Actions

*(1) Timber*

**Within the Agency, there is a great need for timber sales to remove trees in areas that are overstocked. The amount of timber offered is limited by the personnel who can prepare the sales, and the funds to pay personnel for sale preparation. Forestwide, there are enough signed Decisions to prepare and sell at the current rate for approximately 2 years, however over 50% of the estimated volume for those decisions is for first thinning of pine plantations which only produces pulpwood. The need for thinning in the Intensive Use Area of the Vernon Unit has been analyzed, and approximately 10-15,000 CCF will be sold from this area annually.**

*(2) Other Products*

**There are no plans to increase the number of SFP offered on the Kisatchie.**

### c) Reasonably Foreseeable Events Outside Agency Control

*(1) Timber*

**The major events which affect the market for forest products are the housing and construction industries. Currently, demand for lumber, poles, pilings, and other construction materials is high, but a downward turn in the housing market could have a significant negative effect quickly. The demand for paper is low, and is not expected to increase. Oriented-strand board (OSB) is currently holding the market for pulpwood at a high level. Since OSB is also tied to construction, it is**

**also affected by the housing market. Imports also have a major impact on all products. In Louisiana, supply of raw material has been steady to increasing. The divestiture of timber company lands has increased the number of REITs and TIMOs, who are managing their lands for profit. They will continue to put raw materials on the market as long as their inventory holds up. According to industry reports, the large amount of pulpwood that has been on the market for the past 4-5 years due to the EQUIP and WHIP program requirements for thinning conservation stands, has started to decrease. The large plantings of pine trees in the '80s created an age class bump which we are just now starting to get over, so the future for pulpwood looks strong.**

*(2) Other Products*

**The Kisatchie does not expect any foreseeable events that may affect SFP in the future.**

## 3. Comparison of Existing Conditions/Trends to Desired Conditions

*(1) Timber*

**The sale of forest products on this Forest has steadily increased from a low in FY2003 of 15,810 CCF to approximately 90,000 CCF of forest products in FY2006, and we were poised to start selling 100,000 CCF of forest products annually. However, the recent trend in funding from the Washington Office has cut that projection by almost half, and it is expected to remain at that level for at least another year, if not longer. This will create a backlog of projects that require timber sales for accomplishment. The goals and objectives of the Forest Plan will not be met in a timely manner. We continue to receive funding for SPB prevention from Forest Health, which we accomplish with first thinning of pine plantations. This funding has allowed us to contract EA work, as well as sale prep, without affecting our regular timber sale program of work. If the regular program continues to decline, we will shift our program more to the pulpwood thinnings.**

*(2) Other Products*

**The Kisatchie Land and Resource Management Plan gave extensive allowance for more and larger clearcuts to restore the native species. However, the Projects submitted by the Districts have not included any large increase in the number or size of these units; they have actually decreased due to concentrating all harvesting inside the RCW HMA. This has limited the amount of fuelwood that can be offered on the Forest. If the downward trend continues, there may be no more opportunities for designating fuelwood areas; gathering of fuelwood would be limited to the single down or dead trees found throughout the Forest. Allowing more Projects to be designated outside the RCW HMA would have the potential to increase the number and size of fuelwood cutting areas in the future.**

## 4. Results from Past Management Reviews, Audits, Annual Monitoring and Evaluation Reports

*(1) Timber*

**The Kisatchie National Forest timber sales program had Regional Office reviews in FY2002 and 2005, and Supervisors Office reviews every 2 years on the**

## *E. Minerals*

### 1. Existing Conditions and Trends

**In 2006 approximately 30,000 Forest acres were under lease for oil and gas exploration and development. This is approximately 10 percent of the total acres available for lease. There are any number of factors which influence the desire by private parties to lease government minerals for the production of oil and gas. Commodity prices, drilling costs, transportation considerations (pipelines), surrounding private minerals availability and geology all work together to create a likelihood or not that somebody may express an interest in leasing, drilling, completion and production.**

**There are currently 17 wells on the Forest - 5 on the Caney District, 4 on the Winn District, and 8 on the Calcasieu District. That's down from the total of 42 wells reported 10 years ago. Many wells were plugged for economic reasons. There have been two new wells drilled on the Winn District in the last 3 years, one on federal minerals and one on private minerals on national forest surface. Another well on private minerals but federal surface is being re-entered after having been plugged in the 1970's, but we will not count that one until it is put into production.**

**Salable minerals - also called** *mineral materials* **- are common varieties of stone, gravel, sand, and clay as defined by the Minerals Act of 1947 and Public Law 167 of July 23, 1955. In general these minerals are widespread, present relatively low unit values, and are predominantly used for road construction and maintenance.**

**Common-variety minerals known to exist on the Forest are sand, gravel, low-grade iron ore, clay, and salt. Although known sand and gravel deposits are located on the Catahoula District, and the Evangeline and Vernon Units of the Calcasieu District, gravel reserves across the Forest are limited (Table 29).**

| Table 29: FY2005 Common Variety Minerals Report | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| By Ranger District | | | | | | | | | |
| Ranger District | Parish | Sale Permits | | | Free Use | | | Forest Service Use | |
| | | CT's | Tons | Value [22] | CT's | Tons | Value | Tons | Value |
| Calcasieu | Rapides/Vernon | 0 | 0 | 0 | 2 | 29,246 | 58,492 | 1,500 | 3,000 |
| Catahoula | Grant | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kisatchie | Natchitoches | 2 | 125 | 100 | 0 | 0 | 0 | 2,600 | 5,200 |
| Winn | Winn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Caney | Webster | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Totals | | 2 | 125 | $100 | 2 | 29,246 | $58,492 | 4,100 | $8,200 |

**In Louisiana, the surface owner is also the owner of common variety minerals regardless of reserved or outstanding mineral rights. The only exception would be in the event that a deed specifically reserved certain commodities. Historically, most accessible sand and gravel deposits have been used by local governments or by commercial operators for road surfacing material. The Forest Service has the over-riding right to utilize native gravel for its own needs from pits that are under permit to other government agencies.**

**Discernable iron ore deposits do exist in Webster and Claiborne Parishes. Some smaller scattered deposits are located on the Caney District. Historically, because of its high phosphorus content, this iron ore has not been competitive with other iron ore sources because it produces brittle steel and the phosphorus is too costly to remove.**

**Clay and salt deposits are also located within the Forest boundary. These deposits have historically not been commercially operable because more abundant and/or easily extracted reserves exist outside the Forest.**

## 2. Factors Influencing Conditions and Trends

### a) Natural Disturbances/Processes

**Natural disturbances have had little effect on 5-year conditions and trends for oil and gas and mineral development. Changes in demand for mineral materials mirrored the rise and fall of market-driven commodity prices for repairs to facilities and infrastructure from commonly weather related events.**

### b) Projected Future Actions

**It is anticipated that oil and gas leasing on the Forest will continue, at a very moderate pace.**

[22] Assume value to be $2.00 per ton at the pit for pit run.

**The Forest has been divided into areas of unknown, low, moderate, and high potential for oil and gas development. This is illustrated in Table 3-47 of the Forest Plan FEIS. Based on analysis of the geologic data, trends, and other available information, the 10-year mineral demand prediction is the same as shown in that table.**

- **High potential**

**Geologic environments that are highly favorable for the occurrence of undiscovered oil and/or gas resources. This includes areas previously classified as** *known geologic structures* **(KGS). A KGS is defined as "…a trap, either structural or stratigraphic, in which an accumulation of oil or gas has been found to be productive, the limits of which include all acreage that is presumptively productive." Typically these areas are on or near a producing trend and evidence exists that the geologic controls of reservoir, source, and trap necessary for the accumulation of oil and /or gas are present.**

**<u>Moderate potential:</u> Indicates the geologic environment is favorable for the occurrence of undiscovered oil and/or gas resources; however, one of the geologic controls necessary for the accumulation of oil and / or gas may be absent.**

**<u>Low potential:</u> The geologic, geochemical, and geophysical characteristics do not indicate a favorable environment for the accumulation of oil and/or gas resources. Evidence exists that one or more of the geologic controls necessary for the accumulation of oil and / or gas is present.**

**<u>Unknown potential:</u> This is a region where the geologic information is insufficient to otherwise categorize potential.**

**The Caney District contains three geographic areas. The entire district has high potential for the occurrence of oil and gas reserves because of the many fields (Colquitt, Bayou Middle Fork, Northwest Antioch, and Mount Sinai) on or adjacent to the district. Presently there is no drilling activity on the district.**

**The Catahoula District has moderate-to-high potential for the occurrence of oil and gas reserves. During the previous decade, 3 wells were drilled on the district; all were non-producers. Some interest has been expressed in continuing exploration or drilling operations, so future requests are anticipated. There is gas production on private land within and adjacent to the district.**

**The Evangeline Unit of the Calcasieu District has a moderate-to-high potential for the occurrence of oil and gas reserves. Ten years ago there had been considerable interest in drilling the Austin Chalk formation. However, it was determined to be too variable in Louisiana to justify continued drilling.**

**The Kisatchie District has moderate-to-high potential for the occurrence of oil and gas reserves. There are currently no explorations or drilling operations.**

**The Vernon Unit of the Calcasieu District is also classified as having high potential. No exploration or drilling is presently underway on the unit. However,**

**21 wells were drilled since 1997 with about 7 wells producing. No new wells have been drilled in the last 5 years.**

**The Winn District has high potential for occurrence of oil and gas. During the past 3 years, 2 wells were drilled on the district. Currently there are 3 active oil and gas wells on the district and many private wells adjacent to it.**

**There is a relatively high degree of the unknown in forecasting the likelihood of future drilling on the Kisatchie National Forest. While several leases have been awarded within the last 2 years, no APD's have resulted thus far. A lease is often pure speculation purchased by someone trying to tie up minerals into a larger block and sell them to a drilling/production company. As many as hundred leases are granted for every APD applied for that turns into a bona-fide producing well.**

**Petroleum and natural gas markets are doing well with $77/barrel oil and $6.50/MCF gas, but it takes a long period of sustained higher prices to stimulate smaller drilling programs, especially onshore. Another factor; its more expensive to drill on public land than it is on private surface since the environmental controls are more stringent, so sometimes the only drilling on the national forest is when well-known underground reserves are "chased" onto our surface and private sites are not available. And today with more and more wells being drilled as deviated holes, (directionally drilled) it possible that occupying federal surface can be avoided altogether.**

**The demand for gravel should continue at its present rate and maybe even decline as parish reserves are built up. Forest Service road building is about concluded on the Kisatchie and forest road maintenance is contracted and makes more use of commercial aggregates now.**

### c) Reasonably Foreseeable Events Outside Agency Control

**As world crude oil price continues to rise because of increased demands for petroleum-based products and market uncertainty, we may see more emphasis on increasing domestic supply. However, it is difficult to predict the effects of developing alternative energy sources on the fossil-fuel market.**

**The production outlook for domestic natural gas is only slightly better than that of domestic crude oil. Gas prices should level-off in light of the tremendous reserves recently discovered off shore in the Gulf-of-Mexico. There also has been a switch from NG electricity generation because of the spike in NG costs in the last decade. In fact, our local electrical utility, CLECO is building a new $1 billion, 600-megawatt solid-fuel generating unit using Circulating Fluidized-Bed Technology to burn petroleum coke (a one-time waste product produced by Gulf Coast Oil Refineries) to diversify its fuel mix and lower electricity costs for its customers. It will be the third of two existing units at the company's 6,000-acre Rodemacher Power Station site near Boyce, Louisiana, right in the middle of the Kisatchie National Forest.**

**The demand for gravel from local government remains steady but the demand from private interests has fallen off to next to nothing. Commercial stone sources**

**have been willingly tapped to fill the void. The most likely reason is a shift away from pit run to aggregate that meets specific design criteria and this is only available commercially, from suppliers of crushed stone.**

## 3. Comparison of Existing Conditions/Trends to Desired Conditions

**The 2005 Energy Act provides for accelerating permit issuance related to domestic energy production and transmission in the United States. The Kisatchie is one of those Forests where the consent to lease was made in the 1999 Forest Plan and so this Forest is on a 60 day turnaround for Expressions of Interest and 60 days for APDs as well. We have met our obligations in this regard and have no current backlog of rourests tor eh e expressiCD59k8jDH Pa1DH6C18W,u(AjDH9HkW,(A8DC1565,c(elA8DC1j9j,i(9DCjk6,s(A1DH6kj9C, D8717=dc‘,(AjDH9**

District All other Kisatchie allotments – totaling 10 – are vacant due to lack of public interest.

The Kisatchie currently has 13 permittees on record. Ten of these permittees are inactive, and their permits have either been waived or cancelled. Of three active permits, only two have animals on the ground. Current total usage (2006) stands at 75 total cattle on the ground on the Kisatchie (Table 30).

| Table 30: Grazing Permittees | | | |
|---|---|---|---|
| Cattle on the Ground in 2006 | | | |
| Permittee | Allotment | Ranger District | Total Cattle |
| Dowden | Saddle Branch | Kisatchie | 73 |
| Jones | Tighteye | Calcasieu | 2 |
| Johnson | Tower | Calcasieu | 0 |

At this writing, 16 livestock owners hold term grazing permits, allowing 853 cattle to graze on 14 allotments covering about 78,000 acres. Currently, the Catahoula District has 1 permittee grazing livestock on 1 allotment; the Calcasieu District, 14 on 12; and the Kisatchie District, 1 on 1. Current livestock use on the Forest is well below capacity.

## 2. Factors Influencing Conditions and Trends

### a) Natural Disturbances/Processes

The Kisatchie's livestock forage is produced primarily in a forested setting, most often under relatively open, periodically burned pine canopies. Sometimes it is in large regeneration area openings within the canopy. Cattle's grazing has been and continues to be confined primarily to longleaf and slash pine stands which are thinned and prescribed burned on a regular basis. Native bluestem grasses are the dominant livestock forage species.

### b) Projected Future Actions

The amount of grazing on the Kisatchie has declined precipitously since 1973, when 9028 head of cattle grazed Forest land annually (Appendix 1: Kisatchie Grazing Trends 1967-1997. FEIS 3-113). Today, three livestock owners hold grazing permits, and field a combined total of 75 cattle annually: less than 1% of the 1973 permitted livestock totals.

Public interest in grazing allotments on the Catahoula District has been in decline for many years and there has been no active grazing since 1998. The last permits were issued in 1996 and all three individuals have either waived their grazing permit, or had them cancelled due to non-use (Table 31). Certified letters confirming the waiving or cancellation of these permits are on record.

With declining public interest in range usage, the Kisatchie closed the three range allotments on the Catahoula District as of April, 2007, effectively

consolidating the Kisatchie range program to the Kisatchie and Calcasieu Ranger districts. This action eliminated the costs of administering a livestock grazing permit system on the Catahoula District, such as monitoring and reporting range real property, producing NEPA documents, and monitoring allotment productivity.

| Table 31: Grazing - Catahoula District | | | |
|---|---|---|---|
| Last Range Usage | | | |
| Permittee | Allotment | Status | Last year cattle were on the ground |
| Pearce | Clear Creek | Inactive Waived | 1998 |
| McVay | Livingston | Inactive Cancelled | 1999 |
| Lofton | Sand Spur | Inactive Waived | 1997 |

Options for improving livestock distribution and resource protection controls

The desired condition will be to close allotments when it is determined that public demand has ceased.

### 4. Results from Past Management Reviews, Audits, Annual Monitoring and Evaluation Reports

A 25-year trend of decreasing demand from the public for grazing resources continued. Only two grazing allotments were actively used for cattle grazing, with numerous permittees taking "non-use". Otherwise, grazing resources declined in acreage available due to the lack of management and lack of use. Management practices require NEPA documentation prior to being implemented. No documents were approved for implementation during FY2001 through FY2005. The two active allotments are meeting the current demand for allotment based forage resources.

Given the continued non-use of the majority of Kisatchie allotments, recommendations have been to carefully scrutinize future expenditure as to their cost-effectiveness.

## *G. Landownership and Special Uses*

### 1. Existing Conditions and Trends

The Kisatchie National Forest boundary encompasses 1,024,659 acres, 604,394 acres of which are national forest land. Intermixed private and national forest lands results in a patchwork-quilt pattern of ownership. This makes landline maintenance, rights-of-way problems, administration of boundary encroachments and claims and Forest management in general more challenging than in more contiguous forests. During the past 30 years more than 7,000 acres had been added to the Forest. This increase resulted from land exchanges, purchases, interagency transfers and donations. The acreage most recently changed with the Red Oak Land Exchange concluded in 2004 which added 116 acres. Lately however, land-for-land exchange has become less viable for a variety of reasons. A rise in complexity and the proportion of fixed costs to be borne by the project proponent and more scrutiny to determine true net public benefit have resulted in decreased emphasis on land-for-land exchange.

Currently the Forest administers about approximately 460 permits and easements authorizing the occupancy or use of National Forest land. Use fees are waived on approximately 30% of all authorizations. A breakdown of uses is shown in Table 32. There is a screening process in use which subjects each application to a rigorous review process. The first and foremost question to be answered is "why is national forest land needed?" for a particular proposal. When it involves accessing an isolated private tract with no known historical access, the answer is fairly simple. However, when private access opportunities exist – they must be exhausted before encumbering the public's land. When private land

**opportunities exist for placement of communications or other facilities, there is no need to put them on government land. More scrutiny prevents many uses from ending up on public land as a matter of convenience.**

**There has been an effort to reduce the number of cemeteries, agricultural residences and other permits, (through quitclaim, voluntary termination), especially permits where it has been deemed that alternative access across private land exists.**

| Table 32: Land Use | | | | |
|---|---|---|---|---|
| Listing of Authorizations[23] | | | | |
| Use | 1999 Number | 2006 Number | 1999 Acres | 2006 Acres |
| Utility ROWs | 48 | 144 | 1,909 | 1,540 |
| Pipeline ROWs | 27 | 25 | 1,021 | |

**appraised values with an annual adjustment influenced by the Implicit Price Deflator-Gross Domestic Product (IPD/GDP) Index. Appraisals are to be conducted at 10 - year intervals. The Kisatchie's next appraisal is due in 2008. The Forest is actively engaged in disposing of the Collins Camp Recreational Residence site on Lower Saline Lake. Legislation is being introduced in Congress to conduct a sale of the land at fair market value to the camp owners.**

**Presently the Forest administers 1 microwave site and two commercial mobile radio users.**

**Special use authorizations are currently issued to the U.S. Army at Fort Polk, the U.S. Air Force Reserve at Barksdale AFB, and the Louisiana Army National Guard.**

## 2. Factors Influencing Conditions and Trends

**The climate is changing in landownership patterns in Louisiana. Many owners of large private tracts within the Forest boundary had been nationally-based timber companies (i.e., International Paper, Temple Inland) who have recently decided to divest their land holdings to TIMOs (timberland investment management organizations) and REITs (real estate investment trusts). Forest neighbors who were once large timber companies with similar goals are now becoming subdivisions of private homes. The wildland-urban interface and its associated complexities is upon us. This is causing a new list of concerns such as increased encroachment whether intentional or not. It makes many management tools more difficult to employ (like fire suppression and prescribed burning). Any reduction in budgeting for landline maintenance may have far-reaching effects. There are less-visible effects such as increased non-commercial traffic on Forest system roads and increased maintenance needs.**

**The Forest has a limited program of landownership adjustments through acquisition and disposal of lands in order to improve management effectiveness and enhance public benefits. Future acquisitions will be analyzed for meeting Forest Plan desired future condition and inclusion into surrounding management practices.**

**Mineral ownership also remains a factor in land adjustment. Every effort is made to keep surface and mineral estates together to provide for their unification in the future.**

### a) Natural Disturbances/Processes

**Natural disturbances have had little effect on 5-year conditions and trends for special land uses.**

### b) Projected Future Actions

**The Forest is exploring the use of Tripartite land exchange using excess timber receipts to acquire land. We are presently preparing a list of possibilities for prioritization.**

**Additionally, the Forest will likely continue its effort with Region 8 to digitize title records.**

**The Recreation Residence Consistency Determination in 2004 concluded that the two residence sites, (Collins Camp and Valentine Lake), could continue to be used. However, the Forest had also determined in the 1999 Plan Revision that disposal of Collins Camp through land exchange was appropriate since the character of national forest had been so altered. And, isolated cabins/residences are being phased out as opportunities allow through life tenancy permits.**

**Cost Recovery should be authorized shortly on the Kisatchie and this will likely result in some proposals being self-screened. After determining that private alternatives do not exist, future requests for occupancy will consider existing sites if suited for multiple users. If no existing site meets an applicant's needs, a site-specific analysis for the requested site will be performed prior to authorization.**

### c) Reasonably Foreseeable Events Outside Agency Control

**The goal of the right-of-way acquisition program is to ensure that public lands are sufficiently accessible. However, the reluctance to grant unrestricted easements for road rights-of-way across private lands is growing. This could complicate the completion of future acquisitions needed to furnish the legal access desired by the public.**

## 3. Comparison of Existing Conditions/Trends to Desired Conditions

**Revised Plan guidance states:**

> **"FW–191: Prepare and maintain a landownership adjustment map based on the goals and objectives for a given area. The Forest Supervisor may approve changes to the map as long as Forest Plan objectives are met. Notify the Regional Office and ranger districts of any changes. (KNF GUIDELINE)"**

**We are in the process of updating this map.**

**The Plan also says:**

> **"FW–202: Dispose of all Saline recreation residence areas by means of land exchange as opportunities arise. (KNF GUIDELINE)"**

**There is current legislation which will be submitted to Congress for consideration of a Bill to provide for the sale of the government land under the Collins Camp Recreation Residences (Saline Lake) to an association of the camp owners.**

**The true desired future condition for Special Uses on the National Forest is fewer of them and less public land encumbered by so-called private uses.**

**The Forest is actively screening all applications and making sure no private alternatives exist.**

**Efforts are also being made to retire unnecessary permits and consolidate others.**

## 4. Results from Past Management Reviews, Audits, Annual Monitoring and Evaluation Reports

**Land acquisitions were made for public benefit and to improve management. All right of ways were obtained to improve and enhance access to Federal lands for both better management and public utilization of these lands. All use authorizations were granted only after all other means and alternatives were thoroughly examined.**

**Tracts K-40, a, b, c, in Compartments 28 and 37, near the Kisatchie Bayou on the Kisatchie Ranger District was acquired during FY2002. These lands totaled 230 acres. A 480 acre land interchange with the US Army, Fort Polk was finalized by Congress in 2005 and is expected to allow more efficient management of National Forest Lands.**

**In FY2002, Tracts C-192, a, c, d, in Compartment 1, near the National Forest boundary of the Winn Ranger District, were conveyed in full compliance with Forest Plan Direction. Five road right-of-ways were also acquired through this exchange. One land exchange with the Collins Camp Association has been pursued since FY2004.**

**Each year the Forest administered between 400 and 500 Special Use Authorizations for roads, utilities, recreation events, recreation residences, and other uses. In addition, from 16 to 30 new authorizations were evaluated annually, with 19 to 29 granted/renewed each year. Annual recommendations have been to pursue prioritized land acquisitions and exchange program as funding allows. Four land exchanges have been identified altogether: Collins Camp, Foster, Griffin and Vidrine. Continue to manage and monitor the lands program to the level that funding will allow.**

**In order to discourage encroachments, landlines continue to be established, maintained and protected on the established 7 to 8 cycle for as long as funding allows. Landline maintenance was done in FY2004 on 250 miles. After an initial figure of 231 miles of landline maintenance was planned for FY2005, an additional landline target of 70 miles was accepted by the Forest to further enhance property line maintenance. Recommendations have been to continue to fund the lands program at the level needed to manage and monitor the program.**

## *H. Access/Travel Management*

### 1. Existing Conditions and Trends

**Travel within the Kisatchie National Forest is based upon a transportation network suited to the needs of the user. This network includes U.S. and State highways (including federal aid primary, secondary, and farm-to-market roads); parish roads serving farm-to-market and private land access; and Forest Service roads. The total network contains 4,534 miles of road of which 2,680 miles are under Forest Service jurisdiction. The transportation system also includes 195 bridges under Forest Service jurisdiction. While federal, state and parish roads provide primary access into the national forest, Forest Service roads provide the intermediate and final avenues needed to administer, manage and protect public lands and resources.**

**Roads included in the Forest's transportation network are classified as** *arterial*, *collector* **or** *local roads*. **Arterial roads are U.S. and state highways serving large land areas and providing primary travel routes for business, commerce and for national defense. Collector roads serve smaller land areas, collect traffic from local roads, and usually connect to an arterial road. Local roads serve limited areas or sites and generally connect terminal facilities with collector or arterial roads.**

**Table 33: Transportation Jurisdiction**

**By Forest Road System Composition[27]**

| Jurisdiction | Functional Classification | | | | |
|---|---|---|---|---|---|
| | Arterial | Collector | Local | Total Miles | % |
| State | 2 | 761 | 9 | 772 | 17 |
| Parish | 0 | 270 | 584 | 854 | 19 |
| Other Federal (including Army) | 165 | 7 | 31 | 203 | 4 |
| Private | 0 | 0 | 25 | 25 | 1 |
| Forest Service | 0 | 245 | 2,435 | 2,680 | 59 |
| Total miles | 167 | 1,283 | 3,084 | 4,534 | 100 |
| % by Functional Class | 4% | 28% | 68% | 100% | |

**Table 33 displays existing components of the transportation network by jurisdiction and functional class. As shown, about two-thirds of the total mileage is under Forest Service jurisdiction. While road densities vary from area to area, on average there are approximately 3.8 miles of road per square mile. Of this, the Forest Service has authority to control access on about 2.3 miles of road per square mile. These** *Forest Service roads* **or** *National Forest System Roads* **are**

[27] **Sources: The Louisiana Department of Transportation and Development, and the Forest Service Transportation Information System (TMIS).**

**the roads for which the agency has authority to improve, maintain, and control use.**

**Forest Service roads vary widely in construction standards, ranging from paved surface to primitive wheel tracks. These roads are constructed and maintained to standards appropriate to their planned uses — considering safety, cost of transportation, and impacts on land and resources.**

*Traffic service levels* **have been defined for each road, characterizing the degree of service a given road is expected to offer and designating the appropriate vehicle for use. Table 33 displays traffic service levels for all Forest Service roads.**

**Roads in the national forests are maintained as required to assure that planned service levels and user safety are preserved and that impacts to soil and water resources are minimized. Utilizing the annual road maintenance and prescription process, road maintenance needs are identified and cost estimates are prepared. Through the road maintenance planning process, including district interdisciplinary team meetings, priorities are determined and negotiated based upon available funding levels. Each road is assigned a** *maintenance level* **(1–5) based on road use objectives.**

**Roads in maintenance level 1 are closed to vehicular traffic and receive custodial maintenance only, primarily for resource protection. Maintenance level 2 roads receive minimum maintenance for limited passage of traffic; for example, high-clearance vehicles such as pickups. These roads are normally unsuited for passenger cars. Based on established priorities, roads in maintenance levels 3, 4 and 5 receive routine work to assure safety and travel efficiency. All types of vehicles use these roads, including those with low clearance, such as passenger cars.**

**The transportation system on the Kisatchie National Forest is maintained primarily through service / construction contracts with local contractors. The Forest began this contracting- out of road maintenance in 1987. Figure 8 also displays the miles of Forest Service roads by maintenance level.**

**The Kisatchie maintains close working relationships with the seven parishes containing national forest land, for development, maintenance, and operation of selected roads of mutual need. This is accomplished through a Forest development road cooperative agreement. Cooperation with the Louisiana Department of Transportation and Development is set forth in a memorandum of understanding.**

**Certain public roads under state or parish jurisdiction which serve the mutual transportation needs of the public and the Forest Service may be designated as forest highways. Once designated, these roads become eligible for Federal Highway Administration rehabilitation and reconstruction funds, including bridge replacement. Formal concurrence by the Louisiana Department of Transportation and Development, the Federal Highway Administration, and the Forest Service is**

required to designate any potential public road as a forest highway. Currently 16 public roads with a total length of 141 miles have been designated.

Commercial use of Forest development roads is prohibited without a permit or authorization. Commercial users are responsible for making deposits or performing maintenance commensurate with their use.

## 2. Factors Influencing Conditions and Trends

### a) Natural Disturbances/Processes

At the time it became a national forest, the Kisatchie, like many others in the South, had a system of roads already in place — ranging from U.S. highways to two-track trails. Many of the roads now serving management and public needs lie within corridors that have existed for many years. Over the last six decades, the Kisatchie's road system has expanded and improved, responding to the needs of a growing nation and the increasing demands of society to utilize and enjoy the opportunities offered by a maturing national forest. Although Forest Service road development has primarily been in response to timber management access needs, the resulting system provides a broad spectrum of facility types and levels of service to all users and visitors of the Forest.

Today's roads provide convenient and safe access to developed recreation sites, trail heads, scenic areas, wilderness, lakes and streams, wildlife management areas and general driving for pleasure. They also continue to provide the basic access requirements necessary to manage and protect the national forest.

### b) Projected Future Actions

Transportation management objectives are to plan, develop, and operate a network of roads that provide user safety, convenience, and the efficiency to accomplish the Forest's land and resource management objectives.

As long as the Kisatchie remains a managed forest, an effective system of roads

w r ct ,ce is ivneAjDH9H1k,s(HD1k8C8, (A8DC1j9j,o(6hellennvepue they arvt r ieAjDH9H1k,m(9Dj

**impacts to the adjacent environment, efforts to relocate or stabilize them would be undertaken.**

**Over the past 5-year period the Kisatchie's appropriated road maintenance funding has shown an average 4.5 percent decrease while costs of contract road maintenance and administration have increased. Current funding is insufficient to maintain all roads to 100 percent of operation and maintenance objectives. Over this time period the Forest has fully maintained approximately 17 percent of its maintenance level 3, 4, and 5 roads, and 11 percent of level 2 roads. Long-term funding trends may require that appropriated funds from benefiting resources be used to maintain a greater share of the road system. Greater portions of the road system may be placed in lower maintenance levels with more roads closed to vehicular traffic.**

**Bridges and large drainage structures would be inspected on a routine basis and, depending upon the availability of funds, would be rehabilitated, replaced, or closed as required to assure user safety.**

**All roads would continue to be inventoried and decisions made about their intended uses. Road management objectives have been developed for each individual road. Based on the desired future condition, certain roads may be:**

- **Obliterated, allowing the land to be reclaimed for natural resource uses.**
- **Closed for long periods of time.**
- **Restricted to use during certain periods or to certain vehicle types.**
- **Managed as open to all users.**

**Traffic management methods, such as road closure devices, orders issued restricting or prohibiting use, signing, and law enforcement efforts, would be applied to roads according to their intended use and the safety of users.**

**Through cooperative agreements, the Forest Service would continue to participate with other agencies or local governments to accomplish work on roads of mutual benefit.**

**Travel Management Project**

**The** *Revised Land and Resource Management Plan, Kisatchie National Forest* **(1999) would be amended to prohibit motorized use off the designated routes and areas on the entire Kisatchie National Forest and to reflect the changes consistent with the 2005 National Travel Management Rule.**

**The decision would be implemented when the motor vehicle use map (MVUM) showing designated routes with type of motorized use is published and made available to the public. The designated roads for motorized travel will be indicated on the ground with a route marker that will match the road number on the MVUM. Seasonal roads will be signed identifying the type of vehicle and season of use dates. The MVUM is the law enforcement tool, and each Forest visitor will be responsible for obtaining and complying with the MVUM.**

### c) Reasonably Foreseeable Events Outside Agency Control

**Road maintenance is primarily accomplished using appropriated funding. Over the past several years there has been a continued decline in the funding levels for road maintenance. Adjusting for inflation, the decline is even more significant. Future funding for the Kisatchie is expected to continue to decline as a result of a change in the allocation criteria for road maintenance.**

**While budgets have continued to decline, there has been a significant increase in road maintenance costs in recent years. The demand for materials, equipment and labor has increased dramatically in Louisiana as a result of Hurricanes Katrina and Rita. There has also been a worldwide increase in the demand for construction and maintenance materials, resulting in increased costs of road maintenance.**

**With the reduced funding levels and increased costs of road maintenance, the miles of roads 'maintained to standard' for all maintenance levels will continue to decrease. Consideration will be given to reducing the number of miles in the transportation system that are maintained for passenger car use.**

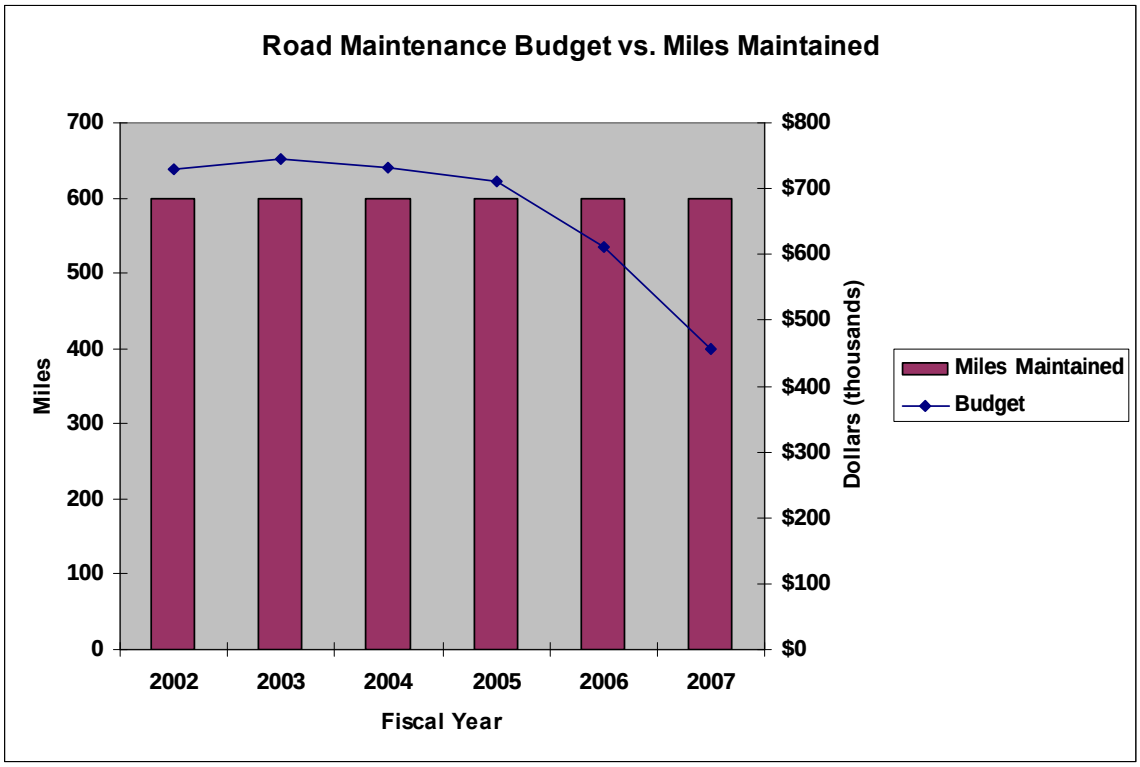



**Figure 8. Road maintenance budget compared to miles maintained (including culvert replacement and bridge repair).**

## 3. Comparison of Existing Conditions/Trends to Desired Conditions

**Over the first five years of Plan implementation, off-road use increased at a higher rate than expected. Disturbances caused by OHV use created**

unacceptable damage to some areas, especially along existing trails, along stream channels, and within Louisiana pearlshell mussel drainages. As a result, the Kisatchie and Calcasieu Ranger Districts implemented new restrictions for off-road use (Plan Amendments #3 and #4). Currently (2007) the Forest is developing Forestwide travel management direction that will amend the Forest Plan to address off-road use and comply with the National Travel Management Rule (36 CFR 212, Subpart B - Designation of Roads, Trails, and Areas for Motor Vehicle Use, November, 2005). The Rule will essentially change the Forest from an "open" Forest to a "closed" one. After Rule designations are completed and a motor vehicle use map is published (see MVUM discussion above), motor vehicles will only be allowed on the designated system and must be consistent with the designated class of vehicle and times of year.

## 4. Results from Past Management Reviews, Audits, Annual Monitoring and Evaluation Reports

In 2002, a broad Forest-scale analysis, called the Forest Roads Analysis, was performed with specific recommendations and opportunities identified as follows:

- Develop and maintain a plan, with secured funding to repair and/or replace deficient unsafe bridges on a regular annual basis.
- Inventory and evaluate road signs and install signage that meets Forest Service or highway standards.
- Close unneeded Forest jurisdiction roads per Revised Plan guidance.
- Seek other funding sources such as deferred maintenance, capital improvement, or road and trail deposit fund (10% funds).
- Obtain National Forest System funds to assist parishes in road maintenance and reconstruction.
- Assist parishes to install proper drainage structures including ditches and ditch lead out structures.
- Encourage parishes to more aggressively maintain surfacing on roads that cannot be economically relocated and that are consistently delivering sediment and gravel into streams.

Table 34, below, shows the road work and maintenance done on the Kisatchie from FY2001 through FY2005.

Prior to the plan revision, the major portion of the road reconstruction/construction on the Forest was accomplished through the timber sale program. Development of the Forest's transportation system was substantially completed prior to the year 2000. Presently, road work in timber sales is considered maintenance and is being accomplished using road maintenance provisions in the timber sale contract.

Since the Kisatchie's transportation system is considered to be 'in place', road work is primarily funded and accomplished as road maintenance. However, with

the continued reduced funding levels for road maintenance, there will be an associated reduction in the serviceability of the road system. This could result in a future need for road reconstruction.

| Table 34: Road Work and Maintenance | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| By Functional Class and Year | | | | | | | | | | |
| Road Work | FY2001 | | FY2002 | | FY2003 | | FY2004 | | FY2005 | |
| | Local | Collector | Local | Collector | Local | Collector | Local | Collector | Local | Collector |
| Road reconstruction/construction (miles) | 4.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 1.0 | 0.0 |
| Roads monitored (miles) | 4.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.3 | 0.0 |
| Roads requiring increased level or frequency of maintenance, or not serviceable by use (miles) | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

## *I. Collaboration*

### 1. Existing Conditions and Trends

*(1) Cooperative Relationships*

**The Kisatchie National Forest enjoys public support on a wide range of issues and management activities including silvicultural work, prescribed fire, recreation management, transportation management, cultural awareness, and a host of other activities.**

**The full scope of forest management practices and philosophy was incorporated in presentations to the public, schools and media. Numerous Forest tours, fairs, and festivals were attended providing presentations on National Forest management activities. However, the Forest has no priority funding for informational materials. Presentations to Rotary, Lions, and other civic organizations were done. Numerous school visits and presentations at events such as Forestry Awareness Week were made by Recreation staff to increase awareness about recreation and how it is incorporated with other resources such as heritage resources, timber, etc.**

**Federal and state agencies were consulted as new proposals were developed and underwent the NEPA process. SHPO and THPO (Tribal Historic Preservation Officials) contributed during the preparation and analysis done for EAs. The USFWS and LDWF provided consultation and effects analysis for game and non-game animals potentially affected by project proposals. The Natural Heritage Program (with the LDWF) provided comment on the effects of proposed actions on plants in general, and/or at known locations.**

**Memorandums of Understanding, cooperative agreements, partnerships and challenge cost share agreements were developed, and participation of groups and individuals were encouraged in the following:**

- **The Kisatchie NF, Louisiana Department of Wildlife and Fisheries, and the USDI Fish and Wildlife Service coordinate Red-Cockaded Woodpecker, Louisiana pine snake, and the Louisiana Pearlshell Mussel management activities.**
- **The Kisatchie continued participation in the Non-point Source Interagency Committee with LDEQ, NRCS, LA Dept. of Forestry and other agencies under the Forest's Memorandum of Agreement (MOA) with the State of Louisiana on Non-Point Source Pollution Control. (Clean Water Act Section 319)**
- **The Kisatchie continued to conduct water quality monitoring on 9 streams. The monitoring was done by arrangement with LDEQ under the Forest's Non-Point Pollution Control Memorandum Of Agreement with the State of Louisiana. The data is incorporated into the State's Clean Water Act Sect. 305b Water Quality Inventory www.deq.state.la.us/surveillance/wqdata/wqnsites.stm.**
- **Soil and water staff cooperated with LSU staff to initiate a study of the water quality of three Louisiana pearlshell mussel streams.**
- **The Forest Service and LSU completed a challenge cost share agreement to help one another accomplish mutually beneficial objectives related to the impacts of off road vehicles (ORV) to soil, water and other resources of the Kisatchie National Forest.**

**The Kisatchie National Forest has a Participating Agreement with Northwestern State University (NSU). This partnership agreement coordinates one or more graduate level/advanced undergraduate Intern position in NSU's Masters Program in History with Cultural Resource Management emphasis or anthropology program. NSU has a need to provide these Interns with real life experience and training to complement training gained in their academic endeavors while the Forest has need for additional Heritage Resource Management program presence in Natchitoches Parish, specifically the Kisatchie Ranger District. The Forest will achieve an increased level of compliance with NEPA, Sections 106 and 110 of the National Historic Preservation Act and the Southern Regional PA, while NSU will graduate students in Cultural Resource Management with balanced, marketable skills, and experience in the workplace.**

**The Kisatchie National Forest also has a Participating Agreement with the Louisiana Division of Archaeology (the Division) in executing Louisiana Archaeology Awareness Week. The Forest and the Division are dedicated to providing educational experiences to the public to establish awareness and understanding. Through such programs as this, the degradation of archeological and historical sites or values on Forest, state, private, and other federal lands in Louisiana, and the data they contain, will diminish.**

**A Challenge Cost Share Agreement between Kisatchie NF and Louisiana State University, begun in 2001, to ascertain quail abundance and distribution on the Winn and Caney Districts, was completed.**

**Kisatchie NF conducted a Challenge Cost Share Agreement with Louisiana State University to estimate deer abundance on the Catahoula and Calcasieu Ranger Districts.**

**Kisatchie NF maintained a Challenge Cost Share Agreement with the National Wild Turkey Federation to enhance wildlife habitat.**

**Kisatchie NF contracts with local birding experts to conduct bird surveys.**

**Kisatchie NF participated in the Louisiana Wildlife and Fisheries Commission's Deer Dog Task Force, Louisiana Quail and Grassland Birds Task Force, and the Southeastern Association of Fish and Wildlife Agencies' Deer Management Symposium.**

**Kisatchie NF maintains a strong rapport with the Louisiana Department of Wildlife and Fisheries, National Wild Turkey Federation, and the Louisiana Wildlife Federation.**

**In addition, a list of completed and ongoing cooperative studies with the Southern Research Station follows:**

- **Pine Straw Study (#247)**
- **Longleaf Pine Establishment Study on Upland Pine Sites (#268**
- **Longleaf Pine Establishment Study on Wet Sites (#269)**
- **Comparison Study of Longleaf/Loblolly/Slash Pine Establishment on Upland Pine Sites (#270)**
- **Comparison Study of Longleaf/Loblolly/Slash Pine Establishment on Wet Pine Sites (#271)**
- **Study Comparing Management Intensity Levels Used in The Establishment of Longleaf on Upland Pine Sites (#272)**
- **Study Comparing Management Intensity Levels Used in The Establishment of Longleaf on Wet Pine Sites (#273)**
- **Delayed Prescribed Burn Study (#275)**
- **Croker Study Involving The Kisatchie National Forest and the Southern Research Station Units 4111 and 4501 (#3.4)**
- **Natural Longleaf Pine Burning Study (#3.7)**
- **Season of Burning Monitoring (#411262)**
- **Monitoring of Demonstration Areas (#411262)**
- **Longleaf Pine Ecosystem Restoration Study (#411262)**
- **Joint Fire Science Program Demonstration Sites (#98-IA-189)**
- **A cooperative work-study with the Kisatchie National Forest, Southern Research Station Unit FMR-4111, the Forest Insect Unit FIR-4501, and LSU**

**involving insect attacks on severely burned longleaf pine trees was conducted.**

- **Southern Research Station Unit FMR 4111 has established research plots in young longleaf and loblolly pine plantations to monitor changing management practices on growth and yield.**

*(2) Plan Monitoring*

**The annual M&E Reports document monitoring results and recommendations for FY2001 through FY2005. Those reports were used to compile the information needed to produce part of this 5-Year Review. The annual monitoring reports are posted at the Region 8 public web site (http://www.southernregion.fs.fed.us) and internally at the Kisatchie's web site (http://fsweb.kisatchie.r8.fs.fed.us).**

**In June of 2001, the Forest produced a report entitled Management Indicator Species Population and Habitat Trends. This report (or "white paper") explained in detail which management indicator species (MIS) were selected in the Forest Plan, the reason for their selection, and what population trends have been seen regionally and/or across the Forest. Plans were to update this trends analysis at least every five years and to re-evaluate the appropriateness of the current MIS list during the preparation of this report. In February of 2005 the Forest updated the 2001 MIS Report. A summary of some of its findings can be found in the Animal/Plant Habitats section of this report.**

**In the fall of 2006, Louisiana pearlshell mussel populations in Grant Parish were surveyed and the results reported in the 2006 Survey for the Louisiana Pearlshell Mussel *(Margaritifera hembeli)* on the Catahoula Ranger District.**

## 2. Factors Influencing Conditions and Trends

### a) Natural Disturbances/Processes

**Natural disturbances did not influence collaborative trends.**

### b) Projected Future Actions

**The Forest Service Planning Rule (36 CFR 219) may change in the near future. Several attempts at revising the Rule have taken place; however, at this time the Kisatchie NF is still operating under the 1982 version of the Rule. Changes to this Rule may include: the establishment of an environmental management system (EMS) on the Forest; streamlining the process of developing, amending, or revising a plan; and more explicit collaboration, public participation, and notification methods. Also, in anticipation of forthcoming changes, this report has been formatted so it can also serve as the "Comprehensive Evaluation Report" (CER) if that becomes necessary.**

### c) Reasonably Foreseeable Events Outside Agency Control

**It is likely that ongoing litigation will affect how the Forest eventually conducts its strategic planning and monitoring activities. At the time of this report, revised national planning direction is being proposed and analyzed.**

## 3. Comparison of Existing Conditions/Trends to Desired Conditions

*(1) Cooperative Relationships*

**The existing trend for most cooperative relationships has remained stable. Some public involvement activities, like the Forest's participation in Earthfest, have either stopped or decreased. This trend does not track with the expected level of relationships and public interaction planned for the Forest's future. In most cases, this trend is due a decreasing level of funding for these types of activities.**

*(2) Plan Monitoring*

**Plan level monitoring has proceeded as expected.**

## 4. Results from Past Management Reviews, Audits, Annual Monitoring and Evaluation Reports

*(1) Cooperative Relationships*

**Past recommendations have included the following:**

- **continue to provide funding for high-profile and effective interpretive programs such as Passport In Time, Audubon Zoo Earthfest, Audubon Nature Center Demonstration, Tensas Wildlife Refuge Fire Demonstration, Outdoor Education Classroom with Louisiana School for the Deaf, Louisiana Black Bear Festival, and the Louisiana State Fair**
- **provide a printing budget for educational and informational materials; increase budget for videos, DVD's, and other educational materials**
- **continue to expand types of audiences reached with educational presentations, such as schools from the larger cities and the Louisiana School for the Deaf**
- **provide increased funding for environmental education projects, printed materials, and video productions; increase presentations to civic groups**
- **increase participation with non-profit organizations such as Boy Scouts and Girl Scouts**
- **travel to destinations outside Forest boundary to reach various user groups**
- **work with nontraditional audiences**
- **renew commitments to the New Orleans Earthfest and the Shreveport State Fair**

**The Forest Service and LSU implemented a challenge cost share agreement to help one another accomplish mutually beneficial objectives related to the impacts of off road vehicles (ORV) on soil, water and other resources of the Kisatchie National Forest. Reports were prepared containing maps showing suitability ratings for ORV traffic and for the Kisatchie, Catahoula and the Calcasieu Ranger Districts. This study will help the Forest Service determine how to best manage these areas. Following are some preliminary findings:**

- **Predicted ORV ownership in LA would double in next 10 yrs.**
- **Results mainly confirm/support the existing Kisatchie ORV soil suitability ratings**
- **Their analyses shows that most soils are suitable within the Catahoula District (Livingston) and Evangeline unit (Claiborne) and trails can be maintained.**
- **Recommend that all the user created and designated trails within Kisatchie District be closed due to poor soil suitability for ORVs - 49% have severe erosion potential - 11% severe rutting potential**
- **Recommended closing trails in areas where there is potential erosion and rutting during wet conditions:**
  - **Close trail if 2 inches of rainfall within about 1 day -- keep trail closed a week**
  - **Based on seasonal soil moisture data -- closures from December through March or April**
  - **Low KBDI values -- used as a basis for closing the trails in the Forest**

**In addition, San Dimas Technology and Development Center conducted a study of ATV impacts on the natural environment. Kisatchie National Forest was selected as a test site.**

**Some future research needs are listed below:**

- **Effects of prescribed burning on bark beetle populations**
- **Fire effects on the growth and yield of longleaf pine**
- **Effects of prescribed burning on forest sustainability**
- **Longleaf pine restoration techniques**
- **Management impacts on soil productivity and the resulting longleaf pine ecosystem**
- **Effectiveness of the Kisatchie National Forest standards and guidelines in reducing non-point source pollution**
- **Effectiveness and suitability of poultry litter amendments in restoring disturbed and degraded sites.**
- **Reducing soil loss due to burning on erosive soils particularly the Kisatchie severely eroded soil type**

**Other recommendations have been to continue to accommodate interested partners who wish to form partnerships, cooperative agreements, memorandums of agreements consistent to Forest Plan goals and objectives. The Forest currently has a Draft Programmatic Agreement with the SHPO and Tribes concerning Heritage Resource Management. The Forest should complete this PA.**

*(2) Plan Monitoring*

**The Forest Plan had its first amendment during FY2003.** *Amendment #1* **to the Plan came about as a result of the ROD for the Supplement to the Final Environmental Impact Statement, Vegetation Management in the Coastal Plain/Piedmont (October 2002). This amendment provided clarification of direction for the preparation of site-specific Biological Evaluations (BEs) including inventory requirements for Proposed, Endangered, Threatened, and Sensitive (PETS) species for the Kisatchie. The new amendment makes the process of conducting BEs more efficient and consistent throughout the Southern Region and removes/adds specific language to Forestwide standard FW-009.**

*Amendment #2* **was signed in May, 2003. That amendment, Increased Utilization and Expansion of the Claiborne Air-to-Ground Weapons Range, LA, re-allocated some of the land in the RCW HMA on the Calcasieu District, Evangeline Unit, and authorized re-issuance of a Special Use Permit to the US Air Force for use of the Claiborne Range.**

*Amendment #3* **(Sandstone Multiple Use Trail Management Plan on the Kisatchie Ranger District) and** *Amendment #4* **(Providing Off Road Vehicle Management on the Calcasieu Ranger District) were begun in FY2004. They were later signed in FY2005.**

**In October of 2005,** *Amendment #5* **(Recovery Plan Amendment to Kisatchie National Forest Plan) was signed. It added new direction and modified some of the current direction for managing RCW on the Forest.**

**Since FY2005, recommendations have been to begin transitioning from the 1982 Planning Rule and review changes needed for compliance with the 2005 Planning Rule as new FSH direction becomes available.**

## *J. Jobs and Income*

### 1. Existing Conditions and Trends

**The area's economy is relatively slow growing and predominantly rural. Poverty is higher than the national rate. 2005 Census data shows that 18.8% of people in the state and 22.4% of the people in north Louisiana are below the poverty level. While timber-related employment and income are not large proportions of the area's total employment and income picture, they do constitute a significant**

portion of the area's manufacturing activity in Louisiana's wood and paper products industries.

The following table compares some demographic differences between Louisiana and the rest of the country.

| Table 35: Louisiana vs. National Demographics * | | |
|---|---|---|
| **People** | **Louisiana** | **USA** |
| Population, 2006 estimate | 4,287,768 | 299,398,484 |
| Population, percent change, April 1, 2000 to July 1, 2006 | -4.1% | 6.4% |
| Population, 2000 | 4,468,976 | 281,421,906 |
| High school graduates, percent of persons age 25+, 2000 | 74.8% | 80.4% |
| Bachelor's degree or higher, pct of persons age 25+, 2000 | 18.7% | 24.4% |
| Mean travel time to work (minutes), workers age 16+, 2000 | 25.7 | 25.5 |
| Homeownership rate, 2000 | 67.9% | 66.2% |
| Housing units in multi-unit structures, percent, 2000 | 18.7% | 26.4% |
| Median value of owner-occupied housing units, 2000 | $85,000 | $119,600 |
| Persons per household, 2000 | 2.62 | 2.59 |
| Median household income, 2004 | $35,216 | $44,334 |
| Per capita money income, 1999 | $16,912 | $21,587 |
| Persons below poverty, percent, 2004 | 19.2% | 12.7% |
| **Business** | **Louisiana** | **USA** |
| Private nonfarm establishments, 2004 | 103,067 | 7,387,724 |
| Private nonfarm employment, 2004 | 1,623,680 | 115,074,924 |
| Private nonfarm employment, percent change 2000-2004 | 2.0% | 0.9% |
| Nonemployer establishments, 2004 | 273,154 | 19,523,741 |
| Total number of firms, 2002 | 328,756 | 22,974,655 |
| Black-owned firms, percent, 2002 | 12.2% | 5.2% |
| American Indian and Alaska Native owned firms, percent, 2002 | 0.8% | 0.9% |

| | | |
|---|---|---|
| Asian-owned firms, percent, 2002 | 2.5% | 4.8% |
| Hispanic-owned firms, percent, 2002 | 2.3% | 6.8% |
| Women-owned firms, percent, 2002 | 26.4% | 28.2% |
| Manufacturers shipments, 2002 ($1000) | 89,540,799 | 3,916,136,712 |
| Wholesale trade sales, 2002 ($1000) | 47,192,153 | 4,634,755,112 |
| Retail sales, 2002 ($1000) | 41,885,192 | 3,056,421,997 |
| Retail sales per capita, 2002 | $9,356 | $10,615 |
| Accommodation and foodservices sales, 2002 ($1000) | 7,411,702 | 449,498,718 |
| Building permits, 2005 | 22,811 | 2,155,316 |
| Federal spending, 2004 ($1000) | 32,954,059 | 2,143,781,727 |
| Geography | Louisiana | USA |
| Land area, 2000 (square miles) | 43,561.85 | 3,537,438.44 |
| Persons per square mile, 2000 | 102.6 | 79.6 |
| FIPS Code | 22 | |

*Source: US Census Bureau State & County QuickFacts

**The following tables compare 2005 demographic statistics for exclusively the Forest's economic impact area (north Louisiana) with the state as a whole.**

**Table 36: North Louisiana vs. Louisiana Economic Characteristics**

| | North Louisiana - December 2005 | State of Louisiana - December 2005 |
|---|---|---|
| EMPLOYMENT STATUS | | |
| Population 16 years and over | 752,524 | 2,849,646 |
| In labor force | 61.0% | 61.3% |
| Civilian labor force | 60.1% | 60.8% |
| Employed | 54.3% | 55.1% |
| Unemployed | 5.9% | 5.7% |
| Armed Forces | 0.9% | 0.5% |
| Not in labor force | 39.0% | 38.7% |
| Civilian labor force | 452,525 | 1,732,535 |
| Unemployed (percent) | 9.7 | 9.4 |
| Females 16 years and over | 409,747 | 1,531,379 |

| | | |
|---|---|---|
| In labor force | 56.0% | 55.3% |
| Civilian labor force | 55.9% | 55.3% |
| Employed | 50.6% | 49.8% |
| COMMUTING TO WORK | | |
| Workers 16 years and over | 403,088 | 1,514,864 |
| Car, truck, or van -- drove alone | 82.9% | 82.0% |
| Car, truck, or van -- carpooled | 10.7% | 11.0% |
| Mean travel time to work (minutes) | 21.6 | 25.0 |
| Employed civilian population 16 years and over | 408,444 | 1,569,885 |
| OCCUPATION | | |
| Management, professional, and related occupations | 28.9% | 31.2% |
| Service occupations | 19.3% | 17.6% |
| Sales and office occupations | 27.0% | 26.0% |
| Construction, extraction, maintenance, and repair occupations | 9.8% | 11.6% |
| Production, transportation, and material moving occupations | 14.0% | 12.7% |
| INDUSTRY | | |
| Construction | 6.0% | 8.0% |
| Manufacturing | 10.0% | 9.9% |
| Wholesale trade | 2.8% | 3.2% |
| Retail trade | 12.1% | 11.5% |
| Transportation and warehousing, and utilities | 4.8% | 4.9% |
| Finance and insurance, and real estate and rental and leasing | 5.6% | 6.0% |
| Professional, scientific, and management, and administrative and waste management services | 6.3% | 7.8% |
| Educational services, and health care and social assistance | 28.2% | 23.4% |
| Arts, entertainment, and recreation, and accommodation and food services | 7.6% | 8.2% |
| Other services (except public administration) | 4.5% | 5.0% |
| Public administration | 5.6% | 5.9% |
| CLASS OF WORKER | | |
| Private wage and salary workers | 74.8% | 76.7% |
| Government workers | 18.9% | 17.0% |
| Self-employed workers in own not incorporated business and unpaid family workers | 6.4% | 6.3% |
| INCOME AND BENEFITS (IN 2005 INFLATION-ADJUSTED DOLLARS) | | |
| Total households | 401,663 | 1,448,443 |
| Less than $10,000 | 14.5% | 12.5% |
| $10,000 to $14,999 | 11.8% | 8.6% |
| $15,000 to $24,999 | 13.6% | 14.0% |
| $25,000 to $34,999 | 10.9% | 12.0% |
| $35,000 to $49,999 | 15.8% | 14.7% |
| $50,000 to $74,999 | 15.7% | 16.1% |
| $75,000 to $99,999 | 8.2% | 10.0% |
| $100,000 to $149,999 | 6.5% | 7.9% |
| $150,000 to $199,999 | 1.6% | 2.2% |

| | | |
|---|---|---|
| $200,000 or more | 1.4% | 1.9% |
| Median household income (dollars) | 34,126 | 37,085 |
| Mean household income (dollars) | 46,597 | 51,960 |
| With earnings | 75.6% | 78.2% |
| Mean earnings (dollars) | 48,376 | 53,505 |
| With Social Security | 29.2% | 28.9% |
| Mean Social Security income (dollars) | 11,691 | 12,273 |
| With retirement income | 18.8% | 17.1% |
| Mean retirement income (dollars) | 14,552 | 16,048 |
| With Supplemental Security Income | 7.0% | 5.4% |
| Mean Supplemental Security Income (dollars) | 6,283 | 6,359 |
| With cash public assistance income | 1.3% | 2.6% |
| Mean cash public assistance income (dollars) | 3,319 | 2,346 |
| With Food Stamp benefits in the past 12 months | 16.3% | 27.1% |
| Families | 269,703 | 993,955 |
| Less than $10,000 | 8.8% | 7.3% |
| $10,000 to $14,999 | 8.2% | 5.9% |
| $15,000 to $24,999 | 12.1% | 12.5% |
| $25,000 to $34,999 | 11.8% | 12.2% |
| $35,000 to $49,999 | 17.6% | 15.3% |
| $50,000 to $74,999 | 18.3% | 18.8% |
| $75,000 to $99,999 | 10.7% | 12.5% |
| $100,000 to $149,999 | 8.6% | 10.6% |
| $150,000 to $199,999 | 2.1% | 2.6% |
| $200,000 or more | 1.6% | 2.4% |
| Median family income (dollars) | 41,908 | 46,168 |
| Mean family income (dollars) | 54,806 | 60,813 |
| Per capita income (dollars) | 18,894 | 20,401 |
| Nonfamily households | 131,960 | 454,488 |
| Median nonfamily income (dollars) | 16,480 | 19,319 |
| Mean nonfamily income (dollars) | 28,169 | 30,072 |
| Median earnings: | 21,494 | 22,737 |
| Male full-time, year-round workers (dollars) | 37,162 | 40,611 |
| Female full-time, year-round workers (dollars) | 24,796 | 26,319 |
| PERCENTAGE OF FAMILIES AND PEOPLE WHOSE INCOME IN THE PAST 12 MONTHS IS BELOW THE POVERTY LEVEL | | |
| All families | 17.9 | 14.5 |
| With related children under 18 years | 26.9 | 22.4 |
| Married couple families | 8.5 | 6.7 |
| Families with female householder, no husband present | 40.9 | 35.8 |
| All people | 22.4 | 18.8 |
| Under 18 years | 30.7 | 26.3 |
| Related children under 18 years | 30.1 | 25.9 |
| 18 years and over | 19.4 | 16.2 |
| 18 to 64 years | 20.2 | 16.7 |
| 65 years and over | 15.7 | 14.1 |

| | | |
|---|---|---|
| People in families | 20.2 | 16.6 |
| Unrelated individuals 15 years and over | 35.9 | 33.5 |

## 2. Factors Influencing Conditions and Trends

### a) Hurricanes

**In September of 2005, hurricanes Katrina and Rita impacted much of the southern Louisiana parishes. At that time FEMA assigned public assistance eligibility as shown in the map below. None of the parishes within Kisatchie's area of economic impact were among the eligible parishes except for Vernon parish.**

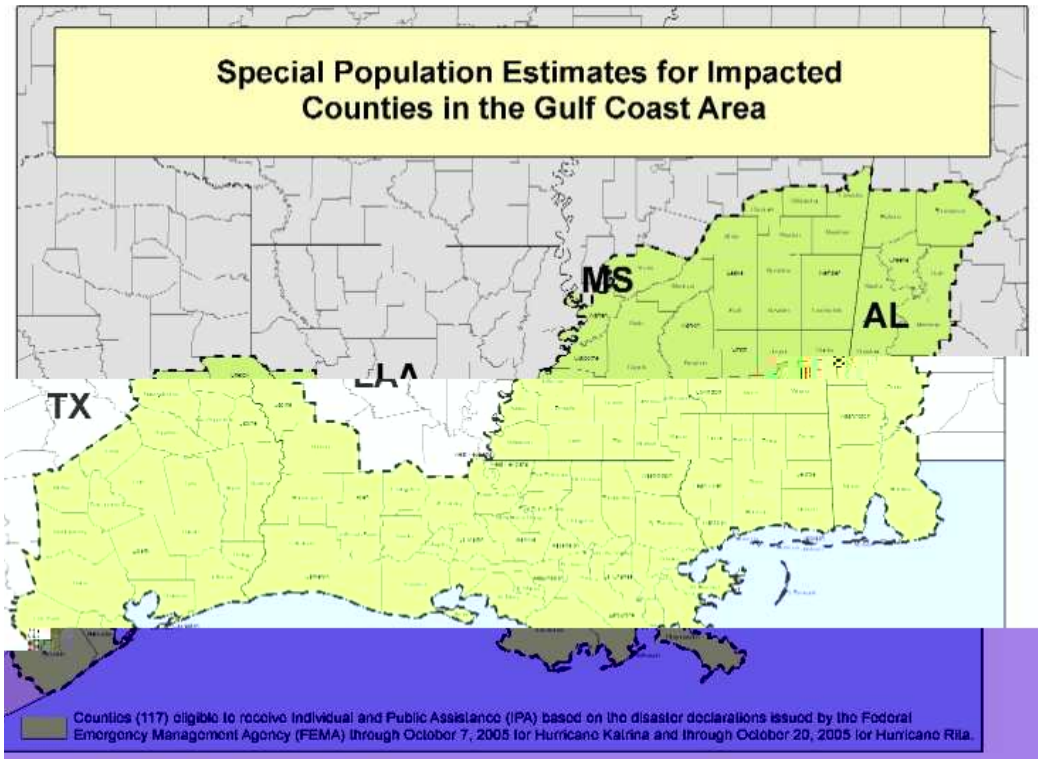



**Figure 9**

**Immediately after the hurricanes, the U.S. Census Bureau measured demographic differences between the hurricane-affected southern parishes ("FEMA area") and northern parishes ("Out of FEMA area"). The census data showed the following changes from the January-August 2005 period to the September-December 2005 period:**

- **Statewide, total population dropped by 9.3%, whereas in the northern parishes, it increased by 1.3%.**
- **Statewide, employed civilian population (16 years and over) dropped by 10.7%, whereas in the northern parishes, it increased by 0.6%.**

- **Both statewide and in the northern parishes there was a slight increase in median and mean household income (2.1% to 4.2%).**
- **Statewide, households with food stamp benefits in the past 12 months increased by 14.3%, whereas in the northern parishes it increased by 1%.**
- **Renter-occupied units decreased by 17.2% statewide, whereas in the north Louisiana parishes it increased by 2.1%.(US Census Bureau 2005)**

**These changes appear to indicate that a significant portion of the population in the southern parishes moved either into northern Louisiana, or outside the state immediately following the hurricanes. Also, since average household income grew slightly, it would appear that many lower-paid jobs were lost, raising the statewide average; or displaced into parishes outside the hurricane-impacted area, raising its previously lower average.**

**b) Payments to States**

**Payments to states as a measurement of commodity flow could no longer be used due to the 'disconnect' between payments to the parishes and the harvest of forest products. In FY2001, the newly created "Secure Rural School and Community Self-Determination Act of 2000" was implemented. As a result, the Forest parishes elected to receive their payments in terms of a three-year average, which is not linked to recent yearly timber harvest levels.**

**c) Other Changes**

**Other factors contributing to the changes in jobs and income include:**

- **Loss or displacement of jobs from closing some wood-processing mills and loss of timber industry owned lands within the Forest's economic impact area.**
- **Changes in military resident population at Fort Polk in Leesville, LA as a result of mission changes to JRTC.**
- **Influx of new jobs and homes from construction of a new prison complex near Pollock, LA.**
- **Increase in construction jobs from major highway projects along US 28 (between Alexandria and Leesville, LA), US 165 (between Pineville and Georgetown, LA), and US 167 (between Pineville, LA and Winnfield, LA).**

## 3. Comparison of Existing Conditions/Trends to Desired Conditions

**The Forest Plan did not explicitly define a set of desirable conditions for local demographics and employment except to maintain a stable source of employment and payments to parishes in lieu of taxes. Although timber harvesting on the Forest was not as high as expected, other jobs such as new highway construction projects created alternative opportunities for harvesting (ROW clearing) and construction contractors (road building).**

**The effects of timber harvest and sales on jobs continued to be difficult to measure. It can be estimated that an increase in timber sale offerings did have a**

positive impact on the potential number of local jobs and income. It is uncertain whether or not this trend will continue.

### 4. Results from Past Management Reviews, Audits, Annual Monitoring and Evaluation Reports

Population and demographics is not a monitoring item reported in the Forest's Annual Monitoring and Evaluation Report. Because changes typically occur slowly, the Forest felt that 5-year updates in the Five-Year Review(s) would be adequate.

In FY2001, the Forest received Economic Recovery (ER) grant proposals from eight communities totaling $36,000. Four proposals were funded for $17,150. One grant assisted a rural and minority community in enhancing village appeal while providing a comfortable and safe environment. Another grant was for land use plan of 500 acres with this acting as a starting point for a multi-parish watershed planning process.

In FY2002, the Forest received ER grant proposals from four communities totaling $23,000. All four proposals were funded. One grant foci provided assistance to women landowners, minority landowners, small-scale landowners and new landowners through workshops on basic timberland concepts, federal and state programs in an effort to improve community economy.

In FY2003, the Forest received ER grant proposals from three communities totaling $18,244. All three proposals were funded. One grant foci was provided to rural landowners, minority landowners, small-scale landowners and new landowners through workshops on basic economic development awareness.

In FY2004, the Forest received ER grant proposals from three communities totaling $20,800. Only two of the proposals were funded. We also were allowed to offer National Endowment for the Arts (NEA) grants in 2004. Two were awarded totaling close to $34,000. One grant foci was provided to the Jena Band of Choctaw Indians for a Tribal Museum Conceptual Planning Project.

In FY2005, the Forest received no ER grant proposals because funding was cut.

# VI. Evaluation of New Information

## *A. Emerging Issues*

The Kisatchie National Forest used a wide variety of techniques to identify public issues, management concerns, and opportunities during the Forest Plan Revision process. Public participation and consultation with other agencies, groups, and Native American tribes for the Forest Plan revision is described in detail in Appendix A of the Final EIS. Appendix K of the Final EIS (bound

**separately) contains copies of the comment letters received during the Forest Plan Revision process and the Forest Service response to them.**

**For the 5-Year Review of the Revised Plan, the 13 significant issues addressed in the Revision were re-examined. Ranger District and Supervisors Office personnel were consulted and correspondence was reviewed. Project-level scoping notice and 30-day public comment period responses were also reviewed.**

**The following discussion reviews each of the 13 significant Revised Plan issues, examines their current status, and identifies issues and concerns that have been raised since Forest Plan Revision implementation.**

**ISSUE #1: TIMBER SUPPLY**

*How will the needs for other resources affect timber harvest levels on the Forest and how will the change in allowable sale quantity (ASQ) affect local economies?*

***A.*** *What will be the Forest's ASQ and how will it be affected due to coordination with other resource activities — for example, Red-cockaded Woodpecker (RCW) management, streamside management zones (SMZs), southern pine beetle (SPB) infestations, unsuitable lands, old growth, mussels, and other factors?*

***B.*** *What lands should not be designated as suitable for timber production — for example, lakesides, trails, recreation areas and other sensitive areas?*

***C.*** *How will changes in timber harvest levels affect the local economy, especially jobs and income?*

**The discussion over timber harvest levels and their impact on local economies changed during the first 5 years of Plan implementation. In the past, much focus and public comment centered on the level of allowable sale quantity (ASQ), lands designated as suitable for timber production, and impacts from coordination with other resources, especially the re-cockaded woodpecker (RCW). Today, comments from local forest industry groups reflect general support for restoring native, fire dependant longleaf pine as existing stands mature. Forest industry opposes premature conversion of loblolly pine to longleaf pine in order that we return the greatest value on past reforestation investments. Nonprofit interest groups have focused their comments on timber supply around social and economic uses and values associated with natural forests. Issues raised include the idea that non-timber uses and values are far more important to local communities and the regional economy; and that an impartial analysis of all values, both market and non-market associated with each project alternative (including no-action and no commercial harvest alternatives) should be conducted. They also advocate that employment and income associated with non-timber uses should be disclosed in project analysis. The impacts to hikers, hunters and other recreational users from logging should be disclosed in the environmental documentation.**

## ISSUE #2: BIOLOGICAL DIVERSITY

*What forest management direction and standards and guidelines should be implemented to maintain or improve biological diversity?*

***A.*** *What management direction and standards and guidelines should be implemented to conserve and maintain rare or sensitive plant and animal communities — for example, bogs, registry areas, barrens, prairies? What research is required to properly manage these areas? What, if any, recreation uses should be permitted in these areas?*

***B.*** *What management direction and standards and guidelines can be implemented to maintain research natural areas (RNAs)? What criteria should be used to select additional RNAs? What, if any, recreation uses should be allowed in RNAs?*

***C.*** *What management direction and standards and guidelines should be implemented to recover, restore and conserve the threatened, endangered, sensitive, and conservation species occurring on the Kisatchie National Forest? What, if any, forest management practices or activities are necessary to aid recovery of the Louisiana black bear?*

***D.*** *To what extent should longleaf pine, cypress, and the other naturally occurring forested landscapes and natural communities of central Louisiana be restored?*

***E.*** *What measures should be implemented to identify, protect and maintain a forest component possessing old-growth characteristics?*

***F.*** *What are the effects of pine straw raking and harvest; and to what extent should this practice be permitted to occur?*

***G.*** *Are pre-European settlement conditions a valid biodiversity benchmark? If so, how much, if any, of the Forest should be managed for pre-European settlement conditions. Can it be done? How long will it take? How much will it cost?*

***H.*** *To what extent should desirable nonnative vegetation be introduced or allowed on the forest?*

***I.*** *What measures should be taken to maintain, protect, and improve biological diversity?*

**Much debate on the issue of biological diversity has occurred during Plan Revision implementation. Nonprofit interest groups have focused comments around various legal aspects of National Environmental Policy Act (NEPA) document sufficiency and National Forest Management Act (NFMA) requirements. Litigation is ongoing over several aspects of this issue. Comments include:**

- **Maintain and enhance natural and native forest types and tree species in the project area. Provide data and information showing that the tree type favored on each site is the type that existed on each site naturally and historically.**
- **Provide adequate site-specific data and information of types and populations of wildlife in the project area and in the District in general such that NFMA**

**viability requirements can be shown and met. The FS has no up-to-date population data describing population numbers, locations, and trends, nor monitoring data on which the agency can rely on to determine that the actions proposed will maintain numbers and distribution for insuring long term viability.**

- **Concerned that all potentially impacted Proposed, Endangered, Threatened, and Sensitive (PETS) species have their populations (both project site specific and District wide) determined through actual surveys and such data be made available in the Environmental Assessment (EA) and Biological Evaluation (BE).**
- **Instead of conducting surveys, you relied on PETS inventory and survey requirements in the Land and Resource Management Plan (LRMP), unfortunately, these standards fail to comply with NFMA, the Vegetation Management Environmental Impact Statement (VMEIS) and the Forest Service Manual (FSM). The FS has attempted to evade the PETS survey requirements contained in the VMEIS by revising the LRMP for the Kisatchie.**
- **Habitat trend modeling as a proxy for surveys is outdated and incomplete. Nothing in administrative record to show modeling is scientifically valid or tied to on-the-ground conditions.**
- **Concerned that aquatic species be adequately surveyed in and below the project such that adverse impacts to them can be avoided.**
- **Provide base-line data of Management Indicator Species (MIS) or endangered species upon which to compare the health of the species before and after the actions.**
- **Provide an analysis that includes an in depth treatment of cumulative effects especially in regards to soils, water quality, fragmentation, old growth, PETS, MIS, and neotropical migrant birds.**
- **Provide site-specific data for MIS and PETS to show process on restoring herbaceous layer of the longleaf ecosystem. Individual plants, if number are low, could be eliminated from stands during logging by accident.**
- **Provide present, optimum and project induced populations of PETS, MIS, and demand species for public to make informed decision on management. Its logical and legally required that before we compromise integrity of scarce plant communities like shortleaf/oak-hickory, we need to know impacts on all native wildlife and neo-tropical migratory birds not just RCW.**
- **Requests that pre-project monitoring be done, along with optimum population figures for similar habitat, and post project populations figures for MIS, PETS, and demand species of deer, turkey, squirrels, and quail since they would be impacted most by mast removal. Request draft EA include pre-project monitoring and post project determination of numbers, species, and sizes of numerous hardwoods and an assessment of impact that removal will have on populations of native wildlife and neo-tropical birds.**

- **Concern over which avian MIS are an accurate indication of turkey populations, especially when MIS are not adequately monitored.**
- **Questions and concerns expressed to U.S. Fish and Wildlife Service (USFWS) that Louisiana Pearlshell Mussel (LPM) recovery plan be carried out in a complete and timely fashion, that a recovery plan be established and implemented on Bayou Rigolette watershed, that population surveys are done on a regularly scheduled basis, and critical habitat be designated for LPM.**
- **The Louisiana pine snake and Bairds pocket gopher warrant more surveying and research. The Kisatchie and USFWS should prepare a joint recovery plan for Louisiana pine snake.**
- **Identify key deep sandy soil areas with Baird's pocket gopher populations and prevent undue soil compaction from off-highway vehicle (OHV) use.**
- **Eliminate the construction of new roads in pocket gopher habitat and minimize use of white rock road stabilization until impact of roads on pine snake is better understood.**
- **Develop a no harvest, restoration only alternative, one emphasizing natural disturbance processes, and give it fair and adequate consideration Need to fully examine alternatives that protect old growth and potential old growth, that enhance hardwoods, that contemplate thinning only, that propose prescribed burning only, that consider doing this work without a commercial timber sale, and that do less logging.**
- **Are forest conditions outside the natural range of variability.**
- **Concerned about old growth and trees suitable as possible old growth within the next 10-20 years. Concerned that early successional habitats are being favored in this project and in the District in general.**
- **Retain groups of upland hardwoods in longleaf plant communities.**
- **Shortleaf/oak-hickory plant community is widely present on Kisatchie, but is scattered and extremely vulnerable.**
- **Remove the absolute least amount of the hardwood component in the shortleaf pine/oak-hickory plant community compatible with enhancing existing active RCW cavity clusters.**
- **With RCW Recruitment thinning, much more can be done in an environmentally benign manner without jeopardizing the integrity of the important hardwood midstory component in scarce plant communities such as shortleaf/oak-hickory.**
- **If conversion to longleaf is an objective, why not thin to lower basal area (BA) such as 40-60 sq. ft. and underplant to longleaf immediately after harvests. This approach with good prescribed burning would move the Forest towards a quicker conversion as well as have high wildlife value.**

- **The direction (Revised Plan 1999. pp. 3-41, 3-42) with no more than 40 BA hardwoods remaining after stand improvement cuts, less than adequate. Should be addressed in 5 year review. Need to know what impact the planned midstory removal and any increase in prescribed fire is likely to have on vegetation, the richly diverse native wildlife and neotropical migratory birdlife and if these actions will eliminate overstory hardwood reproduction.**
- **Additional thinning and hardwood midstory removal between active and inactive RCW clusters would not only return area closer to original longleaf/bluestem but would foster colonization of inactive sites.**
- **Why not use 3BL lands to further increase RCW populations, versus 3BS or 3BM. On 3BM lands leave the fullest possible hardwood component so they do not remain loblolly-hardwood.**
- **Have serious reservations about the biological soundness of RCW mgmt on 5CM, 5CS, 11DM, and 11DS if it requires large scale removal of hardwood midstory, overstory and increased prescribed fire frequency.**
- **USFWS recommends that Kisatchie harvest off-site loblolly plantations in SMA 3BL, 3BS, 5CL, 5CS, and 11DS and restore the appropriate pine community to promote the DFC described in the Forest Plan for each SMA.**
- **Develop a comprehensive plan for restoration and maintenance in an EIS to prioritize implementation over the entire Forest. Favors restoration of shortleaf pine/oak-hickory and mixed hardwood loblolly to their native sites and managing them for the fullest possible biodiversity. Stands in question have been greatly altered. Should be highest priority to reverse this trend not accelerate it.**
- **Scoping doesn't identify tree species involved. If longleaf then leave them and allow stands to have some two-aged elements. If loblolly then why create new plantations in an area that should be restored to longleaf.**
- **Recommend clearcutting small slash pine stand and replanting to longleaf as soon as trees are merchantable. Retain mixed pine/hardwood north of for amenity values around the lake, to meet Kisatchie restoration goals for shortleaf pine/oak-hickory by removing off-site loblolly when thinning, and increase plant and animal biodiversity. Planting loblolly on a shortleaf/oak-hickory site isn't biologically sound. Shortleaf is so scarce in Louisiana it needs to be protected.**
- **Aside from RCW, attention should be given and current management practices modified for Bachman's sparrow, quail, prairie warbler, Louisiana pine snake, and big brown bat.**
- **Should maintain large quantity of hardwood browse in mid and understory, plus widest possible diversity in food producing hardwood mid and overstory species.**

- **Concern that a significant longleaf/shortleaf/loblolly association occurs on the Winn. Areas have not been included in the Forest inventory of shortleaf, and if tallied would contribute to Plan shortleaf goals. This transition association deserves to be accorded significance and be managed, not ignored or reduced.**
- **Need a botanical or scenic Special Interest Area on Brushy Creek, and select parts of Little Brushy Creek, Long Branch, Loving Creek and Little Loving Creek. Interesting plant communities in various riparian and side slope areas.**
- **Extend Bayou Boeuf RNA to include shortleaf pine/oak-hickory and mixed hardwood/loblolly plant communities**
- **Suggests that the Plan 5-year review consider creating a new sub-management area category for bottomland hardwoods under MA 2 Amenity Values (2AH), and that this be utilized on both RNAs.**
- **Brushy Creek and Magnolia Ridge and Black Creek areas should be referred to the Louisiana Natural Heritage Program for special designation.**
- **Surrounding woodlands encroaching on the Winn Calcareous prairies and must be kept at bay, a combination of fire and herbicides may be necessary.**

**ISSUE #3: LAND USE**

*What are appropriate uses of National Forest System lands with respect to special uses, military training, landfills, large land exchanges and acquisitions, and easements?*

***A.*** *What priority level should be given to acquiring land tracts involving wetlands, rare or sensitive natural communities or species including Red-cockaded Woodpecker habitat linkages?*

***B.*** *Should the management direction for former military Camps Livingston and Claiborne be different than the general forest area?*

***C.*** *How can the Forest minimize the effects of special-use easements on other resource management goals?*

***D.*** *How much of the Vernon Unit of the Calcasieu District's military limited use land should be used for more intensive military ground and training activities by the Department of the Army?*

**Since the signing of the Plan Revision, most of the issues concerning appropriate uses of the Forest revolve around increased military training use by the Army and Air Force. Three major decisions regarding military training have been completed:** *Increased Military Training of the Vernon Unit of the Calcasieu Ranger District* **(September 22, 2000);** *Increased Utilization and Expansion of the Claiborne Air-To-Ground Weapons Range, Evangeline Unit of the Calcasieu Ranger District* **(May 8, 2003); and,** *2d Armored Cavalry Regiment Transformation and Installation Mission Support, Joint Readiness Training Center (JRTC) and Fort Polk , Louisiana and Long-term Military Training Use of Kisatchie National Forest Lands* **(February 20, 2004).**

**In all cases, the public expressed concern that the military has tried to confiscate more and more land that was protected for use and enjoyment by the public. Many felt that increased military use over time would result in diminished public access for hunting and other recreational opportunities as well as general enjoyment of the Kisatchie. Some were concerned that the Forest Service never has assessed all cumulative impacts of past, present, and reasonably foreseeable military use on the Forest and that alternative locations on Department of Defense lands need to be explored for training use.**

**In addition to restrictions on access to the public, respondents were concerned that Forest Service, U.S. Fish and Wildlife Service, and Louisiana Department of Wildlife and Fisheries personnel would be restricted in management and monitoring activities in red-cockaded woodpecker clusters, Louisiana Pearlshell Mussel streams, as well as other areas of interest such as Brushy Creek-Magnolia Ridge area, and the Castor creek-Brushy Creek drainage.**

**The length of time of the land use authorizations for both the Army and Air Force was of concern. Some felt that the special use permits should be issued only for 5 years and be re-evaluated after that time, due to rapid changes in military philosophy. Other issues raised over military training included noise pollution, potential for severe erosion, impacts on all lakes and streams, visitor safety, impacts to wildlife, and the concern that military training activities cause wildfires.**

**There has been little change in priorities for land exchanges and acquisitions. Wetlands, rare or sensitive natural communities, and threatened or endangered species habitat remains the highest priority for acquisition. Little public comment has been received to date on this issue. What has emerged is a change in methodology for acquisition. In the past, the Forest had more latitude to work on proposals of varying sizes for exchange. Today, priorities for acquisition are established on a more regional basis. In the future, the most common method for acquisition may be tripartite land exchanges. The Forest is now in the process of prioritizing parcels of interest for tripartite land exchanges.**

**Camps Livingston and Claiborne are Formerly Used Defense Sites. Both Camps are in varying stages of examination by the U. S. Army Corps of Engineers for cleanup from past military use. Of greatest public concern are areas containing unexploded ordnance and when or if those areas will be cleaned up. Safety concerns also exist over the infrastructure remaining in the two camps ranging from road conditions, buildings, sewer lines, manholes, rebar, and uncapped wells. The public has expressed great concern over the types of recreational activities occurring in these areas, and the lack of sufficient law enforcement to curb rowdy and potentially illegal activities. Illegal dumping has also been an issue in both former military camps.**

## ISSUE #4: MINERALS DEVELOPMENT

*To what extent should the Forest provide opportunities for mineral development? Should the forest modify its direction on oil, gas, and common variety minerals, including Forest Service use?*

**Increased oil and gas development was expected during Plan Revision implementation. Much activity was anticipated in the Austin Trend band on the south end of the Forest. Despite high prices for oil and gas, that increase has not materialized to date. For projects that were proposed, the public questioned whether there is a need for federal mineral extraction, and whether locations outside of Kisatchie had been considered by the companies.**

**The public expressed concern that alternative drilling techniques should be considered, that plans for reclamation and re-vegetation after minerals extraction be developed, and that a bond should be required to guarantee that land, soil, and wildlife will be restored to their original condition. Some felt that oil and gas wells contribute to forest fragmentation and fragmentation of habitat would negatively impact red-cockaded woodpeckers. Others commented that numerous negative impacts will be visible from gas well activity. It was felt that visibility problems caused by dust could create traffic hazards, hamper recreation activities, and effect air quality. Concerns were raised that soil and water quality could be affected by clearing, erosion and sedimentation, toxic liquids, waste materials, and that wetlands could also be impacted by oil and gas drilling activities. Some questioned whether the location of the gas wells would discriminate against race and low income families and that these projects would cause an irretrievable loss of vegetation and irreversible commitment of natural oil and gas resources.**

**Recommendations included the use of a closed loop mud system in place of pits for collecting and holding drilling effluent and cuttings, fencing of pits for safety instead of prevention of entry of wildlife, and that the Forest Service and the Bureau of Land Management use Louisiana's Geological Review Process for future drilling activities. Some felt that the drill pads were excessively large for the proposed activity on similar well sites.**

**ISSUE #5: RANGE / GRAZING**

*How much of the Forest should be allocated and managed for livestock forage in light of declining use trends?*

***A.*** *What impact would the elimination of the range management program have on current and future range permittees, other resources and forest programs?*

***B.*** *How much of the Forest should be allocated to range development?*

***C.*** *What impacts will livestock use have on plant and animal communities?*

**No new public issues regarding range/grazing activities were identified during the review.**

**However, during CY2006 a review of the status of the Forest's range allotments was conducted. When the Forest Plan was signed in 1999, 16 livestock owners held term grazing permits allowing 853 cattle to graze on 14 allotments. In the ensuing years, grazing use has declined as predicted in the Forest Plan to three active allotments: Saddle Branch on the Kisatchie District (73 cattle), Tighteye on the Calcasieu District (2 cattle), and Tower on the Calcasieu District (non-use, no cattle).**

**The Catahoula District had 3 range allotments (Clear Creek, Livingston, and Sand Spur) all of which were vacant. The District had not had any range use since 1998. The last permits were issued in 1996 and all three individuals either waived their grazing permits or had them cancelled due to non-use.**

**Based on the range status review, the Forest requested from the Regional Forester the authority to close areas on the Forest to livestock grazing. On March 16, 2007, the Forest Supervisor was delegated the authority to close range allotments on the Forest. On April 30, 2007 the Forest Supervisor closed all range allotments on the Catahoula District; thereby consolidating the Forest range program to the Kisatchie and Calcasieu Ranger Districts. The declining trend in the range program is expected to continue. As opportunities arise, the Forest should close the remaining 3 allotments.**

**ISSUE #6: RED-COCKADED WOODPECKER**

*Consistent with the regional direction, how should the Red-cockaded Woodpecker (RCW) and its habitat be managed to provide for long-term viable RCW populations on the Forest?*

***A.*** *How much of the Kisatchie National Forest's lands should be allocated to RCW management?*

***B.*** *What direct habitat improvements and management practices will best meet the needs of the RCW?*

***C.*** *How are the RCW clusters / habitat within the wilderness to be managed?*

***D****. What SPB suppression activities should be allowed within RCW habitat — for example, should cavity trees and foraging areas be protected?*

**No new public issues regarding red-cockaded woodpecker management within the Kisatchie Hills Wilderness or on southern pine beetle suppression activities within RCW habitat were identified during the review.**

**Much public comment however, has been received on the amount of the Forest land allocated to RCW management. Many feel that RCW management takes precedence over all other activities on the Forest. However, some are in full support of any effort for the protection of the RCW and the restoration of native longleaf plant communities favored by the RCW. The Chitimacha Tribe commented that for them the RCW is considered a sacred and protected animal.**

**Others felt that proposed projects may adversely affect RCW long term population goals by reducing quantity and quality of future foraging, reducing the number of potential cavity trees, and limiting the formation of new clusters.**

**RCW populations on the Forest are slowly increasing. The question remains as to whether the area allocated to RCW Habitat Management Areas, should be re-examined at this time. Allocation concerns exist especially in areas that have an increased hardwood component, such as shortleaf pine/oak-hickory and loblolly pine/hardwood stands. Concerns over other aspects of management for RCWs are expressed under Issue # 2, Biodiversity.**

## ISSUE #7: RECREATION

*What variety of outdoor recreation experiences should the Forest provide and how will they affect other forest resources and the local economy?*

***A.*** *How should off-road vehicles (ORVs) be managed on the Forest to provide recreation opportunities and protect other resources?*

***B.*** *Should additional recreation opportunities be offered at scattered locations across the Forest — for example, outdoor and cultural resource interpretation facilities; hiking, horseback, mountain bike and all terrain vehicles (ATV) trails; watchable wildlife projects, hunter camps, public shooting ranges, additional walk-in hunting areas, and rental cabins? What kinds of facilities and experiences should be provided at the Forests' campgrounds? How and where are we going to provide for the physically challenged recreationist?*

***C.*** *What type of management direction is needed along trails to protect their visual corridors?*

***D.*** *Should Cunningham Brake roadless area be recommended for wilderness study? How will designation affect use of other resources?*

***E.*** *Should Castor Creek, Drakes Creek, Kisatchie Bayou, Whiskey Chitto Creek, East Fork Sixmile Creek, and West Fork Sixmile Creek be recommended for designation as national wild & scenic rivers? How will designation affect the use of other resources?*

***F.*** *How will the availability of recreational activities, especially hunting, affect the local economy?*

**The Plan Revision allowed the use of off-road vehicles off of roads and trails except where specifically restricted. Approximately 28% of the Forest was designated in the Plan Revision as closed to off-road vehicle use year-round, seasonally, due to military use, or restricted to designated trails only.**

**In 2004 the Plan was amended twice to reflect decisions further restricting motorized use on the Kisatchie and Calcasieu Ranger Districts. Unacceptable resource impacts, both in and around the trails and scattered across the Districts were occurring, resulting from the combined effect of the unanticipated increase in numbers of recreationists using off-road vehicles along with increasing size and power of the vehicles. The decision on the Calcasieu District established designated routes-only thereby prohibiting cross-country riding district-wide. The Kisatchie District decision established that cross-country riding would no longer be allowed in the Red Dirt Wildlife Management Preserve. Motorized riding within the Preserve was restricted to the designated Sandstone Trail only. Additionally, the Sandstone Trail was closed to motorized annually from January 1st to April 30th to reduce soil and water impacts to the trail surface during the wet season. With those two decisions and Plan amendments, approximately 49% of the Forest was closed to off-road vehicle use year-round, seasonally, due to military use, or restricted to designated trails only.**

**During the past three years the Forest has been involved in developing its proposal to eliminate cross-country travel on the remainder of the Forest to comply with the 2005 National Travel Management Rule. Once that proposal is finalized in September 2007, off-road vehicles will be restricted to designated roads and trails Forestwide.**

**Significant public involvement efforts were conducted for the decision to further restrict motorized use. The range of comments included the following:**

- **Comments spanned the spectrum from "close the Forest to OHV use" to "open everything - all roads, skid trails, and firelines to motorized use".**
- **Many comments recommended that those causing damage be held accountable and let the others continue to use the forest as they do now.**
- **Many comments suggested more enforcement, charge more fees to pay for maintenance, provide education to teach proper riding etiquette, and provide more and different types of trails.**
- **Dispersed recreationists, especially hunters, requested more access and the ability to retrieve game with an ATV. People with disabilities and the elderly who use ATVs to hunt and get around in the woods would like to continue riding in the woods.**
- **Those who enjoy the peace and quiet of the woods would like to see ATVs banned.**
- **Some commented about air and water pollution impacts, wildlife disturbance, conflict with hunters, disturbance and destruction of mussels and their habitat, and damage to archeological sites.**
- **Prohibiting off-route travel by motor vehicles would limit motorized access by dispersed recreationists, especially hunters, and reduce places to ride.**
- **Some hunters have become accustomed to using ATVs to scout, set-up their stand, and retrieve game. This is of special concern to elderly hunters or hunters with disabilities who have difficulty walking and use an ATV to access the woods.**
- **Changing from motorized cross-country on most of the Forest to restricted motorized routes would reduce recreation opportunities for those who enjoy riding cross-country.**
- **Concern over ATV enforcement and public awareness to reduce ATV traffic in critical areas. Suggests road and ATV closure area to decrease erosion and sedimentation in Brushy, Little Brushy and Long Branch watersheds. Improper use of transportation system, firebreaks by ATVs, motorcycles, and monster trucks.**
- **Need fencing and gating completed on FS 208 from LA 488 to FS 247 to reduce ATV traffic on Brushy Creek and other mussel stream beds**

**Other comments regarding outdoor recreation experiences include:**

- **Concern that the Breezy Hill Enduro dates are one of only 4 weekends for turkey season on Kisatchie. Suggests afternoon only even or mid-morning start to event to avoid user conflicts.**
- **Proposed Breezy Hill Enduro site is designated for these events, and has been held there previously. Would attract people from other states and boost the local economy. Reaches broad base of folks from TX, LA, MS, AL, and AR.**
-

**parish road crosses mussel streams have also occurred. Some feel that road construction, maintenance, and bridge repair activities may cause mussels to weaken and die if they cannot feed due to erosion and sedimentation, which may eventually impact the overall population of LPMs.**

**Comments reflect concern over off-road vehicle use in mussel watersheds. The September 2007 local decision implementing the National Travel Management Rule prohibits cross-country motor vehicle use. Motorized vehicles must stay on designated roads and trails.**

## ISSUE #9: FOREST ROADS

*How should the Forest's road system be managed to meet resource needs and provide adequate public access?*

***A.*** *What minimum density of local roads is required to provide permanent, effective access to national forest lands for all resource management needs? Of this amount, what portion should be managed as "open for motor vehicle use" (continuous or seasonal) for dispersed recreation? What monitoring is required?*

***B.*** *What effects will road construction and reconstruction have on other resources?*

**Few new roads have been constructed during the first five years of the Plan Revision. Most road activity revolves around reconstruction and maintenance. Comments generally reflect concern that impacts from roads and road reconstruction have not been adequately identified and assessed in project analysis. Some expressed that there is a lack of information on the impacts (especially cumulative impacts) from road and forest fragmentation on wildlife, water quality, soils and recreation. Some feel that mowing in certain areas has been environmentally insensitive. Examples include sites where rock dams have been torn down, plantings for erosion control have been mowed down, trenches have been dug in bottoms of ditches, bare areas have been created by scrapping grass, and mowing has occurred to edges of Louisiana Pearlshell Mussel streams. There is a concern that something needs to be worked out between the Forest Service, Police Jury, and contractors to improve road maintenance activities, especially on roads within Louisiana Pearlshell Mussel watersheds.**

**The most significant impact to roads and road density on the Forest is the local decision on the implementation of the National Travel Management Rule. The September 2007 decision culminates a three year public process to determine which roads on the Forest will be open seasonally or year-long by vehicle type. The Motor Vehicle Use Map (MVUM) map will be made available to the public by March 2008. Approximately 2,079 miles of road will be designated as open for public use seasonally or year-round; with approximately 543 miles of roads closed to public use year-round. Declining road maintenance budgets will be an issue moving forward to manage the roads designated as open to public use.**

## ISSUE #10: PRESCRIBED BURNING

*What will be the role of prescribed fire in achieving forest management goals and objectives?*

***A.*** *To what extent, at what time of year, and at what frequencies will prescribed fire be used to manipulate forest conditions — for example, habitat management areas (HMAs) vs. preserves vs. general forest? How many acres and what size blocks can or will be burned during the growing season?*

***B.*** *What should be the future direction for prescribed burning on sensitive Kisatchie soils?*

***C.*** *Should prescribed fire be used to manage the Kisatchie Hills Wilderness?*

***D.*** *How will plants and animals be affected by prescribed burning, especially growing season burning?*

***E.*** *To what extent should plow lines be used? How will they affect the use or protection of resources?*

**Prescribed burning has become an essential tool for managing forest ecosystems and reducing the threat of wildfire in the wildland-urban interface. Plan Revision objectives were to apply prescribed fire on 80,000 to 105,000 acres annually, with 10-20 percent of the area burned during the growing season. Plan Revision guidance provided differing fire frequencies for the Forest's four major landscapes. The fire return frequencies are every 2-5 years for longleaf pine; 5-10 years for shortleaf pine/oak-hickory; 10-20 years for mixed hardwood-loblolly pine; and no return frequency for riparian landscape.**

**Internally there is a concern that in order to meet long-term desired future condition needs, the acreage objectives in the Revised Plan may need to be reexamined (increased) along with the percentage of the program conducted during the growing season.**

**Public comments on prescribed burning include the following:**

- **Concern that burning occur only in pine stands where such activity is natural and historically documented for that forest type and that it not occur in hardwood and mixed stands where burns were naturally and historically infrequent.**
- **Supports burning where fires occurred naturally and where trees need periodic burning. Does not advocate burning where fire is unneeded, opposes yearly burns or burns on scheduled basis that stresses soils and waters.**
- **Concern as to the timing of the burn in the growing season. Will it impact the breeding season of neotropical migratory birds such as Bachman's sparrow. What mitigation will be utilized to protect the breeding and nesting areas of these birds?**
- **Establishing and maintaining an adequate cycle of fire and using growing season fire when needed should reduce need for herbicide use.**
- **What kind of firelines will be utilized to control burns. In some areas plow lines are not appropriate, need to hand-rake or use natural fire breaks. For RCWs mitigation measures may be needed for hand raking around den or roost**

**trees to ensure trees are not irreparably harmed by flames that are too hot or high.**

- **Department of Transportation and Development (DOTD) is concerned about visibility problems to motorists from smoke from Rx burns.**
- **DOTD should be reimbursed for labor, materials, and equipment for placing warning signs on state highways. FS should provide ample notification prior to beginning burns so DOTD, its contractors, or the public can prepare for visibility problems. Maps should accurately indicate road and burn units.**
- **Concern that burning operations not automatically be tied to logging proposals. Burning is held hostage until timber harvest approved.**
- **Concern regarding growing season burning of bog areas on Vernon. Care should be taken to keep fire from reaching banks of Bayou Clear.**
- **Do not burn in the Brushy Creek watershed unless fire can be excluded from mesic side slope and riparian areas.**
- **Do not burn shortleaf/oak hickory on a longleaf rotation. The impact of fire on wooded seeps and associated vegetation should be disclosed.**
- **All management requirements of FW-08 and FW-450 and monitoring requirements fro the Forest Plan and fire EA for the dormant season 2002 program should be completed prior to implementation of the growing season 2002 or FY2003 program is implemented.**
- **Toxic fumes from burning trash and dumped, potentially hazardous materials. Signs need to be placed in and around the burn area. Conduct weekday burns.**
- **Loss of forage/food for wildlife because of prescribed fire. Use alternative methods to reduce the fuel loading such as hand-select and complete removal methods-volunteers and FS to accomplish**
- **Prior prescribed burns have resulted in erosion, drainage channel changes. Adhere to streamside management zone and buffer zone requirements, protect watersheds in effected environment. There seems to be some inconsistency relative to evaluation of fire impacts on hardwoods. Fire is suggested to be used to control hardwoods but is not to be excluded from hardwood inclusions.**
- **Emphasize role of and appropriate use of prescribed burning with respect to listed natural communities. Recommend burns be distributed across the regions rather than in large concentrated areas to minimize potential adverse impacts on small mammals and ground nesting species. Optimum conditions for a not too hot fire should be considered in key areas such as LPM watersheds or step or fragile soils.**
- **Concern whether fire is biologically sound in creek bottom swamps. Recommends no burning for 5 years or until RNA established. Compartment**

**32 and growing season burning concerns over soil types south of gravel pit, slopes in area, what measures to be taken to prevent fireline erosion.**

- **Prefers dormant season burns on 5-10 year schedule where loblolly/shortleaf/hardwood component on steep ridges.**
- **Prescribed burning program concerns over controlling old logging road erosion and making certain fire lines are monitored after seeding and treated again if necessary.**
- **Concern that when the desired mid and understory vegetation is created in RCW HMAs, Forest should change prescribed burning schedule to once every 5 years for shortleaf and longleaf.**
- **Questions who conducts the annual quail inventory. Concern over how can we determine if the relatively small size of prescribed burn areas will have a beneficial impact on quail re-nesting.**
- **Time silvicultural activities to avoid prime nesting season. Should not burn all 5 compartments at same time.**
- **Shortleaf/oak hickory should not burn more frequently than once every 5 years. Burn riparian areas only when wind and moisture cause fire to die out before it reaches fire sensitive hardwoods.**
- **Conflict exists between goals of letting fire burn out on its own versus the erosion potential with creating fire lines. Optimum conditions for a not too hot fire should be considered in key areas such as LPM watersheds or step or fragile soils.**

**ISSUE #11: SILVICULTURE**

*How will the application of various silvicultural systems and management practices affect the condition of other forest resources and sustainability of overall forest health?*

***A.*** *How will the use of the two-aged and uneven-aged silvicultural systems affect timber and non-timber resources; and how well does this system duplicate natural processes?*

***B.*** *How will the mix of rotation ages and harvest cutting methods for even-aged and two-aged management affect habitat and visual diversity, timber productivity, and duplication of natural processes?*

***C.*** *How do current tree harvest and site preparation methods affect the long-term sustenance of forest resources and overall forest health?*

***D.*** *What management direction should guide ecosystem management and the use of landscape ecology principles?*

***E.*** *What cutting methods and practices are silviculturally and socially acceptable I bottomland hardwood forest types?*

***F.*** *What is the future role of herbicide use in forest management?*

***G.*** *How should we manage hardwoods within pine stands and to what extent should mixtures of pines be managed?*

**Similar to the issue of biodiversity much debate on the issue of silvicultural systems and management has occurred during Plan Revision implementation. Silvicultural systems, harvest cutting methods, rotations ages, herbicide use, and hardwood management remain sensitive issues with the general public. Nonprofit interest groups have focused comments around various legal aspects of NEPA document sufficiency and NFMA requirements relating to this issue.**

**Comments include the following:**

- **Need to know what herbicides and concentrations will be used, what species are targeted for each method, and which stands to receive growing/dormant season burns.**
- **Provide an identification of the type of herbicides planned for use, the concentration of herbicides, and site specific mitigation measures to counteract the harmful effects.**
- **Concerned about herbicides activity in soils and water, whether it's selective, and how it will be applied. Identify the location of the water table in areas affected by herbicides and the streamside management zones to be implemented.**
- **Concern that timber harvesting methods will be used which have the least amount of impact to soils, water quality, groundwater, wildlife, and plant diversity.**
- **Concern that timber harvesting methods not be limited to even-aged management methods only, that selective, uneven-aged methods be fully considered.**
- **Concern that the use of even-aged methods comply with NFMA requirements regarding optimal methods analysis.**
- **The District admits there are areas with severe compaction, erosion and rutting hazard ratings and areas with poor suitability ratings for harvest equipment. Why have you not identified and considered a cut-to-length alternative that could solve most if not all problems. Cut-to-length can accomplish same work with less impact to soil and waterways.**
- **The most glaring shortcoming in Kisatchie silviculture through the years has been a lack of adequate thinning. By most current standards of evaluation, plant health and growth, biodiversity, habitat enhancement for RCW and the pine snake, thinning is critical.**
- **The final harvest of a 60-year old slash/loblolly stand seems overdue. Conversion to longleaf on a site best suited to that species is totally in keeping with RCW habitat improvement and Native Community Restoration, so long as the longleaf regeneration is spaced far enough apart.**

- **Clearcutting and heavy thinning often encourages invasion of weedy species that may suppress populations, however, light thinning in closed-canopy forests may be beneficial by providing added sunlight that promotes flowering.**
- **Concern that portions of the loblolly plantations remain and need to make sure longleaf survives and doesn't have to compete with loblolly seedlings. Questions possibility of taking out all loblolly and restoring whole stands to longleaf.**
- **Concerns over minimum age for clearcutting**
- **Concur with need to restore soil conditions and need to convert stand 32 to unevenaged management, possibly by group selection.**
- **Concern that the prevailing management technique is non-management. Turkey and deer populations could improve in old growth by encouraging small openings or other silvicultural techniques.**

**ISSUE #12: WILDLIFE AND FISH**

*How much and what kinds of wildlife and fish habitats should the forest provide for a diverse wildlife program?*

***A.*** *What should be the future management direction for the two national wildlife management preserves? Should it be consistent between the two preserves?*

***B.*** *What wildlife and / or fisheries programs and management activities need to be expanded upon, reduced or otherwise modified to provide adequate habitat for native wildlife and fish? What should be the future hunting and fishing opportunities offered on the forest? Should we reexamine the need for wildlife food plots, openings and linear strips? What is the future of the featured species concept?*

*Should greater emphasis be placed on neotropical migratory birds (NTMBs) and other nongame wildlife species?*

***C.*** *How should upland hardwood species be managed to adequately meet the needs of wildlife?*

***D.*** *What array of management and ecological indicators are appropriate to effectively monitor habitat health and response to management?*

**A wide range of comments have been submitted by the general public and nonprofit interest groups. Nonprofit interest groups have focused comments around various legal aspects of NEPA document sufficiency and NFMA requirements relating to this issue. Local residents have focused comments around hunting regulations and opportunities. Comments include:**

- **The project will jeopardize viability of species that thrive in forest ecosystems through activities associated with timber harvest and road building, intervene in natural disturbance processes that are vital to ecosystem sustainability, and degrade water quality and watershed condition.**

- **Planned activities are likely to jeopardize viability of species that find optimal habitat in interior forests, forests with well-developed structures, and forests naturally disturbed by physical and biological processes.**
- **Concern over beaver dams on Louisiana pearlshell mussel streams. Questions how long a mussel bed can be inundated before they are killed. Wants trappers to take out beavers and dams. Wants coop agreement developed with private landowners on Long Branch (Calcasieu District) to survey and trap beaver.**
- **Illegal activities effecting wildlife including weapons use, dog deer hunting and year-round dog training.**
- **Species viability ranking measure seems arbitrary. Indicating a species is not viable does not seem to address FS guidance.**
- **Streamside management zones should not be excluded from harvest activities because benefits to wildlife can occur with proper management.**
- **The Department previously supported no harvest in bottomlands designated for old growth. There was discussion of scheduling harvest during minimum recreational use periods. Similar efforts to avoid peak wildlife breeding periods should be made.**
- **EA should include map of boundary of quail emphasis area and discuss how management differs from surrounding forest.**
- **What's the impact of red-cockaded woodpecker management on quail populations?**
- **Recommends installation of wood duck boxes and manipulation of water levels in ponds to promote growth of native plants for waterfowl.**
- **Rapides Wildlife Association resolution requests reviving NEPA process for the turkey emphasis area. Requests expansion of the proposal to include other avian species, close walk-in area to vehicles year round except for permanent roads, and locate area to not interfere with the Breezy Hill Enduro Trail.**
- **Favors the turkey emphasis area for benefits to other wildlife species. Concern that a portion of the emphasis area is within the hazardous ammo area of old breezy hill artillery range. EA should discuss impact on public entry and management for wildlife species**
- **Comment that the turkey emphasis area is an opportunity to manage for turkey, red-cockaded woodpecker, quail, pocket gopher, and pine snake. Suggests use of food plots. Sufficient size of openings with good escape cover. Maintain vegetation by disking or burning.**
- **New boat ramp will be very useful new access to lake. Lake overtaken with lily pads. Needs another lowering, long enough for a good winter kill Concurs with boat ramp. Concern over duck blind regulations.**

- **Limit access area for the Claiborne bombing range. Should be walk-in use only for the public year-round, as opposed to ATV use. Would be beneficial to wildlife populations, reduced nuisances.**
- **Turkey emphasis area denies access to public lands. Against closure even for a few months. Residents enjoy camping, hiking, exploring forest year round, not just during hunting seasons. Need a place to take kids hunting. Concern over age and health problems with walking into turkey emphasis area.**
- **Concerns over restricting uses and freedoms of life long area residents from coyote, fox, coon, rabbit, and deer dog training, 4 wheeling, picnicking, and fishing. Recommends putting the turkey emphasis in the Preserve which is restricted use now.**

**ISSUE #13: FOREST HEALTH**

*What forest management practices are necessary to maintain or improve forest health, especially protection from insects and diseases?*

**No new public issues regarding forest health activities were identified during the review.**

**Preventative techniques such as rating a stands susceptibility to beetle attack and selecting those stands for early treatment to reduce potential losses, and regularly scheduled aerial detection flights are tools that continue to be used by the Forest.**

**The Forest has been actively focusing on projects to improve forest health through thinning treatments in immature pine plantations which are overstocked and highly susceptible to southern pine beetle infestations and catastrophic wildfires. Since 2002 the Forest has contracted the preparation of pine plantation first thinning environmental assessments on 20,791 acres.**

**In 2005 the Forest Supervisor signed the decision for Southern Pine Beetle (SPB) and Other Bark Beetle Suppression on the Forest. This decision puts in place a strategy for suppressing bark beetle activity on the Forest in a timely manner. Should an outbreak occur, the Forest will be able to act quickly to suppress infestations before they have an opportunity to get out of control.**

**The Forest should continue to reduce risk of bark beetle attacks through timely harvest practices that reduce stand density and improve tree growth. Also, while thinning treatment improve forest health conditions, more emphasis needs to be placed on the removal of off-site loblolly pine and the restoration of longleaf pine as the Forest Plan envisioned.**

**OTHER PUBLIC COMMENTS RAISED:**

**Some public comments received during the review did not specifically fall under the 13 Plan Revision issue categories and are listed below.**

*(1) PROCESS/LEGAL:*

- **Does not advocate use of Categorical Exclusions for large projects.**

- **Cumulative impacts must be analyzed in the context of other actions. Need for a hard look at the cumulative.**
- **Do extraordinary circumstances exist in the proposed action. Scoping letter does not contain enough information. No site specific information at all. Impossible to comment in an informed manner.**
- **Inadequate range of alternatives.**
- **No action should be given fair treatment.**
- **State Historic Preservation Officer review should be done before the EA and results considered in the EA.**
- **Concern that all historic and archeological sites be adequately surveyed and considered prior to any proposed decision on this project.**
- **Had problems locating the prairies since road numbers not included on maps.**
- **Concern that soils in the project area be identified in a site-specific manner with field data showing where each soil type is, what its condition is, and how these proposed activities will impact it.**
- **Concern that site-specific data and information on soils, past soil loss, current sediment load in the streams, and realistic estimations of future sedimentation of streams in and below the project area be collected and used for any decision.**
- **In addition to soil descriptions from the soil conservation service, the district needs to provide profile descriptions, transects and lines of travel, and type line changes from one soil to the next. This information is available, and under NEPA the FS has to provide ground cover conditions, plant cover type, riparian zone conditions, and drainway conditions.**
- **Concern that you will abide by the legal requirements to maximize economic benefits.**
- **Concerns that past EAs from this District have not given proper consideration to cumulative impacts, including private land cuts, and numerous oil and gas projects.**
- **Concern that the EAs are exceptionally thick and heavy with information. Consider doing a full EIS.**
- **Do the proposed actions have a proven track record?**
- **Questions monitoring/monitoring results. Can proposed mechanical processes achieve the desired goals more effectively than natural processes.**
- **Questions use of mechanical processes over natural. Are the ecological and economic benefits greater than the costs?**
- **Analysis of water quality impacts must be based on research and data in the Forest and form verifiable monitoring data from previous projects. EA shows**

**no data or research which can be independently reviewed and verified that water quality will not be adversely impacted by this project.**

- **Furnish me a copy of comments on this project, and names and addresses of those making comments. EA is public documents so I'm entitled t this info under FOIA.**
- **None of the EAs done to date comply with NFMA, Forest Plan, or Regional Vegetation Management Plan regarding monitoring.**
- **Size of numbers on map made reading difficult. Other Districts use color coded maps for proposed actions.**
- **Concern that "no action" alternative is almost never seriously considered. It's set up for defeat because it does not meet the stated purpose and need. By always establishing first the purpose and need the agency guarantees that no action will always be set up for defeat.**
- **Kisatchie is not part of the Chitimacha Tribe of Louisiana lands prehistorically or historically. Request that Kisatchie notify Caddo of Oklahoma and Jena Band of Choctaw as Kisatchie is part of their historic homelands.**
- **Questions communication skills or calculated effort to prevent them becoming sufficiently informed to make meaningful comment. Requests separate written communications within 30 days.**
- **Concern that any proposal on private land to accelerate drainage of the Red River floodplain through Bayou Boeuf comply with NEPA and other environmental requirements**
- **It is apparent the monitoring of erosion control measures is often inadequate in regard to road construction and maintenance, landings, skid trails, and in places firelines.**
- **Discuss how often monitoring will be carried out and whether old logging roads are ever inspected.**
- **The term "impaired" should be quantified. Projected sediment loads should be determined.**
- **Everyone that uses heavy equipment on Kisatchie should receive basic instruction from NRCS or others on soil and water conservation and best management practices.**

*(2) ADMINISTRATIVE:*

- **Forest Service should operate a program to promote cost effective waste prevention, recycling, and green procurement. Use recycled paper.**
- **Illegal dumping, trespass, cemetery vandalism, and illegal or improper weapons use is occurring..**
- **Removal of underbrush will open up area and allow more visibility of their personal residence. Will allow hunters to shoot deer from road. Request**

**buffer zone from hunters and bullets. Safety concern for themselves, their dogs and horses. Leave buffer along fence line.**

- **Concern that trash needs to be removed from Bayou Boeuf.**

## *B. Changes in National/Regional Policy/Direction*

**Four basic levels of planning guide the overall management of national forests and grasslands:**

1. *Strategic planning* **which takes place at the highest level and identifies strategic priorities for the agency that are implemented over a period of time through annual agency budgets. The strategic priorities are based on national assessments of natural resources and are responsive to social and political trends.**
2. *Business planning* **by national programs, regions, research stations, and the Northeastern Area which translates broad strategic direction into regionally specific work that contributes to the agency's mission.**
3. *Unit planning* **(i.e. the Kisatchie's Revised Forest Plan) which provides an inventory of resources and their present conditions on a particular management unit. This inventory, coupled with the desired future condition for the resources, is the basis for annual work planning and budgeting.**
4. *Annual work planning* **which identifies the projects that units propose for funding within a fiscal year. This level of planning involves the final application of strategic direction into a unit's annual budget to move its resources toward its desired future condition.**

**Over the course of Plan Revision development and implementation there have been numerous changes in national and regional policy and direction.**

**The Government Performance and Results Act (1993), was enacted to improve Federal program effectiveness and public accountability by promoting a new focus on results, service quality, and customer satisfaction, still significantly influences the management of national forests.**

**Administrative procedures and processes governing preparation of projects to reduce hazardous fuels and restore healthy ecological conditions on Federal land have also undergone changes. In 2002 the** *Healthy Forests Initiative (HFI)* **was established to reduce administrative process delays to the implementation of projects. The** *Healthy Forests Restoration Act (HFRA)* **was passed in December 2003 and was primarily intended to provide improved statutory processes for hazardous fuel reduction projects on certain types of at-risk National Forest and Bureau of Land Management lands.**

**In October of 2002, the ROD for the** *Supplement to the Final Environmental Impact Statement Vegetation Management in the Coastal Plain/Piedmont* **was signed. It was the Forest's first Plan amendment. Its guidance was added in order to clarify direction concerning requirements for conducting project-level**

**inventories. Currently (September 2007), this direction is being challenged in a lawsuit.**

**In April of 2003 former FS Chief Dale Bosworth described his concept of the** *Four Threats to the Health of the Nation's Forests and Grasslands***. The** *USDA Forest Service Strategic Plan for Fiscal Years 2004-2008* **provided a new framework for accomplishing the Agency's mission and incorporated actions to resolve the Four Threats. Forest Service leadership through the implementation of the Strategic Plan became committed to removing the Four Threats from the national landscape.**

**Actions described to address the Four Threats included:**

*Fire and fuels***—Restore healthy, disturbance-resilient ecosystems on lands at risk from catastrophic fire, improving the condition and function of critically important watersheds, and sustaining critical wildlife habitat nationwide.**
*Invasive species*—**Protect forest and rangeland ecosystems by preventing the release of non-native species and by controlling the spread, or eradicating, invasive species.**
*Loss of open space*—**Conserve the nation's forests and rangelands most at risk due to subdivision and land conversion by working with partners, communities and landowners to balance development with sustaining ecosystem services and viable working landscapes.**
*Unmanaged recreation*—**Work with partners to develop travel management plans that regulate the use of off-highway vehicles on designated roads, trails, and parks in an appropriate manner.**

**New Forest Service Chief Abigail R. Kimbell, re-enforced the national commitment to reducing the Four Treats within the overall USDA Forest Service Strategic Plan FY2007–2012 issued in July 2007. The national strategic goals and objectives for fiscal years 2007–2012 are:**

1. **Restore, sustain, and enhance the Nation's forests and grasslands.**
2. **Provide and sustain benefits to the American People.**
3. **Conserve Open Space.**
4. **Sustain and Enhance Outdoor Recreation Opportunities.**
5. **Maintain Basic Management Capabilities of the Forest Service.**
6. **Engage Urban America with Forest Service Programs.**
7. **Provide Science-Based Applications and Tools for Sustainable Natural Resources Management.**

**In 2005 the Forest Service issued a new planning rule for developing, amending or revising forest land management plans. The 2005 rule was challenged in court and an injunction issued prohibiting its use. On March 30, 2007, the United States District Court for the Northern District of California issued a decision in the combined cases Citizens for Better Forestry v. USDA and Defenders of Wildlife v. Johanns. The Court held our Agency's adoption of new planning regulations at 36 CFR 219 in 2005 violated the Administrative Procedure Act (APA), National Environmental Policy Act (NEPA), and Endangered Species Act (ESA). The**

**Court remanded the matter to us to comply with its order. Pending compliance, the Court enjoined us from implementing and utilizing the 2005 planning rule. The 2000 planning rule, including its transition provisions as clarified by the 2004 interpretive rule,[28] is now in effect. In the meantime, a Notice of Intent to prepare an environmental impact statement for a land management planning rule was published in the Federal Register in May of 2007. A final planning rule and Final EIS are expected in February 2008.**

**Forests and Grasslands are now implementing projects under the Interpretive Rule to the 2000 planning rule, issued on September 29, 2004, and according to the existing forest plans that were developed, amended or revised under the 1982 rule. The Kisatchie's Revised Plan was developed under the 1982 rule.**

**Prior to the injunction on the 2005 planning rule, executive order E.O.13423 required all federal agencies to develop and implement an Environmental Management System (EMS). The Forest Service in the 2005 Planning Rule required use of an EMS for each unit of the National Forest and Grasslands system as a primary management approach for addressing environmental aspects of it's operations and activities. In accordance with the E.O.13423, the Forest Service continues development of an EMS. It is unknown at this point what the local impacts of an EMS will be.**

**The issuance of the 2005 National Travel Management Rule has had a significant impact on the management of the Forest. The local decision prohibiting cross-country and designating which roads and trails will be open to public motor vehicle use will be issued in October 2007. The Motor Vehicle Use Map (MVUM) map will be made available to the public by March 2008. Approximately 2,079 miles of road will be designated as open for public use seasonally or year-round; with approximately 543 miles of roads closed to public use year-round.**

**Regional changes to policy or direction resulted from the issuance of the 2003 revision of the U.S. Fish and Wildlife Service's Red-cockaded Woodpecker Recovery Plan. This resulted in Forest Plan Amendment #5 in October of 2005.**

---

**[28] The Court's decision upheld the issuance of the 2004 interpretative rule, finding it was not subject to the notice and comment requirements of the APA.**

# VII. Evaluation of Need to Change Existing Plan Direction

## *A. Desired Conditions*

**A Desired Future Condition (DFC) is defined as a narrative description of the**

**management designed to achieve the forestwide DFC. Goals are also established for each MA and SMA. The attainment of forestwide goals largely depends on attainment of MA and SMA goals.**

**The 9 forestwide goals are listed below:**

***Goal 1:*** **Ensure that healthy, sustainable forest ecosystems endure for future generations by managing with the highest standards of stewardship. Protect or conserve basic soil, water, air, and land resources and incorporate integrated pest management principles.**

***Goal 2:*** **Manage to provide for a variety of life by maintaining biologically diverse ecosystems and viable populations of all native and desirable nonnative plant, wildlife, fish and aquatic species. Conserve threatened, endangered, and rare species; restore and maintain ecosystems and ecological processes; identify and manage old-growth forests; and protect riparian and streamside habitat areas.**

***Goal 3:*** **Contribute to local community stability by providing an even flow of commodity resources in an environmentally acceptable manner. Allow for timber harvest to meet multiple-use goals and provide for stand regeneration; a limited amount of domestic livestock grazing; continued exploration and extraction of leasable and salable minerals; and provide a transportation system to meet multiple-use goals. Promote rural development and human resource programs.**

***Goal 4:*** **Provide for scenic quality and outdoor experiences which respond to the needs of Forest users and local communities. Provide access to a wide variety of recreational opportunities and facilities.**

***Goal 5:*** **Manage to protect and perpetuate natural and cultural values associated with unique, rare, or irreplaceable resources. Recognize and protect historical areas, cultural sites, and areas which are of special interest because of unique geological, botanical, or zoological features.**

***Goal 6:*** **Apply vegetation management activities and treatments best suited to achieve a mixture of desired future conditions or to mimic natural processes. Implement and use a variety of silvicultural systems, regeneration methods, prescribed fire applications, and vegetation management treatments needed to achieve objectives.**

***Goal 7:*** **Monitor to provide feedback regarding progress toward accomplishing Forest goals and objectives; and adapt management according to new information.**

***Goal 8:*** **Promote collaboration between researchers and land managers to incorporate new technologies, information, and scientific methods into the decision-making**

***Goal 9:*** **Promote cooperation and coordination with other federal and State agencies, Native American tribes, organizations, and individuals. Actively seek public involvement during project planning, implementation and monitoring.**

**These forestwide goals (listed above) and the MA and SMA goals (see Chapter 3 of the Revised Plan).are still appropriate and have not been altered in the first 5 years of the Revised Plan implementation.**

## 2. Objectives

*Objectives* **are concise statements describing a specific result or condition desired that will contribute to goal achievement. Each goal has one or more objectives associated with it, defining how that goal will be accomplished. Objectives are the second step in making the forestwide DFC narrative description operational. Each objective in the Revised Plan is numbered in such a way that you can associate it with the appropriate goal. For example, objectives 1–1 through 1–6 contribute to the accomplishment of goal 1; objectives 2–1 through 2–8 contribute to goal 2, and so on.**

**As with the DFCs and goal statements, no changes have occurred in the Plan's objectives. However, some of the objectives have brought about some concerns both internally (within the Forest Service) and externally (the public). Those objectives with concerns are listed below; along with a description of the concern/issue:**

**Objective 2–1: Manage to restore or maintain the structure, composition, and processes of the four major landscape forest ecosystems known to occur on the Forest, and unique or under-represented inclusional communities embedded within them. Long-term objectives for each major forest community are as follows:**

**Longleaf pine forest: 263,000 acres.**
**Shortleaf pine / oak-hickory forest: 62,000 acres.**
**Mixed hardwood-loblolly pine forest: 27,800 acres.**
**Riparian forest: 181,000 acres.**
*Concern: Although these are considered long-term objectives, restoration has occurred at a slower pace than originally expected. This condition is generally due to a higher than expected number of project proposals designed to maintain and improve existing RCW habitat, primarily through thinning of overstocked stands. Project proposals to restore off-site species through regeneration harvests received less emphasis and consequently occurred less than planned or expected.*

**Objective 2–2: Provide for healthy populations of all existing native and desirable nonnative wildlife, fish, and plants by managing major forest ecosystems at the scale and distribution appropriate to maintain species viability. In the next ten years, management indicator habitat objectives are as follows, noting that there will be some overlap of riparian habitat and mixed hardwood-loblolly pine, mid-late stages:**

**Longleaf pine, all stages: 121,000 acres.**

**Shortleaf pine / oak-hickory, early stages: 0 acres.**

**Shortleaf pine / oak-hickory, mid-late stages: 16,000 acres.**

**Mixed hardwood-loblolly pine, early stages: 42,000 acres.**

**Mixed hardwood-loblolly pine, mid-late stages: 252,000 acres.**

**Riparian, small streams: 85,000 acres.**

**Riparian, large streams: 92,000 acres.**

*Concern: This objective has caused some concern about the presumably low emphasis placed on restoring shortleaf pine / oak hickory. This has been explained by pointing out that the origin of this number came from vegetation modeling estimates done in FORPLAN for the first 10-year Plan period. Because the shortleaf pine / oak hickory forest ecosystem has a long rotation age and existing stands are far from maturity, the expectation during the first period was to do little or no regeneration in these areas and therefore no acres planned for the early stages.*

**Objective 2–4: Develop or maintain old-growth forest attributes, for their contribution to biological and visual diversity, habitats for plant and animal species, and maintenance of a natural gene pool, within designated patches on approximately 13 percent of the Forest based upon representation of the major forest ecosystems and old-growth community types. Long-term old-growth forest objectives are as follows:**

**Longleaf pine forest-dominated patches: 48,800 acres.**

**Coastal plain upland mesic hardwood: 2,550 acres.**

**Upland longleaf, woodland, and savanna: 45,350 acres.**

**Southern wet pine forest, woodland, and savanna: 780 acres.**

**Dry and xeric oak forest, woodland, and savanna: 120 acres.**

**Shortleaf pine / oak-hickory forest-dominated patches: 13,500 acres.**

**Coastal plain upland mesic hardwood: 1,290 acres.**

**Dry and dry-mesic oak-pine forest: 11,630 acres.**

**Dry and xeric oak forest, woodland, and savanna: 60 acres.**

**Xeric pine and pine-oak forest and woodland: 50 acres.**

**Seasonally wet oak-hardwood woodland: 350 acres.**

**River floodplain hardwood forest: 120 acres.**

**Mixed hardwood-loblolly pine forest-dominated patches: 6,100 acres.**

**Coastal plain upland mesic hardwood: 700 acres.**

**Seasonally wet oak-hardwood woodland: 300 acres.**

**Dry and dry-mesic oak-pine forest: 4,650 acres.**

**River floodplain hardwood forest: 450 acres.**

**Riparian forest-dominated patches: 12,700 acres.**

**Coastal plain upland mesic hardwood: 1,820 acres.**

**River floodplain hardwood forest: 1,180 acres.**

**Cypress-tupelo swamp forest: 1,400 acres.**

**Eastern riverfront forest: 6,400 acres.**

**Seasonally wet oak-hardwood woodland: 1,400 acres.**

**Dry and dry-mesic oak-pine forest: 500 acres.**

*Concern: Although these are considered long-term objectives, restoration of old-growth areas is occurring at a slower pace than originally expected. This has been partially due to less emphasis than expected, since restoring upland longleaf for HMA improvement was typically the priority in project proposals and decisions. Another factor appeared to be a reluctance to improve old-growth characteristics due to uncertainties on how to effectively create or maintain old growth communities at the site level.*

**Objective 2–5: Manage to protect or enhance the unique plant and animal communities, special habitat features, habitat linkages and corridors, and aquatic ecosystems associated with streamside habitat and riparian areas.**

*Concern: As in the previous Forest Plan, there was confusion about how to best balance the naturally conflicting resources found in these areas. Especially challenging was how to manage individual trees damaged by bark beetles or wildfire within these zones.*

**Objective 2–7: Provide quality habitat for game and fish populations.**

*Concern: There were concerns both internally and externally about either a purportedly lax emphasis on providing game habitat, or overly stanch emphasis placed on creating optimal RCW habitat.*

**Objective 3–1: Provide for long-term sustainable production of commodities for economies, local community stability, and people.**

*Concern: Output for timber products was below planned or expected. This too occurred primarily from the larger than expected number of project proposals utilizing intermediate harvest treatments (thinnings) for HMA improvement and fuels reduction, instead of regeneration harvests to restore off-site overstory. Consequently jobs and income that depend primarily on the volume of timber harvests were presumably less than expected.*

**Objective 3–2: Offer for competitive bid an average of 9.69 million cubic feet of timber sale volume on an annual basis for the first decade of the Plan.**

*Concern: (See concern for Objective 3-1,above.)*

**Objective 3–4: Maintain or improve forage resources for domestic livestock grazing on 86,000 acres within designated grazing allotments to meet the needs of local demand.**

*Concern: Grazing continued its downward trend. There were concerns raised about seemingly wasted efforts to maintain or improve a non-utilized grazing resource while efforts and funds could be better utilized providing improvement for more essential resources, such as habitat improvement.*

**Objective 6–1: Manage the Forest to achieve a mixture of desired future conditions using even-aged, two-aged, and uneven-aged silvicultural systems and regeneration methods; and a variety of manual, mechanical, prescribed fire,**

**and herbicide vegetation management treatments. Apply the unevenaged silvicultural system on a minimum of 32,000 acres.**

*Concern: Although the areas designated or unevenaged silviculture remained that way, few project proposals included work in these designated areas. In most cases, projects proposed treatments to improve habitat for RCW, improve forest health, or reduce fuels occurred in the more predominant even-aged areas.*

**Objective 6–2: Utilize prescribed fire in fire-dependent ecosystems — including the Kisatchie Hills Wilderness, to maintain natural plant communities by varying the timing, frequency, and intensity of fire. Apply prescribed fire on 80,000–105,000 acres annually, with 10–20 percent of the area burned during the growing season. Focus growing season burning on longleaf pine landscapes.**

*Concern: There were concerns raised about the annual amount of acreage planned for prescribed fire across the Forest. Although the numbers given in this objective were intended to be an estimate of what could be expected, it has often been seen as either a minimum or maximum annual need. A prevailing concern has been that this number is too low to achieve the conditions expected in the Plan DFCs, especially in regards to the amount of growing season burning needed.*

## *C. Standards and Guidelines*

**While goals and objectives define where we are headed for a particular area, standards and guidelines define the decision space within which we can operate to work towards achieving goals and objectives. Standards and guidelines are the specific technical resource management directions generated for a DFC. They provide the last link in making that DFC narrative description operational.**

*Standards* **are a definite rule, principle, or measurement. Standards define the operational space for achievement of Forest Plan goals and objectives, and assure compliance with laws, regulations, executive orders, and policy direction. Deviation from a standard requires a forest plan amendment.**

*Guidelines* **are used as a steering or preferred course of action. They promote the achievement of Forest Plan goals and objectives in a manner that permits necessary operational flexibility to respond to variations over time. Deviation from a guideline will usually not require an amendment to the Plan, but the rationale will be documented in the project decision document.**

**The standards and guidelines in Chapter 2 of the Plan apply Forestwide, providing the basic foundation for all resource management. They constitute the bulk of the direction necessary to meet Forestwide goals, desired future condition, and objectives. Additional specific direction pertaining to a particular MA or SMA is in Chapter 3 of the Plan.**

**Most forestwide standards and guidelines have remained unchanged in the Forest Plan. Those that did change were a result of a Plan amendment and are listed, along with the changes, in the following:**

**<u>Plan Amendment #1:</u> This amendment, resulting from the Regional Forester's decision for the** *Supplement to the FEIS, Vegetation Management in the Coastal Plain/Piedmont*, **made in September of 2002, modified the forestwide standard FW-009, which dealt with when and how biological evaluations (BEs) are conducted. It provided additional clarification on the appropriate information needed when conducting project-level inventory/surveys for a PETS species.**

**<u>Plan Amendment #3:</u> This amendment, the** *Sandstone Multiple Use Trail Management Plan*, **signed in August 2004, modified forestwide standard FW-344 by adding an additional prohibition of motorized vehicles off designated routes within the National Red Dirt WMP area of the Kisatchie Ranger District. This effectively changed the area on the Forest open to ORVs from 78% to 72%.**

**<u>Plan Amendment #4:</u> This amendment, the** *Providing Off Road Vehicle Management*, **signed in November 2004, again modified forestwide standard FW-344 by further prohibiting motorized cross-country vehicle use off designated routes within the entire Calcasieu Ranger District. This effectively changed the area on the Forest open to ORVs from 72% to 51%.**

**<u>Plan Amendment #5:</u> This amendment, the** *Recovery Plan Amendment*, **signed in October 2005, was another non-significant amendment that applied to all the districts that contained HMAs (i.e., all districts except the Caney). This Plan amendment created more changes to the Plan standards and guidelines than any other. This amendment made minor modifications to some of the text in the Plan, it replaced 26 and added 4 new forestwide standard and guidelines, and it replaced 15 MA and SMA standards and guidelines. All these changes were made in order to incorporate new direction from the newly updated USFWS Recovery Plan. A complete list of all the changes (12 pages) can be found in Attachment A to the Recovery Plan Amendment decision notice.**

## *D. Suitability of Areas*

**During Forest planning, the Forest Service is required to identify lands unsuited for timber production (16 USC 1604(k); 36 CFR 219.14). This identification process involves three stages of analysis. Stage 1 analysis identifies lands tentatively suitable for timber production. Stage 2 analysis is designed to explore the financial attractiveness of varying intensities of timber management on lands identified as tentatively suitable for timber production. Stage 3 analysis identifies lands as unsuited for timber production under the alternative selected as the Revised Forest Plan.**

**In the table below, a breakdown is shown of the acres classified as suitable for timber production. As can be seen, very little change has occurred. The most significant change occurred in May of 2003 with the changes made by**

highways has displaced "slivers" of both suitable and unsuitable lands on the Forest.

Another major change expected to occur beginning in 2008 is an overall change in the management of off-road use across the Forest. The Forest Plan standards and guidelines will likely be amended to prohibit motorized use off designated routes and areas on the entire Kisatchie National Forest, thus implementing the changes mandated by the National Travel Management Rule of 2005.

## *E. Special Areas*

### 1. Ecological Areas

The Forest has identified five botanical special interest areas (SIAs) (Cooter's Bog, Drakes Creek, Keiffer Prairie, Tancock Prairie, Whiskey Chitto), one scenic SIA (Malaudos Glen), one geological SIA (Bayou Luce); and one existing scenic SIA (Castor Creek). Standards and guidelines protecting SIAs are found in the Plan (FW-455 to FW-484). These SIAs are managed as an integral part of the Forest, with emphasis on protecting, enhancing, or interpreting its unique values.

The Forest manages two Research Natural Areas (RNAs) — 702 acres of Bayou Boeuf on the Evangeline Unit of the Calcasieu District and 1,797 acres of Cunningham Brake on the Kisatchie District. The Forest established these areas in 1975 and 1990, respectively. Both are bottomland hardwood forests in the Red River floodplain and feature cypress-tupelo swamps. Within RNAs, the Forest Plan allows road and trail construction and reconstruction if necessary to meet RNA objectives. Closing or obliterating existing roads or trails that do not contribute to RNA objectives are encouraged. Also, natural vegetation for obliteration can be used unless more intensive measures are required to mitigate adverse environmental consequences (Forestwide Guideline FW-393). No new RNAs have been established during the first 5 years of Plan implementation.

### 2. Riparian Areas

Streamside and riparian protection zones (SHPZs and RAPZs) and appropriate management practices within them, have been established for the Forest to protect or enhance riparian associated resource values and characteristics. These zones provide:

- Important wildlife habitat components (key areas) such as hard and soft mast producers, water, snags and den trees, edge, and a variety of foods and cover;
- Unique habitats for a broad diversity of plants, some of which are rare, uncommon, sensitive, or restricted to a more moist, cooler environment;
- Vegetative cover for aquatic habitats;

- **Corridors between habitat components within the home range of some species of wildlife and serve as important travel routes for nongame birds during migration; and,**
- **Genetic flow between potentially isolated populati**

**the northern portion of the post and land controlled by the Forest Service to the south, referred to as the Intensive Use Area (IUA). South of the Main Post is another area controlled by the Forest Service, referred to as the Limited Use Area (LUA). The Army uses both the IUA and the LUA under the terms of a special use agreement between Fort Polk and the Forest Service. The IUA is located in MA 9DL and the LUA is located in MA 6BL. Peason Ridge is a noncontiguous training area north of the Main Post consisting of lands controlled by the Army. The Forest Service controls four tracts (comprising 480 acres) within Peason Ridge. North of Peason Ridge is an area of 12,820 acres referred to as the Special Limited Use Area (SLUA) or, reflecting its shape, "Horse's Head." The SLUA is used for limited training by the JRTC and Fort Polk. The SLUA is located in MA 9E.**

**In 2004, the Army applied for and received a renewed Special Use Permit (SUP) authorizing activities within the IUA, LUA, and SLUA (***Final Environmental Impact Statement for 2nd Armored Cavalry Regiment Transformation and Installation Mission Support, Joint Readiness Training Center (JRTC) and Fort Polk, Louisiana, and Long-Term Military Training Use of Kisatchie National Forest Lands)***. The permit extends for 20 years, unless terminated sooner under specified conditions. The permit identifies types of activities by area, operating conditions, and management requirements, including monitoring needs.**

## *F. Management Areas / Management Area Direction*

**Chapter 3 in the Revised Plan defines management area and sub-management area goals, desired future conditions, and standards and guidelines. Forestwide goals, desired future condition (DFC), and standards and guidelines are defined in Chapter 2, Forestwide Direction. No major changes have occurred in the Plan's management area allocations.**

### 1. RCW Habitat

**Five Habitat Management Areas (HMAs), encompassing approximately 303,000 acres of pine and pine-hardwood stands have been established. The HMAs dominate the forested land area of all districts except the Caney, which has no HMA. The Forest's population objective was and remains 1,405 active RCW clusters. Land allocations and management direction (standards and guidelines) provide land managers with a range of activities and practices designed to aid in the recovery of the RCW while allowing management for other resources, including the restoration of naturally occurring forested landscapes. This management strategy is expected to result in a mosaic of habitats for a wide variety of vegetation and wildlife communities. Plan Amendment #5, the** *Recovery Plan Amendment***, signed in October 2005, made changes to incorporate new direction from the updated USFWS Recovery Plan guidance.**

## 2. Military Use

**The most significant change in terms of acreage allocation occurred in May of 2003 with the changes made by Amendment #2 to the Plan. This amendment re-allocated 4,593 acres of land in SMA 5CL (RCW/Native Community Restoration) to SMA 9DL (Military Intensive Use) as a result of the expansion of the Claiborne Air to Ground Weapons Range. The additional acres in the Claiborne Range were needed to increase the size of the Safety Footprint in order to accommodate the Air Force's planned use by larger, higher-flying bombers. Although, timber is occasionally harvested within the area, sub-management area direction within SMA 9DL precludes its use for regulated timber production.**

**In 2004, the Army applied for and received a renewed Special Use Permit (SUP) authorizing activities within the Intensive Use Area (IUA), the Limited Use Area (LUA), and the Special Limited Use Area (SLUA) (***Final Environmental Impact Statement for 2nd Armored Cavalry Regiment Transformation and Installation Mission Support, Joint Readiness Training Center (JRTC) and Fort Polk, Louisiana, and Long-Term Military Training Use of Kisatchie National Forest Lands)***. The IUA and LUA are located on the Vernon Unit of the Calcasieu District and the SLUA is located in the southwestern portion of the Kisatchie District. The permit extends for 20 years, unless terminated sooner under specified conditions. The permit identifies types of activities by area, operating conditions, and management requirements, including monitoring needs.**

## 3. Off-road Use

**In the past, Kisatchie National Forest has been open to motor vehicles. Following the policy of "open unless posted closed", most logging roads have remained open to motorized public use. Motorized recreation trails have been designated for trail riding, but there were no restrictions or prohibitions for off-road or off-trail motorized use except in developed recreation areas, military use areas, wilderness areas, special interest areas, and other areas posted "closed".**

**A decision on a proposed Forest Plan Amendment (***Kisatchie National Forest Travel Management Project***) is foreseeable in the winter of 2007. This proposal would eliminate motorized cross-country travel forestwide to comply with the 2005 National Travel Management Rule[29]. The proposal includes changes to the designations of authorized system routes and areas under Kisatchie National Forest jurisdiction. Routes and areas under other jurisdictions would not be affected. The proposed action (Alternative 3) also includes the addition of designated camping corridors on the Caney District and the elimination of night-riding forestwide**

---

**[29] In November 2005, the National Travel Management Rule was published requiring each national forest and grassland to designate those roads, trails, and areas open to motor vehicle use; and motorized travel off the designated routes and areas will be prohibited. The National Rule allows four years for implementation to be completed.**

## *G. Monitoring and Evaluation*

**Monitoring and evaluation provide information to determine whether programs and projects are meeting forest plan direction. Overall direction for the monitoring and evaluation of forest plans is found in FSM 1922.7; FSH 1909.12,6; and 36 CFR 219.12(k). Chapter 5 of the Revised Plan provides information on how the implementation of the Revised Forest Plan is monitored and evaluated.**

**When we monitor how well we are meeting our Forest Plan desired future conditions, goals and objectives, and standards and guidelines we are monitoring how effectively we have addressed the public issues and management concerns raised during the forest planning process. As detailed in Chapters 1 and 2 of the FEIS, public issues and management concerns were the foundation upon which desired future conditions, goals and objectives, and standards and guidelines were established. New issues that arise during the implementation of this Revised Forest Plan may result in additional monitoring items being added to our annual monitoring program.**

**Three types of forest plan monitoring were conducted: Implementation monitoring; Effectiveness monitoring; and Validation monitoring.**

*Implementation monitoring* **determines if plans, prescriptions, projects, and activities are implemented as designed and in compliance with forest plan objectives, requirements, and standards and guidelines. Evaluation of implementation monitoring may require adjustment of prescriptions and targets or changes in plan or project administration. (FSM 1922.7)**

*Effectiveness monitoring* **determines whether plans, prescriptions, projects, and activities are effective in meeting management direction, objectives, and standards and guidelines. Evaluation of the results of effectiveness monitoring is used to adjust forest plan objectives, targets, prescriptions, standards and guidelines, conservation practices, mitigation measures, and other best management practices and could result in change to or amendment of the forest plan. (FSM 1922.7)**

*Validation monitoring* **is designed to ascertain whether the initial assumptions and coefficients used in development of a forest plan are correct or if there is a better way to meet forest planning regulations, policies, goals, and objectives. Evaluation of this type of monitoring can result in amendment of forest plans and may be used to recommend changes in laws, regulations, and policies that affect both the plan and project implementation. (FSM 1922.7)**

**Monitoring task sheets similar to the example in Figure 5–2 in the Revised Plan detail how information was acquired to answer monitoring questions. Task sheets were used to further develop the details, priorities and budgeting for monitoring. Changes to task sheets do not require an amendment of the Forest Plan, unless the desired future conditions, goals and objectives, or standards and guidelines being monitored change, or the monitoring questions and/or monitoring level changes. Currently, the Forest has 84 different task sheets that address the**

monitoring questions applied to each of the Plan's goals and objectives. The task sheets have been used each year to produce the information contained in the annual M&E Report. A summary of the task sheets can be found in Appendix F of the Plan.

## 1. Concerns Relevant to Monitoring (2000 to 2005)

The results of monitoring over the first 5 years of Revised Plan implementation are described in detail in Sections 4 and 5 of this document. During this period, however, some of the Plan's direction, especially standards and guidelines, have brought about some concerns both internally (within the Forest Service) and externally (the public). Those items are listed below; along with a description of the concern/issue:

### a) Effectiveness

Objective 6–2: Utilize prescribed fire in fire-dependent ecosystems — including the Kisatchie Hills Wilderness, to maintain natural plant communities by varying the timing, frequency, and intensity of fire. Apply prescribed fire on 80,000–105,000 acres annually, with 10–20 percent of the area burned during the growing season. Focus growing season burning on longleaf pine landscapes.

Concern: There have been some concerns raised about a perceived 20% limitation on growing season burning. Some managers feel that this number should be higher (if it is being considered a maximum) in order to more effectively meet restoration goals. In many areas, sweetgum sprouting has become a problem and some feel that dormant season burns only aggravate the sweetgum problem. They feel that only growing season burns will help.

FW–067: Prescribed fire frequencies in the Forest's four major landscapes are as follows:

Longleaf pine: 2–5 years
Shortleaf pine / oak-hickory: 5–10 years
Mixed hardwood-loblolly pine: 10–20 years
Riparian: none

More or less frequency may be required in certain plant communities as prescribed by MA and SMA direction or by site-specific environmental analysis. (KNF) (GUIDELINE)

Concern: There is a concern on one district (Catahoula) that a 2-5 year burning cycle may be too often on longleaf sites that contain predominately loblolly pine. Growing season burns are especially damaging, even killing some longleaf trees. Not only is there loss to timber, but this could also further limit sparse foraging habitat inside HMAs. On the other hand, managers on a different district (Kisatchie) felt that a 2-5 year burning cycle was not often enough, that some areas could benefit from more frequent burning.

**FW–589:** Do not use regeneration harvest methods on any area suitable for timber production until its growth reaches the culmination of mean annual increment, except when harvesting damaged or sparse stands, or sites in imminent danger from insect or disease attack. (KNF) (GUIDELINE)

**Concern:** There is a concern that we are bypassing a good opportunity to restore longleaf pine to sites occupied by relatively young stands of off-site slash pine. The long-term gains in habitat for RCW may outweigh the need to maximize investment benefits or minimize short-term RCW foraging losses.

**FW–722:** Determine the number of recruitment stands to be established within compartments, or portions of compartments, inside an HMA, based upon one cluster site or recruitment stand per: (KNF) (GUIDELINE)

- 200 acres of pine and pine-hardwood on landtype associations (LTAS) historically dominated by longleaf pine forests, LTAS 1,2,5,6.
- 250 acres of pine and pine hardwood on the Fort Polk Military Intensive Use Area.
- 300 acres of pine and pine hardwood on LTAS historically dominated by shortleaf pine / oak-hickory forests, LTA 3.
- 400 acres of pine and pine hardwood on LTAS historically dominated by mixed hardwood- loblolly pine forests, LTA 4

**Concern:** There is a concern that the number of recruitment stands needed may be too low where managing small sub-populations of RCW.

**FW–826 [as example]:** Limit regeneration patch size (evenaged or two-aged systems) to 40 acres in MILs 1 and 2 and 25 acres in MILs 3 and 4. An exception to this is the restoration of longleaf pine beyond 1.5 miles of an active cluster, where the maximum opening size will be 40 acres. (KNF) (GUIDELINE)

**Concern:** The 25-acre limitation on evenaged patch sizes has raised questions about whether we can effectively regenerate longleaf on such a relatively small area. There is a concern that such small openings, usually surrounded by seed-producing loblolly pine, will get seeded in with loblolly. The costs for treatments to remove loblolly from these areas planned for longleaf may outweigh the benefit. (Note: this 25-acre limitation occurs repeatedly throughout the MA and SMA direction within the HMAs).

b) Implementation

**FW–127:** Permit pinestraw collection only in Management Area 1 and stands in other management areas which have not been restored to their native forest types (i.e. slash or off-site loblolly pine plantations). Permit pinestraw collection only once in 10 years on any specific site. (KNF) (STANDARD)

**Concern:** The costs to prepare NEPA documentation and administer this special use appear to be too high to justify the need for allowing this practice.

**<u>FW–144:</u> Salvage dead or dying trees creating a potential hazard to life or property within developed recreation areas, adjacent to roads, trails, or utility corridors, or in prescribed burn units. (KNF) (GUIDELINE)**

**<u>Concern:</u> This direction has not been interpreted consistently among Forest managers. Since this guideline is grouped under the "Salvage" subheading in Chapter 2 of the Plan, and is grouped with other guidelines that specifically mention SPB, a question exists about whether this guide applies to only SPB salvage, or also to 'non-SPB' salvage trees. Another concern asked whether the areas mentioned in the guideline are the *only* instances in which we would salvage, or are these examples only. If so, then how would we handle catastrophic events, dead/dying trees along private properties, oil well sites, administrative sites, and radio/microwave towers?**

**<u>FW–510:</u> Within a zone at least 50 feet from a scour channel and extending at least 50 feet from the end of the channel, plan and conduct forest management activities to protect or enhance riparian associated resource values and characteristics. Riparian associated resources are defined as the plant and animal habitats and mesic sideslope communities that are found within or adjacent to riparian areas or scour channels. Within this zone, which shall be called a streamside habitat protection zone (SHPZ), prohibit the following practices: (KNF) (STANDARD)**

**Clearcutting, seed-tree, and shelterwood regeneration methods**

**Salvage of single / double trees**

**Removal of overstory or understory vegetation within 5 feet of the scour channel**

**Mechanical site preparation**

**Log decks or landings**

**Extraction of common variety minerals**

**<u>Concern:</u> There is concern that this direction may not provide enough protection along Louisiana pearlshell mussel streams, that instead of using 50 feet minimum (as prescribed for SMA 1C) as a rule, slope and topography should be used. Another concern with this standard is why only single/double trees are prohibited instead of prohibiting salvage altogether within the SHPZs.**

**FW–546: Prohibit or limit public use in Stuart Genetic Resource Management Area (GRMA). Allow dispersed recreation, such as hunting, in the isolation strip. (KNF) (STANDARD)**

**<u>Concern:</u> Dispersed recreation, should *not* be allowed in the isolation strip in order to protect workers in the orchard during hunting seasons.**

**<u>FW–705:</u> During TSI, WSI, and site preparation, selected groups of overstory and understory vegetation are protected and managed to assure a variety of soft-mast, hard mast, and cover species. During site preparation, active and potential den trees are retained in clumps (at least 1/2 acre per 20 acres) if they are not provided in adjacent stands unsuitable for timber production, inclusions, or**

**streamside management zones. During TSI and WSI, all recognized den trees are protected. In addition, during TSI, WSI, and site preparation, an average of at least 2 standing snags are retained per acre — large hardwoods greater than 12 inches when possible. Appropriate treatments are used to create snags where they are lacking. (VM-18) (GUIDELINE)**

**Concern: The definition for the term 'snag' has been phrased "too vague". Questions asked include: what is their primary purpose; why so many; only apply to hardwoods; and should they be equally spaced or clumped in areas they naturally exist? Also, there is disagreement on whether the Plan's definition of a snag is the same as that in the USFWS Recovery Plan guidance.**

**FW–714: The established HMA delineations and resulting RCW population objectives will remain stable. Analyze proposed adjustments to individual HMA boundaries and population objectives during the 5-Year Review process of the Forest Plan. (KNF) (GUIDELINE)**

**Concern: Some of the outlying RCW clusters used during the original delineation of the HMA on the Winn District no longer exist. Should the HMA boundary be re-drawn to either reduce the HMA size, or extend it over into areas better suited form RCW expansion and development?.**

**SMA–1C–01: Use seed-tree and shelterwood as the primary even-aged regeneration methods to regenerate all upland forest types. Maximum size of a regeneration opening is 40 acres. (KNF) (GUIDELINE)**

**Concern: There have been concerns about whether clearcutting is an acceptable management tool within MA 1, since the guideline does not specifically address this type of harvest.**

**MA–10–24: Maintain the river periodically to remove sections of fallen trees to facilitate canoeing or boating. Remove sections of debris only wide enough to allow the passage of small boats or canoes. (KNF) (GUIDELINE)**

**Concern: The guidance for cleaning/snagging may not be consistent with the requirements or limitations set up for a canoe trail on a State Scenic Stream.**

**MA–13–55: Pursue an easement to construct and maintain a permanent fire break adjacent to the Wilderness on private lands when funds are available. (KNF) (GUIDELINE)**

**Concern: There was a concern that this guideline is not being actively pursued. Managers on the Kisatchie District felt that this is needed to provide an effective safety barrier for private properties along the boundary of the Wilderness. It would also serve as a buffer to reduce spread of SPB onto private lands during a SPB epidemic.**

**c) Other**

**MANAGEMENT AREA 11: NATIONAL WILDLIFE MANAGEMENT PRESERVES DESCRIPTION This management area is allocated to approximately 70,000 acres on the Forest. It consists of the National Catahoula**

**and Red Dirt Wildlife Management Preserves and occurs on the Catahoula District (21 percent); the Winn District (30 percent); and the Kisatchie District (49 percent).**

**<u>Concern:</u> The boundary of the Red Dirt WMP should be examined to see if it can be expanded to include the isolated blocks of Forest Service lands in its northeast corner. This area is bordered by either private lands or the WMP on all sides.**

**<u>SUB-MANAGEMENT AREA 11DS:</u> DESIRED FUTURE CONDITION: The overstory has a more or less open canopy which is moderately to densely stocked with variable-sized pines and hardwoods. Various shrubs are present and, in combination with regenerating overstory species, form a fairly thick midstory and understory component.**

**<u>Concern:</u> There is a concern that "…fairly thick midstory…" does not translate into high quality wildlife habitat, especially for RCW. A variation suggested was to say "… some midstory and understory …" instead, or take the words "… midstory and " from the sentence.**

## 2. Foreseeable Changes (2008 Planning Rule)

**In May of 2007, the Forest Service gave notice of its intent to prepare an environmental impact statement to analyze and disclose potential environmental consequences associated with a new National Forest System land management planning rule. This environmental impact statement is being prepared in partial response to an order dated March 30, 2007, in which the United States District Court in** *Citizens for Better Forestry et al.* **v.** *USDA* **(N.D. Calif.) enjoined the USDA from implementation and utilization of the National Forest land management planning rule published in 2005. Comments concerning the scope of the analysis were requested by June 11, 2007. The final environmental impact statement is expected in February, 2008.**

**In August 2007, a 2007 Proposed Planning Rule appeared in the Federal Register. Comments must be received in writing by October 22, 2007.**

**Below are some features of the proposed rule, as it pertains to Forest Service planning in general and to monitoring in particular:**

**Information, science, and unforeseen circumstances evolve during the 15-year life expectancy of a plan. It must be possible to adjust plans and the plan monitoring program and to react to new information and science swiftly and efficiently. The proposed rule establishes an adaptive management process with a priority on monitoring to allow timely changes to plans to respond to changing conditions and new information to ensure that clean air, clean water, and abundant wildlife remain available.**

**Desired conditions are often a focus of the monitoring program. The Agency will identify species-of-concern and species-of-interest (§ 219.16). Where ecological conditions for these species are identified as desired conditions, the habitat could be monitored to assist in avoiding future listing of these species.** *Species-of-*

*concern* **are defined as species for which the responsible official determines that management actions may be necessary to prevent listing under the Endangered Species Act.** *Species-of-interest* **are species for which the responsible official determines that management actions may be necessary or desirable to achieve ecological or other multiple use objectives.**

**An environmental management system (EMS) approach is planned to enhance adaptive planning and be part of the land management framework. Each administrative unit will implement their own EMS, which includes the aspects and components developed under the sustainable consumption and land management focus areas of the national EMS framework. Additionally, each unit will either include additional local aspects and components to the unit EMS or determine that the national aspects and components are sufficient to meet local needs. Each unit will monitor and collect data for all components of its EMS. Data collected and reviewed at the unit level for the sustainable consumption and land management focus areas will be to a national standard, providing the ability to aggregate this information at the regional and national levels. The local data, as well as information developed under the national framework, will inform future decisions in the adaptive EMS cycle on the local unit.**

**The proposed rule requires three types of evaluation reports: Comprehensive evaluations, evaluations for plan amendments, and annual evaluations of monitoring information (§ 219.6). Evaluation reports: (1) Document existing social, economic, and ecological conditions and trends; (2) will be available to the public and included in the plan document or set of documents; (3) are prepared for plan development, plan amendment, and plan revision; (4) use a systematic and interdisciplinary approach (§ 219.7(a)); and (5) consider environmental amenities and values along with economic and technical considerations (§ 219.10).**

**The proposed rule allows the monitoring program to be changed with administrative corrections, instead of amendments, to more quickly reflect the best available science and account for unanticipated changes in conditions. The responsible official will notify the public of changes in monitoring programs, and the responsible official can involve the public in a variety of ways to develop program changes.**

## *H. Annual Budgets*

### 1. Overview

**The incremental implementation of Forest Plan management direction is accomplished through the annual program of work. Since outputs are not hard and fast decisions within a Plan, all conditions required for producing outputs, such as annual budget appropriations, are not controlled entirely by the Forest. Outputs and activities in individual years can vary significantly, depending on**

**available funds. Upon approval of a final budget for the Forest, the annual program of work is adjusted to the final budget and then carried out.**

**Almost as soon as implementation of the Revised Plan began (January 2000), national and regional changes in budget planning and accounting began. Many of the assumptions used in developing the estimated annual budgets under the Revised Plan began to lose relevance, making true comparison difficult. Some of the changes that affected comparisons are:**

**At the time the Forest Plan Revision was being prepared, management programs, practices, and uses scheduled in the Plan were linked to a multi-year program budget proposal that identified funds necessary to implement the Forest Plan. The budget program proposal was then used to request and allocate funds needed to carry out the planned management direction. Beginning in the winter of 2001 the Forest began converting over to the Budget Formulation and Execution System (BFES) to formulate the FY2003 budget, and in the summer of 2001, to execute the FY2002 budget. The change was initiated to address Congressional concerns that the Forest Service budgets were not linked to field capabilities nor tied to our Strategic Plan and national priorities. This change was also part of the recommendations from the National Academy of Public Administration on Forest Service management as well as GAO and OIG recommendations on financial and program management. Under BFES, budget formulation begins at the Forest level rather than at the regional or national level. BFES is designed for use at the "unit" level to establish field capability and to make field level requests. These requests are rolled up to the regional and national levels and form the basis for the agency's budget request.**

**Beginning in FY2000, the Forest changed from the Central Accounting System (CAS) to the Foundation Financial Information System (FFIS). Due to this fundamental change in accounting structure, annual budget estimates made in the Plan Revision (done in 1998 and 1999) are difficult to compare to annual budgets shown in the following budget items' groupings. Also, as previously mentioned, the BFES process began being used during the first years of Plan implementation. It may also account for some of the differences in how funding levels were implemented in the FY2000 to FY2005 annual budgets. In addition, new budget line items (BLIs) were introduced and others were eliminated during these five budget years, making it hard to make truly equivalent comparisons.**

**NFGA stopped being a single EBLI after FY2000. It was replaced and supplemented into 'POOL', which added overhead budgeted costs for both direct (CP01 and most of CP05) and indirect (other cost pools) costs. The apparent budget jump from FY2000 to FY2001 can be attributed to this. It is therefore inappropriate to compare FY2000 NFGA and Plan Budget NFGA to the rest of the POOL budget years.**

**In FY2004, CWKV, POOL, CWFS, and Visitor Maps were all higher than normal. Part of the overall increase can be attributed to an increase of $80,000 for CWFS "engineering services" for that year.**

From FY2001 thru FY2005, cost pool funds were determined by the Forest. These cost pool budgets took dollars from project dollars, so as cost pools went up, there was proportionately less available for project-level expenditures.

The method used for calculating the amount of CWKV costs in the following tables is different from how it is currently done (after FY2005). However, in order to be consistent with the method used for estimating costs for the Plan, CWKV costs shown in the following tables have been left as they were reported in the annual M&E reports. Beginning in the FY2006 M&E Report, the CWKV portion of costs may look like it has dropped in most budget groups because the reported CWKV allocation will no longer include the portion of CWKV funds being applied to the POOL budget lines (part of General Administration costs).

## 2. Comparison of Planned and Annual Budgets (FY2000 - FY2005)

Table C–1 in the Revised Plan displayed the historic (FY1999) annual budget and the estimated average annual budget expected to achieve the Revised Plan goals and objectives during the first decade of implementation. Overall, the planned budget was approximately 33% higher than the historic budget level. Some areas, like minerals and geology management, were expected to be lower; however, most areas were expected to increase in order to fully implement the Revised Plan objectives.

The Revised Plan also expected the most significant reduction in planned accomplishments might occur in recreation construction projects, threatened and endangered (T&E) species habitat management, and heritage resource management. If budgets stayed at the current level or decreased, proportionately fewer recreation construction projects would occur; T&E habitat enhancement projects like prescribed burning and midstory removal would be expected to occur less often; and inventory and protection of heritage resources would not be fully implemented.

The timber management budget (NFTM) expected in the Revised Plan was approximately 17% higher than under the FY1999 budget. This occurred because the FY1999 timber volume output of 9.8 MMCF was lower than the average allowable timber sale quantity estimated for the Revised Plan (13.2 MMCF). The Forest predicted that if timber program budgets remained the same or decreased, less intensive forest management methods would be used or possibly deferred. This could lower overall forest productivity, slow down the rate of planned restoration, and maybe adversely affect forest health.

Figure 10 below compares the annual average for most of the budget groups over the first 5 years of Revised Plan implementation and compares it to what the Revised Plan estimated as an annual average over the 10-year Plan period. Overall, and as expected, most budget levels stayed close to their historic annual averages, which in most cases were below the Plan's estimates for full implementation.

**However, for some Plan budget groups the differences in average annual budget were either unpredictably low or high. The largest shortfalls in budget needs occurred for Wildlife and Fish Management (55%), Forest Products (40%), and Forest Soil/Water/Air and Vegetation Management (61%). The largest increases over planned budget needs occurred for FS Fire Protection (164%) and General Administration (127%).**

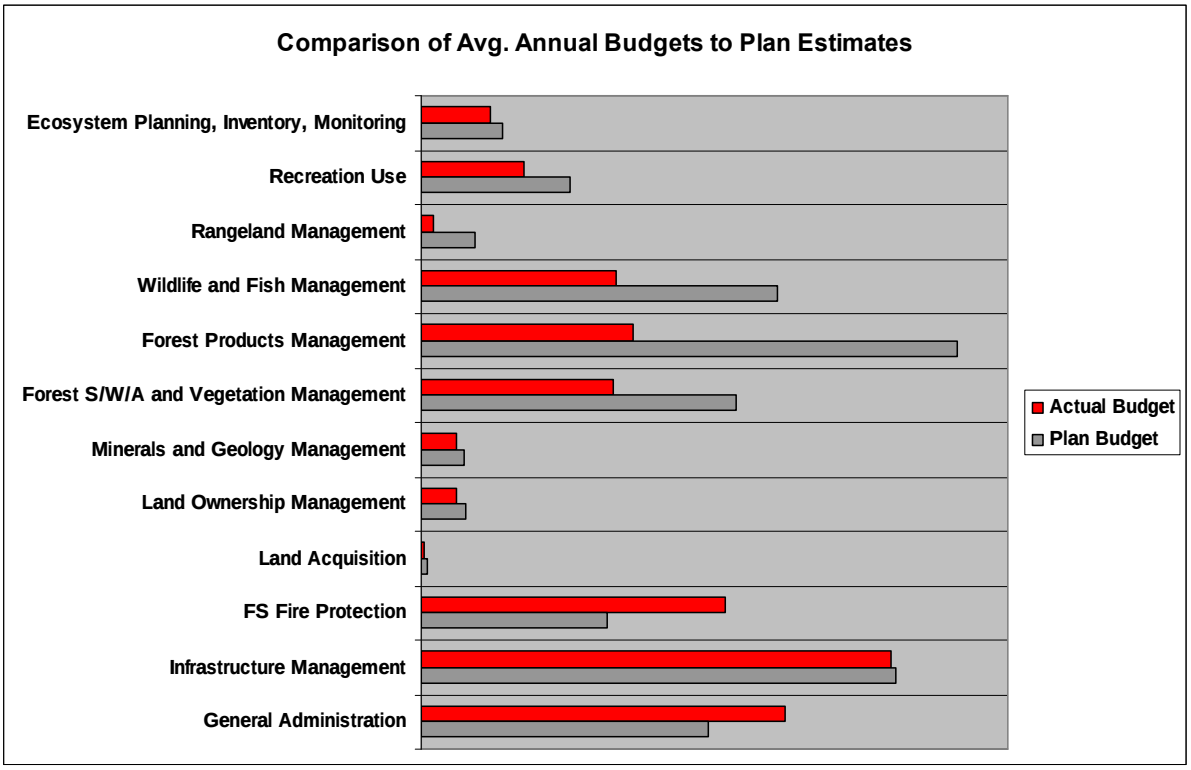



**Figure 10**

**In the following sets of figures, the annual fluctuation in budgets can be seen.**

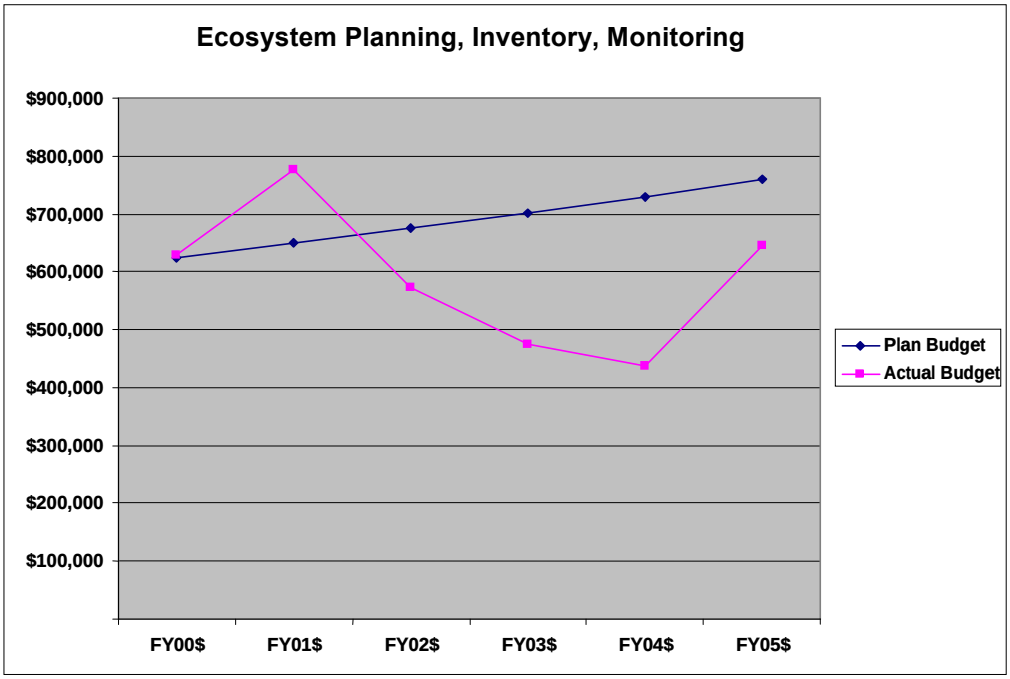



Figure 11

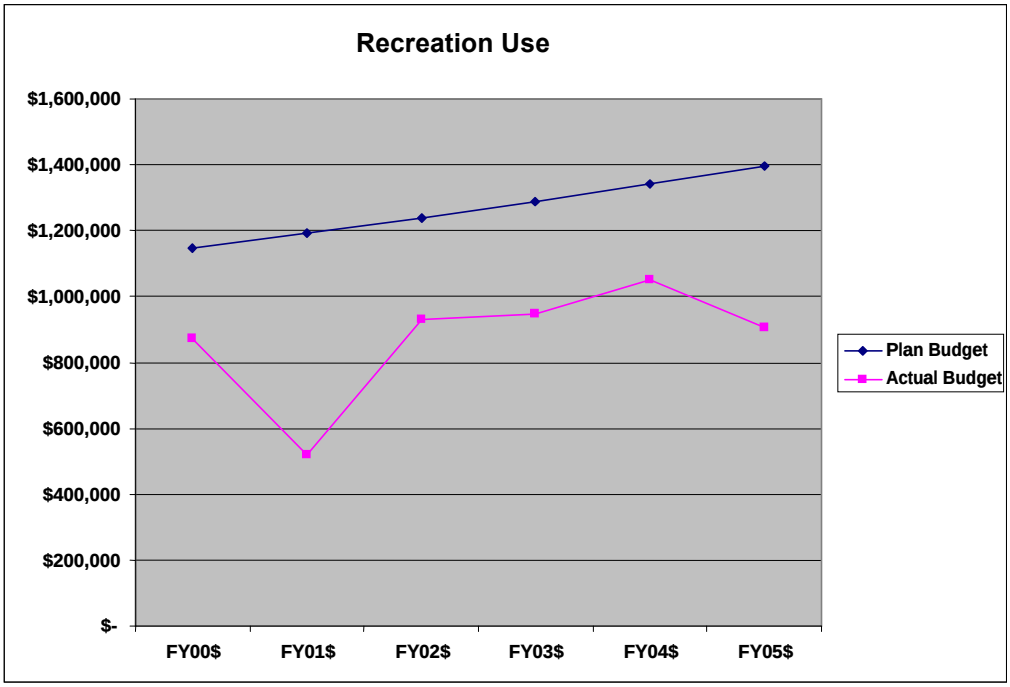



Figure 12

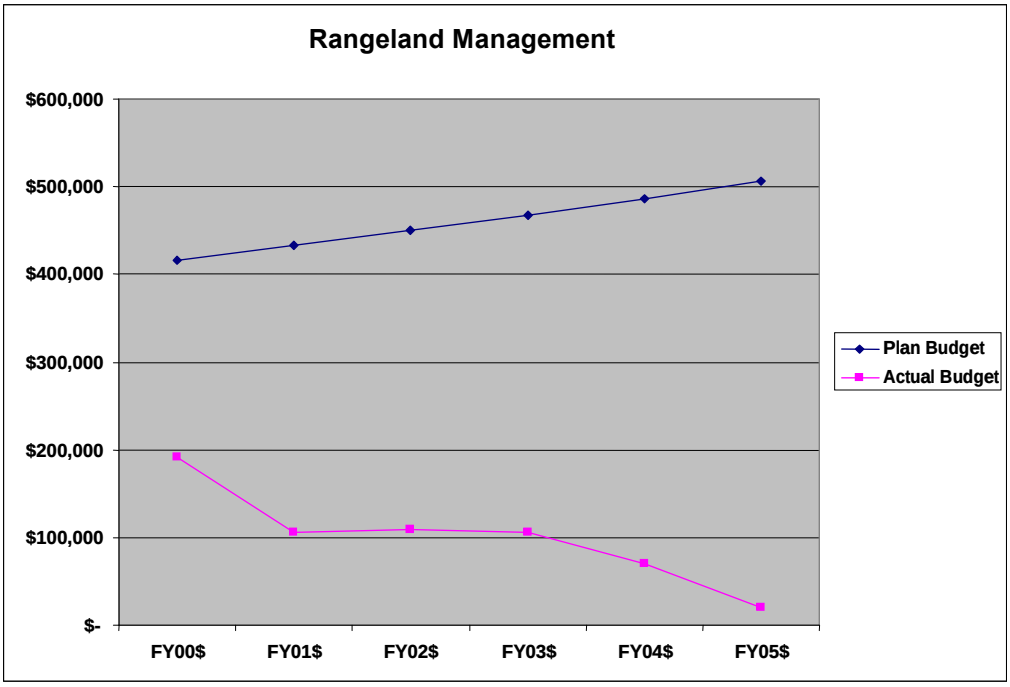



Figure 13

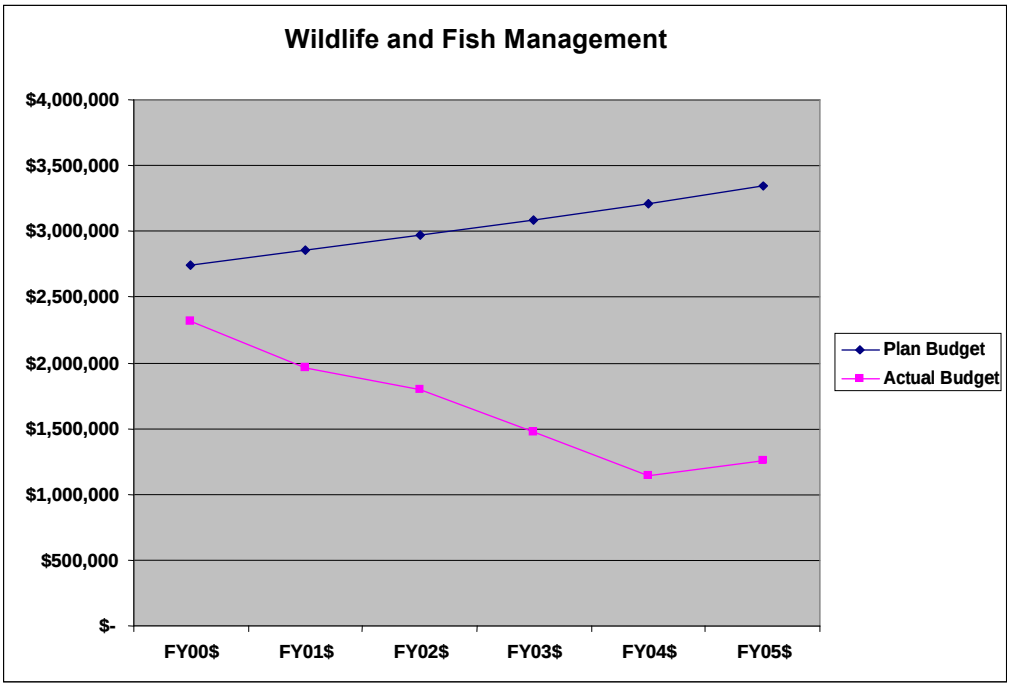



Figure 14

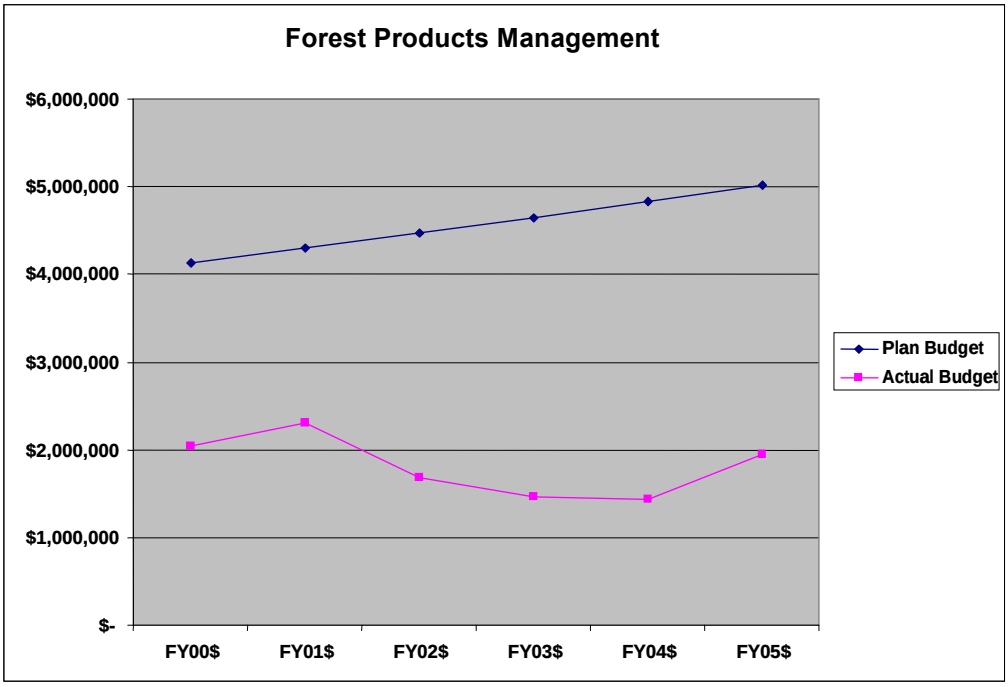



Figure 15

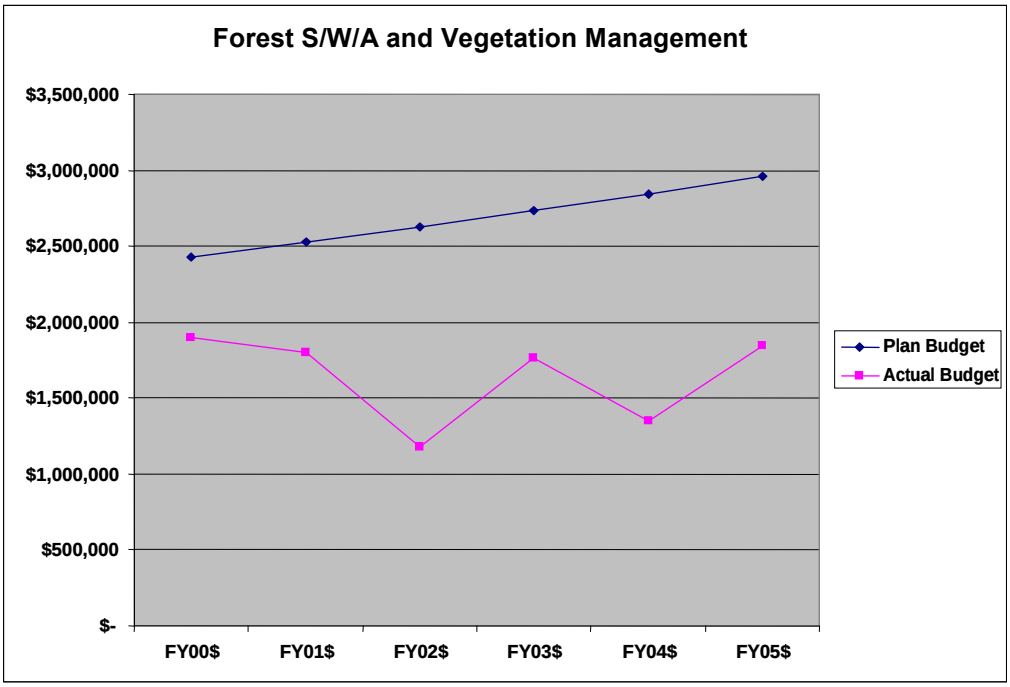



Figure 16

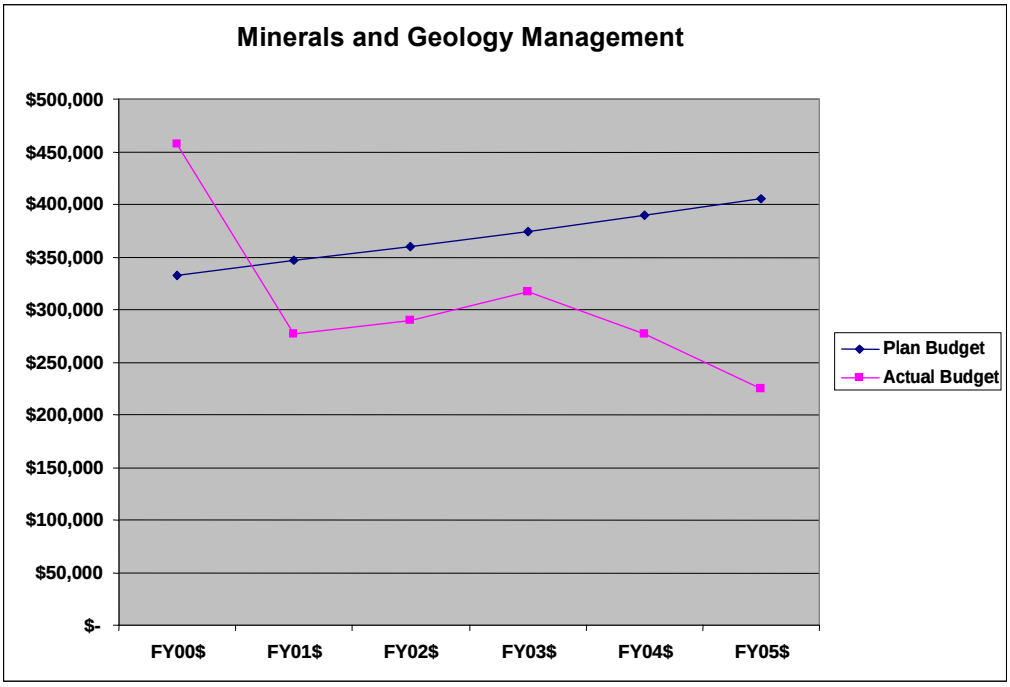



Figure 17

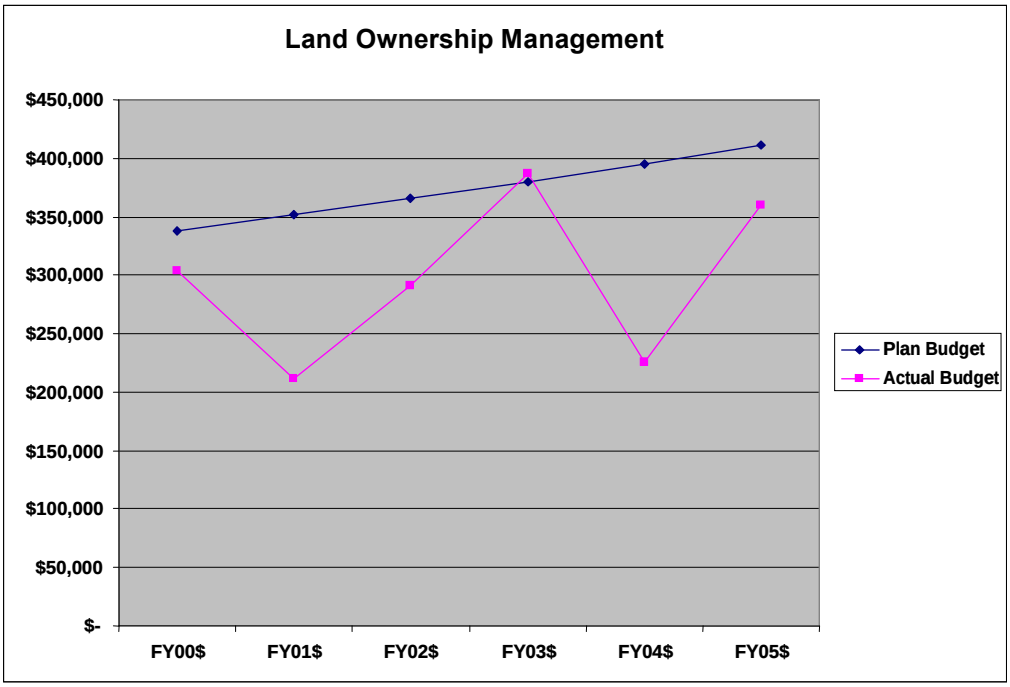



Figure 18

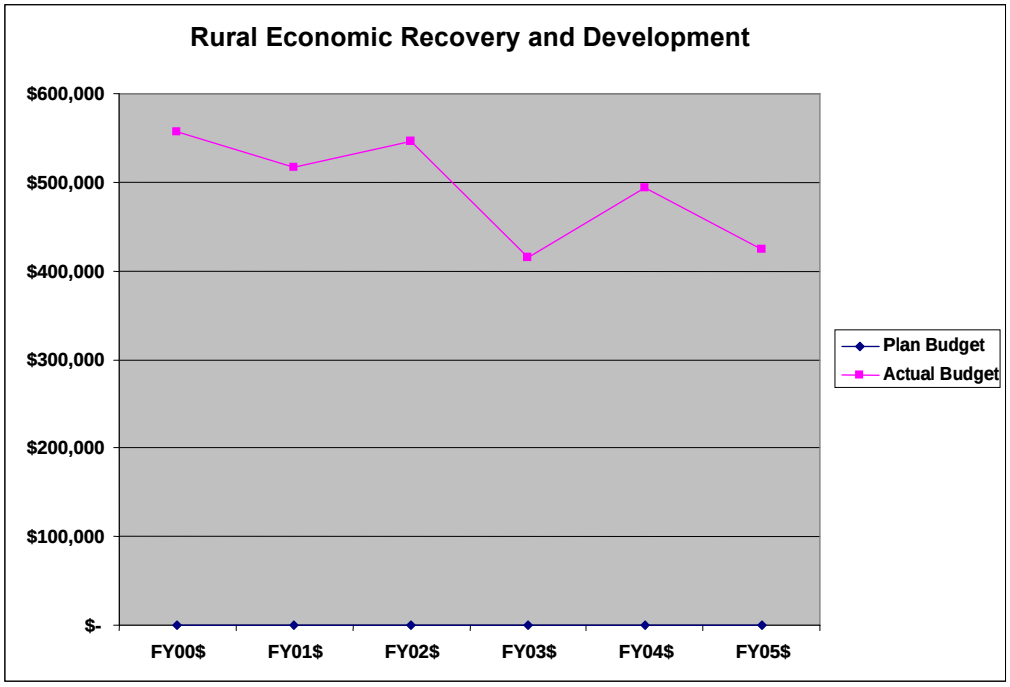



Figure 19

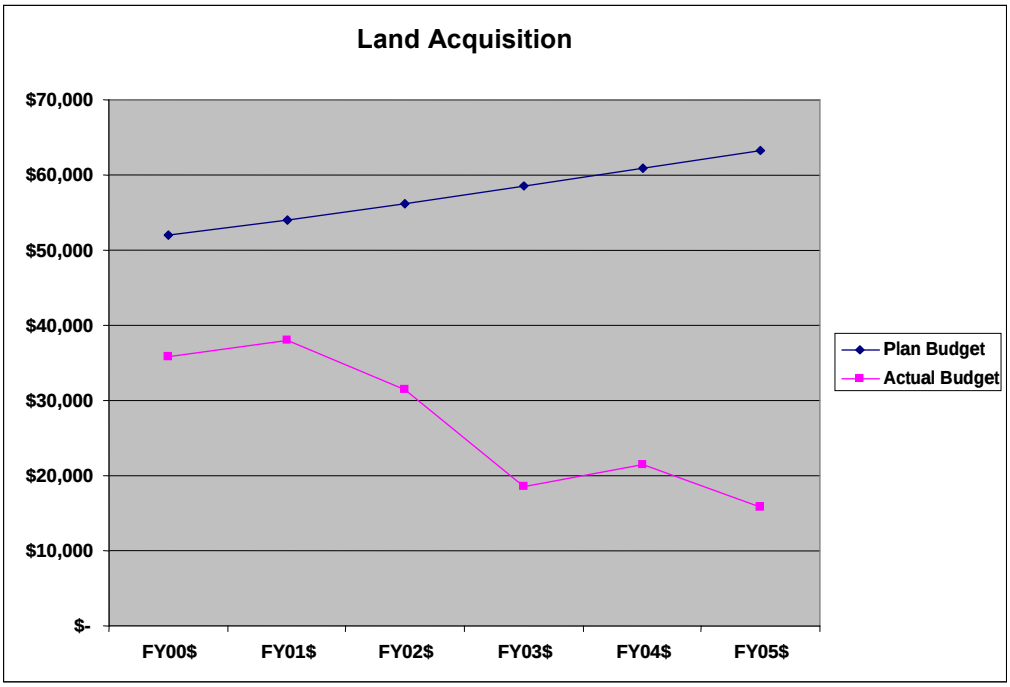



Figure 20

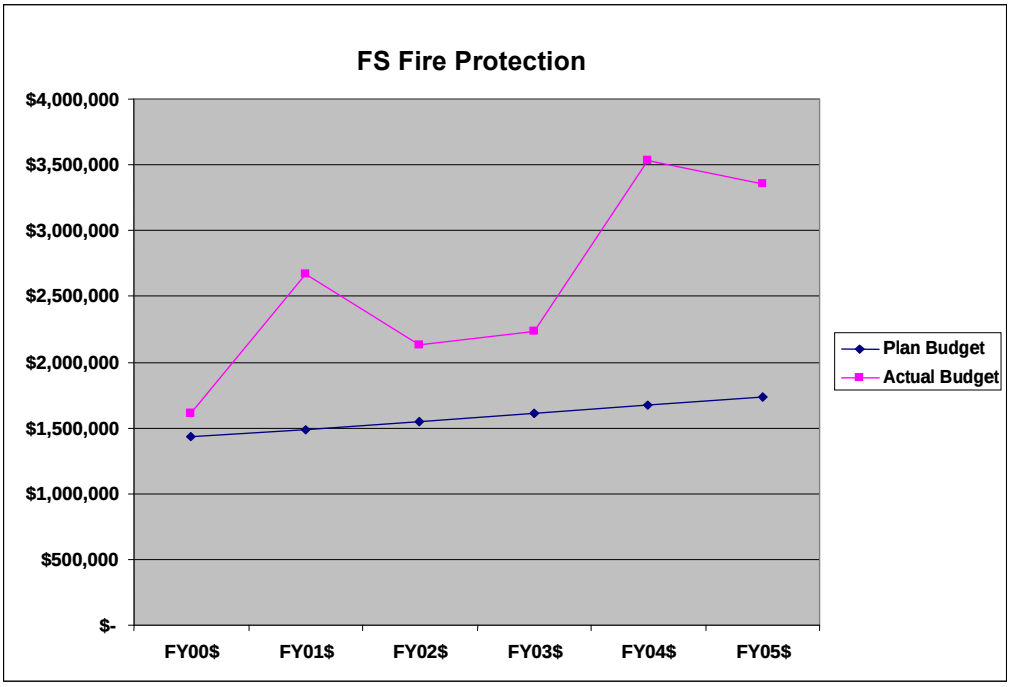



Figure 21

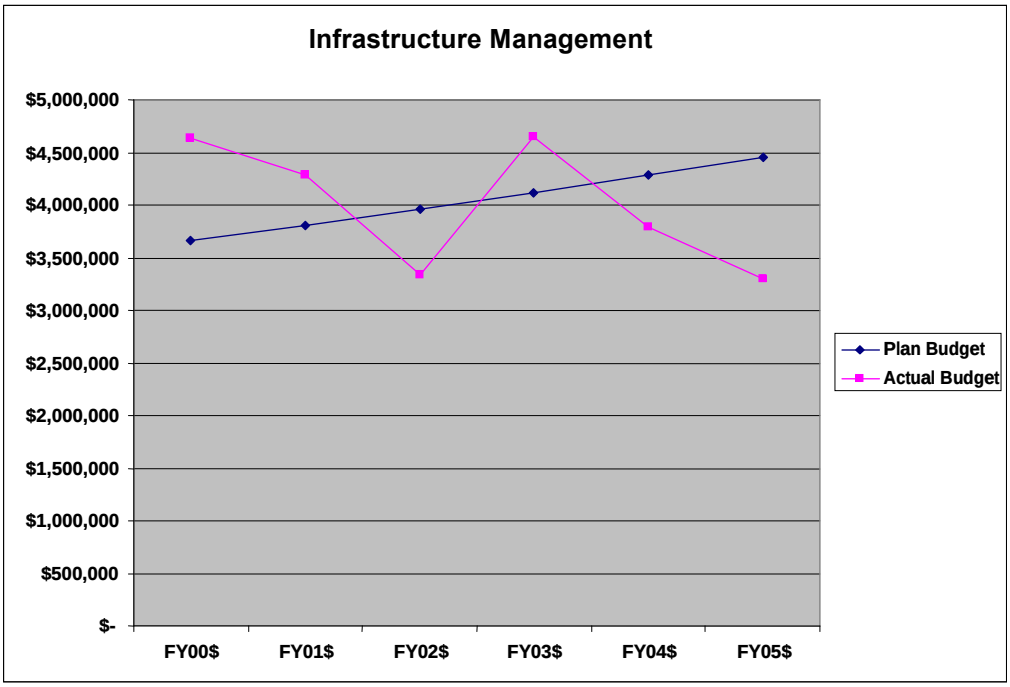



Figure 22

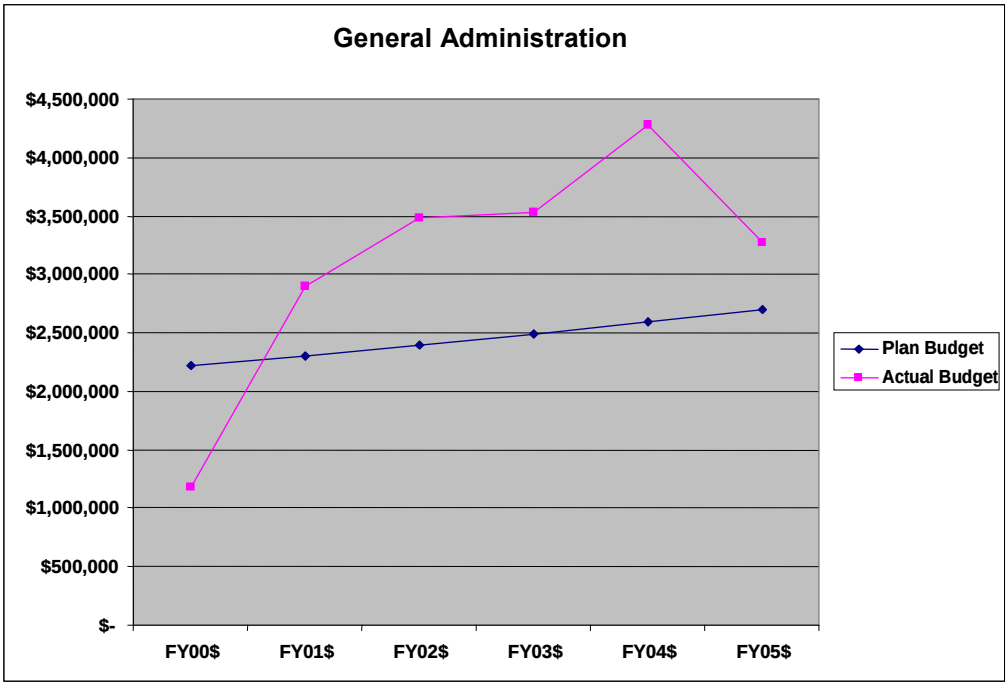



Figure 23

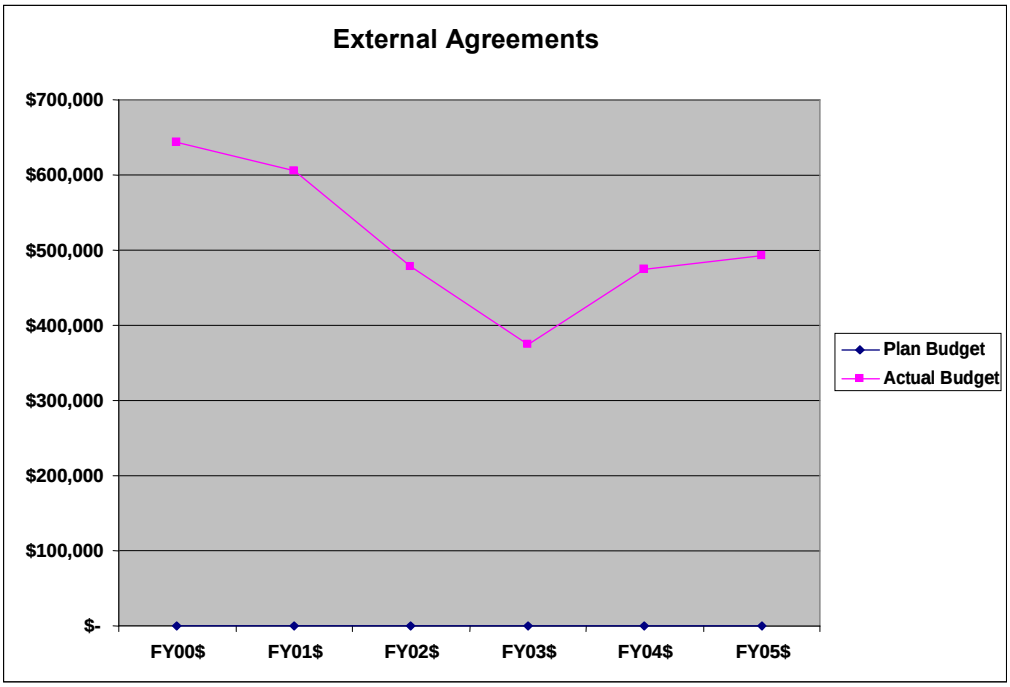



Figure 24

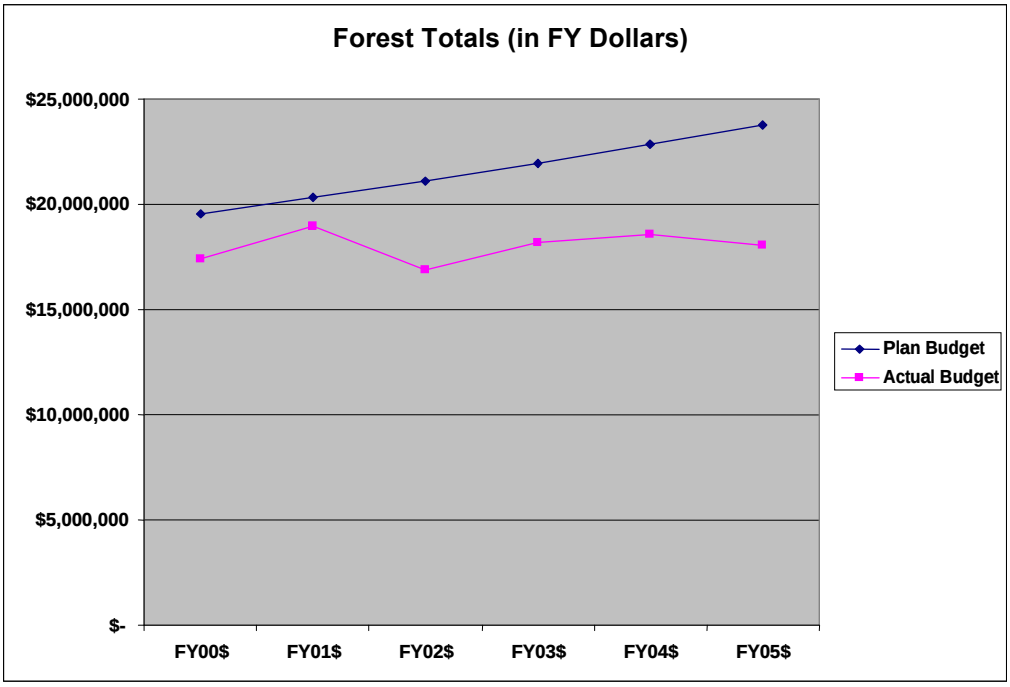



Figure 25

**If budget levels stay consistently the same as for the first five years of Revised Plan implementation, a reduction in overall Plan outputs should be expected, especially for wildlife/fish management, forest products, and vegetation management.**

# VIII. Science Consistency

## *A. Documentation of Best Available Science*

**Planning teams are required to "integrate knowledge of the physical, biological, economic and social sciences, and the environmental design arts in the planning process" (§ 219.5(a) of 1982 planning rule). The proposed 2007 Planning Rule requires the responsible official to take into account the best available science. The Agency proposes the words "take into account" because this term better expresses that formal science is just one source of information for the responsible official and only one aspect of decision-making.**

**The proposed 2007 Planning Rule states that the responsible official may use independent peer reviews, science advisory boards, or other appropriate review methods to evaluate the application of science used in the planning process. Forest Service directives (FSH 1909.12, chapter 40) set forth specific procedures for conducting science reviews.**

**The Agency is committed to taking into account the best available science in developing plans, plan amendments, and plan revisions as well as documenting the consideration of science information. Under this proposed rule, the**

**responsible official must: (1) Document how the best available science was considered in the planning process within the context of the issues being considered; (2) evaluate and disclose any substantial uncertainties in that science; (3) evaluate and disclose substantial risks associated with plan components based on that science; and (4) document that the science was appropriately interpreted and applied. Any interested scientists can be involved at any of the public involvement stages (36 CFR 219.11 of proposed 2007 Planning Rule).**

**With the above in mind, the following recommendations have been developed (June 21, 2007 Memo to Regional Planning Directors) for documenting consideration of best available science in planning and project level environmental analyses:**

- **What constitutes best available science might vary over time and across scientific disciplines. As a general matter, we show consideration of the best available science when we insure the scientific integrity of the discussions and analyses in the project NEPA document. Specifically, the NEPA document should identify methods used, reference scientific sources relied on, discuss responsible opposing views, and disclose incomplete or unavailable information, See 40 CFR, 1502.9 (b), 1502.22, 1502.24.**
- **The project record should reference all scientific information considered: papers, reports, literature reviews, review citations, peer reviews, science consistency reviews, results of ground-based observations, and so on. The specialists report in the record should include a discussion substantiating that consideration of the aforementioned material was a consideration of the best available science.**
- **The responsible official should include a statement in the record of decision, decision notice, or decision memo showing consideration of the best available science as the basis for the decision. For example: "My conclusion is based on a review of the record that shows a thorough review of relevant scientific information, a consideration of responsible opposing views, and the acknowledgment of incomplete or unavailable information, scientific uncertainty, and risk" and then briefly mention specific things from the record.**

**In the preparation of this 5-Year Review of the Revised Forest Plan, best available science was used to update some of the information provided in the 1999 Revised Plan. The following lists some ways best available science was used to provide quality information for preparing this document:**

- **<u>2000 Census Data:</u> Internet queries were used as a means to collect raw and interpreted data from the US Census Bureau for much of the demographic and income information in this Review. A special report from the Census Bureau that came out in 2005, after hurricanes Katrina and Rita affected southern Louisiana, was used to compare data between the northern parishes (inside the Forest's area of economic influence) with the state as a whole.**

- **<u>Recovery Plan Amendment (Amendment #5):</u> This Revised Plan amendment updated many of the management guidelines developed for the 1999 Revised Plan with updated research findings and recommendations from in the USFWS RCW Recovery Plan (Second Revision, 2003).**
- **<u>MIS Population Trends (June 2001 and February 2005):</u> The two reports were prepared under contract by the Kisatchie NF to evaluate how changes on the Forest are affecting MIS trends, and also assess how well the selected MIS were performing as indicators. These reports, as part of Forestwide monitoring efforts, utilized the latest statistical measures to analyze how species trends are developing at 3 spatial scales, and utilized the best information available to evaluate MIS habitats on the Forest.**
- **<u>PETS List Updating:</u> As species rankings changed during the first five years of implementation, the Forest's list of species were continuously updated. These updates are reflected in the tables and discussion provided in Section IV of this Review. This information was also incorporated in site-specific NEPA analysis and decision documents prepared during this time.**
- **<u>Pearlshell Mussel Inventory 2006 Update:</u> This inventory update was performed on the mussel watershed streams on the Catahoula Ranger District and used to provide trend information for the mussel populations in that area. This information is now used during site-specific project proposal analyses that may affect mussels in this watershed.**

## *B. Documentation of Risk and Uncertainty (Associated with Factors Influencing Conditions and Trends)*

**The proposed 2007 Planning Rule states that the responsible official must take into account the best available science, and document in the plan that science was considered, correctly interpreted, appropriately applied, and evaluate and disclose incomplete or unavailable information, scientific uncertainty, and risk. This evaluation and disclosure of uncertainty and risk provide a crosscheck for appropriate interpretation of science and help clarify the limitations of the information base for the plan.**

**For any type of planning, some risk and uncertainty will exist when trying to predict unexpected events and the short and long-term consequences of those events. Catastrophic events like hurricanes, wildfire, flooding, and insect epidemics are hard to predict with any certainty. If these unplanned events occur, either separately, or concurrently, the Plan's expected outcomes could change. Changes in public laws, court decisions, and budget appropriations could constrain or redirect planned outcomes. Also, events that occur on private lands may indirectly or cumulatively affect conditions needed to attain outcomes planned for the Forest.**

**The management direction (goals, objectives, DFCs, standards and guidelines) in the Revised Plan makes the basic assumption that our desired outcomes will remain "desirable" for at least a decade, and that any unplanned natural or man-**

**made events will be at a scale small enough to not be a significant threat to achieving the planned objectives. This assumption is also predicated upon many smaller resource-based cause-and-effect assumptions that need validation over time through the monitoring system developed for the Plan. For this reason, the Forest relies predominately on its annual monitoring reporting to assess changing conditions and new risks as they develop, and adapt management direction as necessary to reach the Plan's desired outcomes.**

# IX. Management Review of Comprehensive Evaluation

## *A. Summary of Findings*

### 1. Area of Analysis

**The area being analyzed in this report is the Kisatchie National Forest (Kisatchie or KNF). The Kisatchie boundary encompasses approximately 1,024,659 acres, of which 603,769 acres are national forest land. The Forest has five ranger districts located in Claiborne, Grant, Natchitoches, Rapides, Vernon, Webster,**

**support populations (Evangeline RCW population, Kisatchie RCW population, and Winn RCW population). Kisatchie National Forest's RCW population goals are: Vernon/Ft Polk (goal = 350 active clusters; currently, Vernon 152 active clusters and Ft Polk 52 active clusters), Catahoula (goal = 250 active clusters; currently, 43 active clusters), Evangeline (goal = 231 active clusters; currently, 107 active clusters), Kisatchie (goal = 292 active clusters; currently, 29 active clusters), and Winn (goal = 263 active clusters; currently, 19 active clusters).**

**In 1988 the Louisiana pearlshell mussel (*Margaritifera hembeli*) (LPM) was federally listed as endangered. This mussel was reclassified to Threatened in 1993 largely due to the discovery of additional mussel beds on and off the Forest. LPM occur in small, clear perennial streams and are found in sand and**

**these species, the Forest is actively eradicating kudzu, Japanese climbing fern, privet, tallowtree, bamboo, trifoliate orange and honeysuckle.**

## 4. Social and Economic

*(1) Recreation and Scenery*

**The Kisatchie National Forest is the second largest supplier of public recreation lands in Louisiana. The Kisatchie currently maintains 118 recreation sites featuring 357 improved camping sites, 25 horse camping sites, 332 primitive camping sites, 14 boat launches, 4 swim sites, 11 group picnic shelters, 228 family picnic units, 11 overlooks, 4 interpretive sites, and more than 408 miles of trails. Gum Springs Reservoir construction near Winnfield, LA will increase some**

**status. The Kisatchie also has a number of eligible sites that are not listed on the NRHP. Efforts should be made to complete the evaluation (working with the Tribes) of these sites and get them listed on the NRHP.**

**The Kisatchie National Forest has drafted a programmatic agreement with the Advisory Council on Historic Preservation and the Louisiana State Historic Preservation Officers and Tribes. One aspect of this agreement streamlines the reporting process for compliance with Section 106 of the National Historic Preservation Act. Under provisions of the programmatic agreement some projects or project types can be excluded categorically from full review procedures. This means that the Forest is able to schedule its heritage resource workforce to better concentrate accomplishments on higher-impact projects on the Forest. This would be important in future efforts to fill in data gaps, especially in non-project related portions of the Forest.**

*(3) Forest Products*

**Within the bidding area for the Kisatchie National Forest, demand for timber products is strong. Products such as poles are in high demand. The pulpwood market has remained stable to increasing in most of the area due to new oriented-strand board mills coming on line. The demand for plywood is down due to imports, but sawtimber still sells well.**

**The two hurricanes that impacted Louisiana in 2005 had a dampening effect on the timber market initially. With so much timber on the ground in Mississippi, Louisiana, and Texas, most purchasers were trying to process as much of the damaged timber as possible before it became unusable. However, the purchase of green timber continued to remain strong through the period, and has since become stronger. Since the majority of the damage was not in the Kisatchie National Forest bidding area, the effects on the timber program were minor.**

**Within the Agency, there is a great need for timber sales to remove trees in areas that are overstocked. The amount of timber offered is limited by the personnel who can prepare the sales, and the funds to pay personnel for sale preparation. Forestwide, there are enough signed Decisions to prepare and sell at the current rate for approximately 2 years, however over 50% of the estimated volume for those Decisions is for first thinning of pine plantations which only produces pulpwood. The need for thinning in the Intensive Use Area of the Vernon Unit has been analyzed, and approximately 10-15,000 CCF will be sold from this area annually.**

**The sale of forest products on this Forest has steadily increased from a low in FY2003 of 15,810 CCF to approximately 90,000 CCF of forest products in FY2006, and we were poised to start selling 100,000 CCF of forest products annually. However, the recent trend in funding has cut that projection by almost half, and it is expected to remain at that level longer. This could create a backlog of projects that require timber sales for accomplishment.**

**Despite the Revised Plan's allowance for more and larger clearcuts to restore native species, projects submitted by the Districts have not included any large**

**increase in the number or size of these units; they have actually decreased due to concentrating all harvesting inside the RCW HMA. This has limited the amount of fuelwood that can be offered on the Forest. If the downward trend continues, there may be no more opportunities for designating fuelwood areas; gathering of fuelwood would be limited to the single down or dead trees found throughout the Forest.**

*(4) Grazing*

**The amount of grazing on the Kisatchie has declined precipitously since 1973, when 9,028 head of cattle grazed forest land annually. Today, three livestock owners hold grazing permits, and field a combined total of 75 cattle annually. This is less than 1% of the 1973 permitted livestock totals.**

*(5) Landownership*

**The climate is changing in landownership patterns in Louisiana. Many owners of large private tracts within the Forest boundary had been nationally-based timber companies (International Paper, Temple Inland) who have recently decided to divest their land holdings to TIMOs (timberland investment management organizations) and REITs (real estate investment trusts). Forest neighbors who were once large timber companies with similar goals are now becoming subdivisions of private homes. The wildland-urban interface and its associated complexities are upon us. This is causing a new list of concerns such as increased encroachment, whether intentional or not. It makes many management tools more difficult to employ (like fire suppression and prescribed burning). Any reduction in budgeting for landline maintenance may have far-reaching effects. There are less-visible effects such as increased non-commercial traffic on Forest system roads and increased maintenance needs.**

**Each year the Forest administered between 400 and 500 Special Use Authorizations for roads, utilities, recreation events, recreation residences, and other uses. In addition, from 16 to 30 new authorizations were evaluated annually, with 19 to 29 granted/renewed each year. Annual recommendations have been to pursue prioritized land acquisitions and exchange program as funding allows. Four land exchanges have been identified altogether. The Forest is exploring the use of Tripartite land exchange using excess timber receipts to acquire land. We are presently preparing a list of possibilities for prioritization.**

*(6) Access and Travel*

**About two-thirds of the total mileage is under Forest Service jurisdiction. While road densities vary from area to area, on average there are approximately 3.8 miles of road per square mile. Of this, the Forest Service has authority to control access on about 2.3 miles of road per square mile.**

**While budgets have continued to decline, there has been a significant increase in road maintenance costs in recent years. The demand for materials, equipment and labor has increased dramatically in Louisiana as a result of Hurricanes Katrina and Rita. There has also been a worldwide increase in the demand for**

**construction and maintenance materials, resulting in increased costs of road maintenance.**

**Over the first five years of Plan implementation, off-road use increased at a higher rate than expected. Disturbances caused by OHV use created unacceptable damage to some areas, especially along existing trails, along stream channels, and within Louisiana pearlshell mussel drainages. As a result, the Kisatchie and Calcasieu Ranger Districts implemented new restrictions for off-road use (Plan Amendments #3 and #4). Also, the** *Revised Land and Resource Management Plan, Kisatchie National Forest* **(1999) would be amended to prohibit motorized use off the designated routes and areas on the entire Kisatchie National Forest and to reflect the changes consistent with the 2005 National Travel Management Rule. The decision would be implemented when the motor vehicle use map (MVUM) showing designated routes with type of motorized use is published and made available to the public. The designated roads for motorized travel will be indicated on the ground with a route marker that will match the road number on the MVUM. Seasonal roads will be signed identifying the type of vehicle and season of use dates. The MVUM is the law enforcement tool, and each Forest visitor will be responsible for obtaining and complying with the MVUM.**

*(7) Collaboration*

**Federal and state agencies were consulted as new proposals were developed and underwent the NEPA process. SHPO and THPO (Tribal Historic Preservation Officials) contributed during the preparation and analysis done for EAs. The USFWS and LDWF provided consultation and effects analysis for game and non-game animals potentially affected by project proposals. The Natural Heritage Program (with the LDWF) provided comment on the effects of proposed actions on plants in general, and/or at known locations.**

**Memorandums of Understanding, cooperative agreements, partnerships and challenge cost share agreements were developed, and participation of groups and individuals were encouraged in the following:**

- **The Kisatchie NF, Louisiana Department of Wildlife and Fisheries, and the USDI Fish and Wildlife Service coordinate Red-Cockaded Woodpecker, Louisiana pine snake, and the Louisiana Pearlshell Mussel management activities.**
- **The Kisatchie continued participation in the Non-point Source Interagency Committee with LDEQ, NRCS, LA Dept. of Forestry and other agencies under the Forest's Memorandum of Agreement (MOA) with the State of Louisiana on Non-Point Source Pollution Control. (Clean Water Act Section 319)**
- **The Kisatchie continued to conduct water quality monitoring on 9 streams. The monitoring was done by arrangement with LDEQ under the Forest's Non-Point Pollution Control Memorandum Of Agreement with the State of Louisiana. The data is incorporated into the State's Clean Water Act Sect.**

**305b Water Quality Inventory**
**www.deq.state.la.us/surveillance/wqdata/wqnsites.stm.**

- **Soil and water staff cooperated with LSU staff to initiate a study of the water quality of three Louisiana pearlshell mussel streams.**
- **The Forest Service and LSU completed a challenge cost share agreement to help one another accomplish mutually beneficial objectives related to the impacts of off road vehicles (ORV) to soil, water and other resources of the Kisatchie National Forest.**

**The existing trend for most cooperative relationships has remained stable. Some public involvement activities, like the Forest's participation in Earthfest, have either stopped or decreased. This trend does not track with the expected level of relationships and public interaction planned for the Forest's future. In most cases, this trend is due a decreasing level of funding for these types of activities.**

*(8) Jobs and Income*

**The area's economy is relatively slow-growing and predominantly rural. Poverty is higher than the national rate. 2005 Census data shows that 18.8% of people in the state and 22.4% of the people in north Louisiana are below the poverty level. While timber-related employment and income are not large proportions of the area's total employment and income picture, they do constitute a significant portion of the area's manufacturing activity in Louisiana's wood and paper products industries.**

**Immediately after the 2005 hurricanes, the U.S. Census Bureau measured demographic differences between the hurricane-affected southern parishes ("FEMA area") and northern parishes ("Out of FEMA area"). The census data showed the following changes from the January-August 2005 period to the September-December 2005 period:**

- **Statewide, total population dropped by 9.3%, whereas in the northern parishes, it increased by 1.3%.**
- **Statewide, employed civilian population (16 years and over) dropped by 10.7%, whereas in the northern parishes, it increased by 0.6%.**
- **Both statewide and in the northern parishes there was a slight increase in median and mean household income (2.1% to 4.2%).**
- **Statewide, households with food stamp benefits in the past 12 months increased by 14.3%, whereas in the northern parishes it increased by 1%.**
- **Renter-occupied units decreased by 17.2% statewide, whereas in the north Louisiana parishes it increased by 2.1%.(US Census Bureau 2005)**

**These changes appear to indicate that a significant portion of the population in the southern parishes moved either into northern Louisiana, or outside the state immediately following the hurricanes. Also, since average household income grew slightly, it would appear that many lower-paid jobs were lost, raising the statewide average; or displaced into parishes outside the hurricane-impacted area, raising its previously lower average.**

**In FY2001, the newly created "Secure Rural School and Community Self-Determination Act of 2000" was implemented. As a result, the Forest parishes elected to receive their payments in terms of a three-year average, which is not linked to recent yearly timber harvest levels.**

## 5. New Information

**For this 5-Year Review of the Revised Plan, the 13 significant issues addressed in the Revision were re-examined. Ranger District and Supervisors Office personnel were consulted and correspondence was reviewed. Project-level scoping notice and 30-day public comment period responses were also reviewed. Section VI of this report reviews each of the Revised Plan issues, examines their current status, and identifies issues and concerns that have been raised since Forest Plan Revision implementation**

## 6. Evaluation of Need to Change Existing Direction

**The 1999 Revised Plan allocated land and assigns management direction to 11 MAs and 24 SMAs. No changes were needed to the DFCs for the MAs after 5 years of Plan implementation. There were some minor changes made to the DFC for some of the SMAs (SMA-5CL, SMA-5CS, SMA-5CM, and SMA-6BL) as a result of Amendment #5 to the Plan (Recovery Plan Amendment). These changes modified the DFC description from a "maximum" size for restoration areas, to an "average" size, with allowances made for larger openings if beyond a mile of active or recruitment RCW clusters. In addition, some of the standards and guidelines for the MAs and SMAs (see Section VII of this document) were modified or added through this and other Plan amendments; however, all these changes retained consistency towards meeting the original Forestwide and MA DFCs.**

**The forestwide goals and the MA and SMA goals are still appropriate and have not been altered in the first 5 years of the Revised Plan implementation.**

**As with the DFCs and goal statements, no changes have occurred in the Plan's objectives. However, some of the objectives have brought about some concerns both internally (within the Forest Service) and externally (the public). Those objectives with concerns are listed in Section VII of this report; along with a description of the concern/issue:**

**Most Forestwide standards and guidelines have remained unchanged in the Forest Plan. Those that did change were a result of a Plan amendment and are listed, along with the changes, in Section VII of this report.**

**In Section VII of this report, a breakdown is shown of the acres classified as suitable for timber production. Very little change has occurred. The most significant change occurred in May of 2003 with the changes made by Amendment #2 to the Plan. This amendment re-allocated 4,593 acres of land in SMA 5CL (RCW/Native Community Restoration) to SMA 9DL (Military Intensive Use) as a result of the expansion of the Claiborne Air to Ground Weapons**

**Range. Although, timber is occasionally harvested within the area, sub-management area direction within SMA 9DL precludes its use for regulated timber production.**

**Other minor changes in land suitability have occurred through less significant changes, but are too small to accurately measure as a whole. For example, some changes occur as newly identified RCW clusters are found; these areas, containing the cluster site (usually less than 10 acres), if in a timber-suitable area, can no longer be considered suitable. Also, as new trails are designated across the Forest and old ones are eliminated, the acreage in trails may change; this could move these trail corridors into or out of a timber-suitable land classification. Along US highways 165 and 167, in Grant and Winn Parishes, the widening of existing right-of-ways to accommodate reconstruction to four-lane highways has displaced "slivers" of both suitable and unsuitable lands on the Forest.**

**No new SIAs or RNAs have been established during the first 5 years of Plan implementation.**

**In 2004, the Army applied for and received a renewed Special Use Permit (SUP) authorizing activities within the IUA, LUA, and SLUA (***Final Environmental Impact Statement for 2nd Armored Cavalry Regiment Transformation and Installation Mission Support, Joint Readiness Training Center (JRTC) and Fort Polk, Louisiana, and Long-Term Military Training Use of Kisatchie National Forest Lands)***. The permit extends for 20 years, unless terminated sooner under specified conditions. The permit identifies types of activities by area, operating conditions, and management requirements, including monitoring needs.**

**Plan Amendment #5, the** *Recovery Plan Amendment***, signed in October 2005, made changes to incorporate new direction from the updated USFWS Recovery Plan guidance.**

**A decision on a proposed Forest Plan Amendment (***Kisatchie National Forest Travel Management Project***) is foreseeable in the winter of 2007. This proposal would eliminate motorized cross-country travel forestwide to comply with the 2005 National Travel Management Rule. The proposal includes changes to the designations of authorized system routes and areas under Kisatchie National Forest jurisdiction. Routes and areas under other jurisdictions would not be affected. The proposed action (Alternative 3) also includes the addition of designated camping corridors on the Caney District and the elimination of night-riding forestwide**

**The results of monitoring over the first 5 years of Revised Plan implementation are described in detail in Sections IV and V of this document. During this period, however, some of the Plan's direction, especially standards and guidelines, have brought about some concerns both internally (within the Forest Service) and externally (the public). Those items are listed in Section VII of this report; along with a description of the concern/issue:**

**Almost as soon as implementation of the Revised Plan began (January 2000), national and regional changes in budget planning and accounting began. Many of the assumptions used in developing the estimated annual budgets under the Revised Plan began to lose relevance, making true comparison difficult. Some of the changes that affected comparisons, along with the charts comparing budgets, are described in Section VII of this report.**

**Another item of concern in implementation of the Plan direction has been an inconsistency in developing tactical plans for each of the ranger districts. In the past, a 10-year "Order of Entry" was developed to help plan site-level stand examinations and provide a level flow of timber output and road work. This order of entry was tied primarily to timber sale planning. In the Revised Plan, an ecosystems management approach was taken, with forestwide emphasis placed predominately on maintaining/enhancing RCW habitat and restoring native plant communities. Because each district plays a slightly different role in meeting the overall forestwide objectives, each district needs its own tactical plan of work for the 10-year Plan period. Direction on how to accomplish this is not clear on all districts and has been recognized as a necessary implementation tool. Forthcoming direction would most appropriately come in the form of Forest training and/or Forest Supervisor memos.**

## 7. Science Consistency

**In the preparation of this 5-Year Review of the Revised Forest Plan, best available science was used to update some of the information provided in the 1999 Revised Plan. Section VIII of this report lists some ways best available science was used to provide quality information for preparing this document.**

## 8. Risk and Uncertainty

**The management direction (goals, objectives, DFCs, standards and guidelines) in the Revised Plan makes the basic assumption that our desired outcomes will remain "desirable" for at least a decade, and that any unplanned natural or man-made events will be at a scale small enough to not be a significant threat to achieving the planned objectives. The Forest relies predominately on its annual monitoring reporting to assess changing conditions and new risks as they develop, and adapt management direction as necessary to reach the Plan's desired outcomes.**

## *B. Need for Change Determination*

### 1. Introduction

**The Kisatchie National Forest (Kisatchie) has completed the 5-Year Review of the 1999 Revised Land and Resource Management Plan (Revised Forest Plan). This document provides some key relevant information on current activities associated with the Kisatchie, and addresses key topics or considerations related to potential amendments or a revision of the Forest Plan. Finally, this document provides the Forest Supervisor's overall determination relative to the 5-Year Review of the Forest Plan.**

### 2. Approach Used to Conduct 5-Year Review

**Direction or guidance to conduct the 5-Year Review came from the regulations found at 36 CFR 219.10 (g) [1982 Planning regulations], which states, "***The Forest Supervisor shall review the conditions on the land covered by the plan at least every 5 years to determine whether conditions or demands of the public have changed significantly.***"**

**The Revised Forest Plan was completed in 1999. The 5-Year Review addresses concerns that have accumulated since 1999 regarding the Forest Plan and its interpretations and applications. Also, it summarizes the monitoring work done on the Forest during FY2000 through FY2005 and evaluates the existing condition and trends and factors that affected or may affect these trends.**

**The Kisatchie identified a number of potential issues or concerns related to the Forest Plan by assessing information provided by Forest Service employees, as well as information provided by the public, as part of past and ongoing Forest Plan and project-related public involvement efforts (see Section VI in the 5-Year Review). Many of the potential concerns were related to policy and procedures for implementing the Forest Plan. Other potential concerns could lead to a Forest Plan amendment or revision. The most relevant issues of this latter group are discussed in this document, including key factors related to the conditions on the land.**

### 3. Potential Change Agents

**This section briefly describes current activities or programs that potentially affect conditions on the land relevant to the Kisatchie and the Revised Forest Plan.**

#### a) <u>Timber Harvest</u>

**The Revised Forest Plan FEIS developed an allowable sale quantity (ASQ) of 96.9 million cubic feet (MMCF) as required by the Forest and Rangeland Renewable Resources Planning Act. The ASQ is the maximum amount of timber that may be programmed, sold, and harvested per decade. The amount of**

programmed timber sold and harvested on the Forest will vary from year to year. The following table displays the amount of timber that was offered, sold, and harvested during fiscal years 2001 through 2005, and compares the total to the average annual amount of the ASQ (Table 38).

| Table 38: Forest Timber Sale Levels | |
|---|---|
| Fiscal Year | Volume - MMCF |
| 2001 | 0.1 |
| 2002 | 1.2 |
| 2003 | 3.4 |
| 2004 | 6.0 |
| 2005 | 7.0 |
| Total | 17.7 |
| Average[30] | 3.5 |

The timber table shows that the current levels of timber offered, sold, and harvested are not at or near the 1999 Forest Plan ASQ ceilings. The effects of timber harvest are below the amount analyzed in the 1999 Forest Plan FEIS and/or the 1999 ROD. Due to heightened needs to improve critical RCW habitat conditions (predominantly by thinning) and reduce overstocking in 15 to 20 year old stands for forest health purposes, and a tendency to defer regeneration (clearcut, seed-tree, and shelterwood) harvests, the Forest is offering a level of timber for sale that is substantially below that analyzed and permitted under the Forest Plan ASQ calculation and planned programmed harvest.

Biodiversity analyses within the Revised Forest Plan FEIS assumed the maximum level of harvest each year for 150 years. An ASQ of 96.9 MMCF equates to an annual harvest (all final harvests and thinnings) of about 18,412 acres for the first decade of the Plan (Plan FEIS 1999, Table 4-25, p. 4-109). However, for the first 3 or 4 years of Revised Plan implementation, almost all harvesting was done based on decisions made under the original 1985 Forest Plan.

Since harvests based on past decisions are not a fair implementation gauge for the Revised Plan, acres *sold* (rather than harvested) during 2000 through 2005 were calculated for comparison (Table 39). About 20,961 acres were sold on the Kisatchie during the six-year period, or about 3,494 acres sold annually. Compared to an average annual harvest estimate of 18,412 for the first decade of the Plan, the average annual sold acres for 2000 through 2006 is only about 20% of the rate expected in the Forest Plan. Also, of the 3,494-acre average sold each year, only 84 acres were for final harvests (clearcut + seedtree), compared to the Plan's estimated 1,576 acres per year in final harvests (Plan FEIS 1999, Appendix B). Therefore, since actual volume harvested is substantially below the

[30] In the Forest Plan FEIS, the average allowable sale quantity was determined to be 9.7 MMCF annually. All timber volume (from both timber-suitable and unsuitable lands) was estimated to be 13.2 MMCF annually.

ceiling level ASQ (3.5 MMCF of the 9.7 MMCF annual average ASQ), and sales occurred on far less acres than planned, the magnitude of timber harvested and the potential impacts on biodiversity can be expected to be much less than those forecast in the Forest Plan.

**Table 39: Acres of Timber Sold by Harvest Type**

| Fiscal Year | Clearcut | Thinning | Seedtree | Seedtree Removal | Right-of-Way | Salvage | Total (Acres) |
|---|---|---|---|---|---|---|---|
| 2000 | 52 | 2,407 | 0 | 0 | 10 | 0 | 2,469 |
| 2001 | 42 | 911 | 0 | 0 | 5 | 0 | 958 |
| 2002 | 70 | 715 | 0 | 0 | 2 | 209 | 996 |
| 2003 | 83 | 2,924 | 35 | 465 | 27 | 2 | 3,536 |
| 2004 | 148 | 5,833 | 0 | 0 | 240 | 0 | 6,221 |
| 2005 | 72 | 6,220 | 0 | 0 | 2 | 487 | 6,781 |
| Total | 467 | 19,010 | 35 | 465 | 286 | 698 | 20,961 |
| Average | 78 | 3,168 | 6 | 78 | 48 | 116 | 3,493 |

There is no indication the Forest Plan, including the allowable sale quantity, needs to be revised at this time because of lower levels of timber harvest, even with the fluctuations of timber volume sold or harvested from year to year. Also, the trend in sale volume appears to be slowly getting closer to that expected.

b) <u>Land and Allocation Adjustments</u>

The most noteworthy change in terms of acreage allocation occurred in May of 2003 with the changes made by Amendment #2 to the Plan. This amendment re-allocated 4,593 acres of land in SMA 5CL (RCW/Native Community Restoration) to SMA 9DL (Military Intensive Use) as a result of the expansion of the Claiborne Air to Ground Weapons Range. Although timber is occasionally harvested within the area, sub-management area direction within SMA 9DL precludes its use for regulated timber production.

Other minor changes in land suitability have occurred through less significant changes, but are too small to accurately measure as a whole. For example, some changes occur as newly identified RCW clusters are found; these areas, containing the cluster site (usually less than 10 acres), if in a timber-suitable area, can no longer be considered suitable. Also, as new trails are designated across the Forest and old ones are eliminated, the acreage in trails may change; this could move these trail corridors into or out of a timber-suitable land classification. Along US highways 165 and 167, in Grant and Winn Parishes, the widening of existing right-of-ways to accommodate reconstruction to four-lane highways has displaced “slivers” of both suitable and unsuitable lands on the Forest.

Lands transferred in and out of the Forest and lands re-allocated to different land use designations are a relatively small portion of the Forest. Most of the analyses

**of each individual adjustments concluded that they involved a net gain to the goals of the Forest Plans. The land transfers that did not conclude a net gain usually involved mitigation that minimized conflict with Forest Plan goals. All together, the land adjustments since the adoption of the 1999 Forest Plan have a net effect of enhancing the achievement of Forest Plan goals and do not require any significant revision of the Forest Plan.**

## 4. Summary of Forest Plan Amendments

**Between approval of the 1999 Forest Plan and now, 5 Plan amendments have been completed:**

- *Amendment #1* **(September 2002) to the Plan came about as a result of the ROD for the Supplement to the Final Environmental Impact Statement, Vegetation Management in the Coastal Plain/Piedmont (October 2002). This amendment provided clarification of direction for the preparation of site-specific Biological Evaluations (BEs) including inventory requirements for Proposed, Endangered, Threatened, and Sensitive (PETS) species for the KNF. The new amendment makes the process of conducting BEs more efficient and consistent throughout the Southern Region and removes/adds specific language to Forestwide standard FW-009.**
- *Amendment #2* **was signed in May, 2003. That amendment, Increased Utilization and Expansion of the Claiborne Air-to-Ground Weapons Range, LA, re-allocated some of the land in the RCW HMA on the Calcasieu RD, Evangeline Unit, and authorized re-issuance of a Special Use Permit to the US Air Force for use of the Claiborne Range.**
- *Amendment #3* **(Sandstone Multiple Use Trail Management Plan on the Kisatchie Ranger District) and** *Amendment #4* **(Providing Off Road Vehicle Management on the Calcasieu Ranger District) were begun in FY2004. They were later signed in FY2005. Both decisions restricted motorized use to designated routes and trails.**
- **In October of 2005,** *Amendment #5* **(Recovery Plan Amendment to Kisatchie National Forest Plan) was signed. It added new direction and modified some of the current direction for managing RCW on the Forest.**

## 5. Implementation of the Forest Plan

**Some intervening events between 2000 and 2005 either prominently affected or could potentially affect the implementation of the Forest Plan:**

- **In October of 2002, the ROD for the** *Supplement to the Final Environmental Impact Statement Vegetation Management in the Coastal Plain/Piedmont* **was signed. It was the Forest's first Plan amendment. Its guidance was added in order to clarify direction concerning requirements for conducting project-level inventories to activities covered under the Vegetation Management EIS (VMEIS). Currently (September 2007), this direction is being challenged in a**

**lawsuit. Plaintiffs in the lawsuit allege that under NEPA, the Forest Service was required to prepare an EIS for the supplemental VMEIS because in 1989-1990 the agency prepared three environmental impact statements before approving nineteen Forest Plan amendments (including the Kisatchie's 1985 Plan at the time). Plaintiffs argue that under NEPA any change to any detail of any one of these 1989-90 Forest Plan amendments mandated the preparation of a supplemental environmental impact statement ("SEIS"). They conclude that because the Forest Service approved the 2002 Plan amendment after preparing an EA instead of SEIS, the agency violated NEPA. The Forest Service (defendant) disagrees. A final ruling is still pending.**

- **In April of 2003 former FS Chief Dale Bosworth described his concept of the** *Four Threats to the Health of the Nation's Forests and Grasslands***. The** *USDA Forest Service Strategic Plan for Fiscal Years 2004-2008* **provided a new framework for accomplishing the Agency's mission and incorporated actions to resolve the Four Threats. Forest Service leadership through the implementation of the Strategic Plan became committed to removing the Four Threats from the national landscape.**
- **New Forest Service Chief Abigail R. Kimbell, re-enforced the national commitment to reducing the Four Treats within the overall USDA Forest Service Strategic Plan FY2007–2012 issued in July 2007. The national strategic goals and objectives for fiscal years 2007–2012 are:**

**Management System (EMS). The Forest Service in the 2005 Planning Rule required use of an EMS for each unit of the National Forest and Grasslands system as a primary management approach for addressing environmental aspects of it's operations and activities. In accordance with the E.O.13423, the Forest Service continues development of an EMS. It is unknown at this point what the local impacts of an EMS will be.**

## 6. Subjects Potentially Related to Forest Plan Amendment or Revision

**The following sections describe subjects that are most often discussed in terms of potential reasons to amend or revise the Forest Plan. Section VI of the 5-Year Review lists many other less prominent issues that could potentially initiate a Plan amendment if not resolved by other means (site-specific direction, change in administrative procedures, etc.).**

*(1) Management Indicator Species*

**The Forest Plan identified 20 avian, 30 plant, and 7 aquatic management indicator species (MIS) to represent other wildlife species in a variety of habitats across the Forest. These MIS species are listed in Table 5-2, pages 5-15 through 5-19 in the Plan document. The Revised Forest Plan identified monitoring strategies for each of these species and has been assessing how well the MIS are functioning. If our monitoring indicates the list should be changed, the forest supervisor may initiate a proposed action and appropriate NEPA analysis to change the MIS list and amend the Forest Plan. Such an amendment is not expected to be significant, nor require a revision of the Forest Plan.**

*(2) Allowable Sale Quantity*

**The Allowable Sale Quantity (ASQ) is the calculated amount of timber that can be sold from the available land base over the next decade at a rate that is sustainable over the long term. The purpose of the ASQ calculation is to look at the timber harvest rate from the available land base and ensure that the amount of timber being harvested will not have to decline over the very long term, such as a century or more, due to a disproportionate harvest in the first decade. Thus, the quantity of timber that can be harvested from the Kisatchie from the available land base in the 1999 Forest Plan is 96.9 million cubic feet (MMCF) in the first decade, and that volume of timber could also be harvested each decade over the next century or more without running out of timber from the Forest Plan's available land base. The ASQ is officially calculated on a ten-year basis, but it is most often presented as an annual average. Thus the ASQ for the Kisatchie Revised Plan is officially 96.9 MMCF for the first decade but is usually referred to as 9.7 MMCF per year.**

**The 5-Year Review identified several questions or potential concerns regarding the Forest Plan ASQ. These questions include whether a more accurate ASQ calculation could be generated, or whether or not various standards and**

**guidelines resulting in non-clearcut timber harvest prescriptions were adequately factored into the Forest Plan ASQ calculations.**

**The 1999 Revised Plan used the best model available at the time. The FORPLAN model may not be adequate for the integrated modeling most likely needed to address the complexities associated with forest planning into the future. A model called SPECTRUM appears to be better suited for forest planning. The use of FORPLAN, SPECTRUM, or another model in and of itself is not likely to require an amendment or revision of the Forest Plan.**

*(3) Off-road Use*

**In the past, Kisatchie National Forest has been open to motor vehicles. Following the policy of "open unless posted closed", most logging roads have remained open to motorized public use. Motorized recreation trails have been designated for trail riding, but there were no restrictions or prohibitions for off-road or off-trail motorized use except in developed recreation areas, military use areas, wilderness areas, special interest areas, and other areas posted "closed".**

**A decision on a proposed Forest Plan Amendment (***Kisatchie National Forest Travel Management Project***) is foreseeable in the winter of 2007. This proposal would eliminate motorized cross-country travel forestwide to comply with the 2005 National Travel Management Rule[31]. The proposal includes changes to the designations of authorized system routes and areas under Kisatchie National Forest jurisdiction. Routes and areas under other jurisdictions would not be affected. The proposed action (Alternative 3) also includes the addition of designated camping corridors on the Caney District and the elimination of night-riding forestwide. Such an amendment is not expected to be significant, nor require a revision of the Forest Plan.**

*(4) Biological Diversity*

**Louisiana Pearlshell Mussel: There have been concerns expressed to the Kisatchie and to the U.S. Fish and Wildlife Service (USFWS) that the Louisiana Pearlshell Mussel (LPM) recovery plan be carried out in a complete and timely fashion, that a recovery plan be established and implemented on Bayou Rigolette watershed, that population surveys be done on a regularly scheduled basis, and specific direction and habitat be designated for LPM.**

**Louisiana pine snake: The Forest Service considers the Louisiana pine snake a Sensitive Species and the USFWS consider it to be a Candidate species for T&E listing. Management areas 3, 5, 6 and 9 goals, desired future conditions, and standards and guidelines provide additional general guidance regarding the management of the areas in which this species occurs most frequently. However, there may be a need to more closely monitor this species and its relationship with**

---

**[31] In November 2005, the National Travel Management Rule was published requiring each national forest and grassland to designate those roads, trails, and areas open to motor vehicle use; and motorized travel off the designated routes and areas will be prohibited. The National Rule allows four years for implementation to be completed.**

**Baird's pocket gopher and, in cooperation with the USFWS, provide additional direction.**

**<u>Hardwoods in HMAs:</u> Forest Plan RCW direction limits the amount of hardwoods desirable within HMAs in order to provide a relatively open mid-story and at least minimal levels of pine nesting and foraging habitat. Plan direction also calls for some prescribed fire to be used, its frequency dependant upon the landscape type being developed. There have been concerns that these practices preclude development of hardwoods inside the HMAs, particularly where the management direction is to produce high quality wildlife habitats within a mixed pine-hardwood landscape. Clarifying or changed direction may be needed.**

**<u>Earthfruit:</u> No federally listed threatened or endangered plant is known to occur on the Forest; however, the Kisatchie lies within the range of earthfruit (***Geocarpon minimum***), a federally threatened plant, and there is likely habitat for that plant on the Forest. Furthermore, the USFWS, in accordance with the Endangered Species Act of 1973 (87 Stat. 884, as amended, 16 U.S.C. 1531 et seq.) has directed the Kisatchie to consider earthfruit when making management policy (USFWS official letter. 2007). Consequently, earthfruit is being considered in forest level planning, as well as in the NEPA process.**

**For all of the above, an amendment, if needed, is not expected to be significant, nor require a revision of the Forest Plan.**

*(5) <u>Range/Grazing</u>*

**Based on the range status review, the Forest requested from the Regional Forester the authority to close areas on the Forest to livestock grazing. On March 16, 2007, the Forest Supervisor was delegated the authority to close range allotments on the Forest. On April 30, 2007 the Forest Supervisor closed all range allotments on the Catahoula District; thereby consolidating the Forest range program to the Kisatchie and Calcasieu Ranger Districts. The declining trend in the range program is expected to continue. As opportunities arise, the Forest should consider closing the remaining 3 allotments. An amendment, if needed, is not expected to be significant, nor require a revision of the Forest Plan.**

*(6) <u>Red-cockaded Woodpecker</u>*

**RCW populations on the Forest are slowly increasing. The question remains as to whether the area allocated to RCW Habitat Management Areas, should be re-examined at this time. Allocation concerns exist especially in areas that have an increased hardwood component, such as shortleaf pine/oak-hickory and loblolly pine/hardwood stands. Concerns over other aspects of management for RCWs are expressed above, under Biodiversity. An amendment, if needed, is not expected to be significant, nor require a revision of the Forest Plan.**

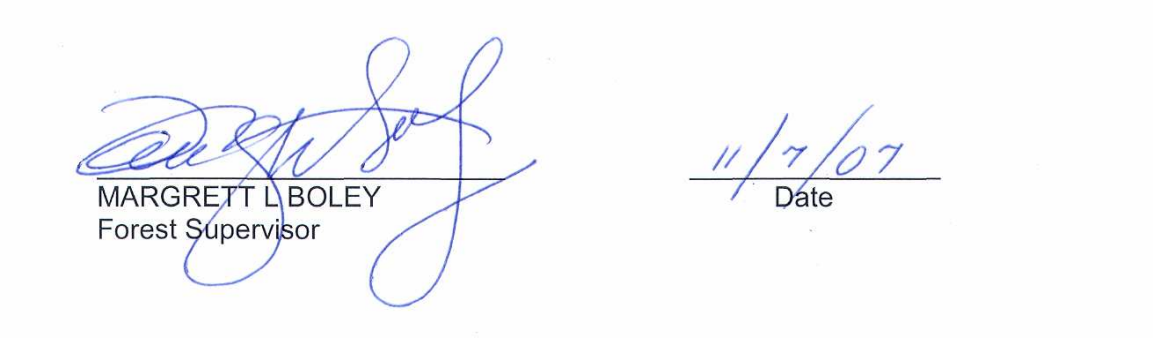
*(7) <u>Prescribed Burning</u>*

**Internally there is a concern that in order to meet long-term desired future condition needs, the acreage objectives in the Revised Plan may need to be reexamined (increased) along with the percentage of the program conducted during the growing season. An amendment, if needed, is not expected to be significant, nor require a revision of the Forest Plan.**

## 7. Determination

**Based on the 5-Year Review and implementation of the Forest Plan to date, and as summarized above, I have determined that conditions on the land and demands of the public have not changed significantly since 1999. Accordingly, the Forest Plan does not need to be revised at this time. However, the 5-Year Review identified potential items of work that could lead to minor adjustments or amendments to the Plan. These work items will be addressed as we continue to implement and monitor the Forest Plan, and evaluate the results to determine whether adjustments need to be made to keep the Plan current.**

**[Scan of signature on file:]**



MARGRETT L BOLEY
Forest Supervisor

11/7/07
Date

# X. List of Preparers

**Carl Brevelle (NEPA and Planning, KNF)**

**Cindy Dancak (Planning, GIS Team Leader, KNF)**

**Debbie Collins (Financial Manager, KNF)**

**Jim Pace (Roads and Engineering, KNF)**

**Tony Rivers (Fire Management, KNF)**

**Ken Dancak (Forest Biologist, KNF)**

**Holly Morgan (Timber Sales Forester, KNF)**

**Tim Haley (Forest Health Protection, State & Private Forestry, USFS)**

**Peter Nilles (Forest Botanist, KNF)**

**Jo Ann Smith (former Forest Silviculturist, KNF)**

**Cal Baker (Eco FTeDeeat CinkeivaA1DH6kj9C,t(A8DC18H8,i(9DCjk6,o(5W717=dc‘,e(AjDH9H1k,**

# XI. Literature Citation


**Byrd, David C. 2005. Addendum to the** *Wildlife Management Indicator Species Population and Habitat Trends Kisatchie National Forest.* **Produced for the Kisatchie National Forest to assess aquatic MIS.**

**Grace, S. L., and L. M. Smith. 1995. A survey and description of the natural plant communities of the Kisatchie National Forest, Vernon District. Louisiana Department of Wildlife and Fisheries, Baton Rouge. 192 pp.**

**Hyatt, P. E. 2003. Kisatchie National Forest Botanist.Personal communication.**

**Hart, B. L., and G. D. Lester. 1993. Natural community and sensitive species assessment on Fort Polk Military Reservation, Louisiana. Final report to Department of the Army, Corps of Engineers, Memphis, TN. Louisiana Department of Wildlife and Fisheries, Natural Heritage Program, Baton Rouge, LA, and The Nature Conservancy, Arlington, VA.**

**MacRoberts, D. T. 1984. A documented checklist and atlas of the vascular flora of Louisiana. Volume 1. Published by Louisiana State University in Shreveport. Shreveport, Louisiana.**

**MacRoberts, B. R., and M. H. MacRoberts. 1988. Floristic composition of two west Louisiana pitcher plant bogs. Phytologia 65:184-190.**

**MacRoberts, B. R., S. Carr, and J. MacRoberts. 1994. Inventory, description and management of sandstone glades in western Louisiana. In: J. S. Fralish, R. C. Anderson, J. E. Ebinger, and R. Szafoni, editors. 1994. Proceedings of the North American conference on barrens and savannas. U.S. Environmental Protection Agency, Great Lakes Program Office, Chicago, IL. [http://www.epa.gov/glnpo/oak/Proceedings/MacRoberts.html]**

**MacRoberts, B. R., and M. H. MacRoberts. 1991. Floristics of three bogs in western Louisiana. Phytologia 70:135-141.**

**MacRoberts, M. H., and B. R. MacRoberts. 1992. Floristics of a sandstone glade in western Louisiana. Phytologia 72:130-138.**

**MacRoberts, M. and B. MacRoberts. 1995. Vascular flora of xeric sandhills in northwestern Louisiana. Phytologia 79: 123-131.**

**Martin, D. L., and L. M. Smith. 1991. A survey and description of the natural plant communities of the Kisatchie National Forest, Winn and Kisatchie districts. Louisiana Department of Wildlife and Fisheries, Baton Rouge, LA. 372 pp.**

**Martin, D. L., and L. M. Smith. 1993. A survey and description of the natural plant communities of the Kisatchie National Forest, Evangeline and Catahoula districts. Louisiana Department of Wildlife and Fisheries, Baton Rouge. 274 pp.**

**MIS Report 2001.** *Management Indicator Species Population and Habitat Trends Kisatchie National Forest.* **Produced for the Kisatchie National Forest by Quantitative Ecological Services, Inc. 311 pp.**

**MIS Report 2005.** *Wildlife Management Indicator Species Population and Habitat Trends Kisatchie National Forest.* **Produced for the Kisatchie National Forest by Quantitative Ecological Services, Inc. 265 pp.**

**Nixon, E. S., and J. R. Ward. 1986. Floristic composition and management of east Texas pitcher plant bogs. Pages 283-287 in: D. L. Kulhavy and R. N. Conner, editors. Wilderness and natural areas in the eastern United States: A management challenge. Center for Applied Studies, Stephen F. Austin State University, Nacogdoches, TX.**

**Plan FEIS 1999.** *Final Environmental Impact Statement: Revised Land and Resource Management Plan*. **Produced by (and available from) the Kisatchie National Forest; printed by the U. S. government printing office.**

**Platt, W., L. M. Smith, N. Gilmore, R. Baker, and D. Pashley. 1990. Proposed management for hillside seepage bogs of Kisatchie National Forest. Unpublished report. Louisiana Department of Wildlife and Fisheries, Natural Heritage Program, Baton Rouge. 11 pp.**

**R8 Old-Growth Guidance 1997. Guidance for Conserving and Restoring Old-Growth Forest Communities on National Forests in the Southern Region. Forestry Report R8-FR 62. 122 pp.**

**Revised Plan 1999.** *Revised Land and Resource Management Plan*. **Produced by (and available from) the Kisatchie National Forest; printed by the U. S. government printing office.**

**SFEIS 1999.** *Summary of the Final Environmental Impact Statement: Revised Land and Resource Management Plan*. **Produced by (and available from) the Kisatchie National Forest; printed by the U. S. government printing office.**

**Shively, Stephen H. 2004. "2004 Survey for the Louisiana Pearlshell Mussel (Margaritifera hembeli) on the Evangeline Unit of the Calcasieu Ranger District, Kisatchie National Forest, Rapides Parish, LA". Report prepared for the U.S. Fish and Wildlife Service, USDA Forest Service, and the Louisiana Natural Heritage Program. 15 pp.**

**Shively, Stephen H. 2006. "2006 Survey for the Louisiana Pearlshell Mussel (Margaritifera hembeli) on the Catahoula Ranger District Kisatchie National Forest". Prepared for the Kisatchie National Forest. 8 pp.**

**Small, E.B. 1933. Manual of the southeastern flora. J.K.Small, Science Press Printing Company, Lancaster, PA. 1554pp**

**Thomas, R. D., and C. M. Allen. 1993. Atlas of the vascular flora of Louisiana. Volume I: Ferns & fern allies, conifers, & monocotyledons. Louisiana Department of Wildlife and Fisheries, Natural Heritage Program and The Nature Conservancy, Louisiana Field Office, Baton Rouge. 218 pp.**

**Thomas, R. D., and C. M. Allen. 1996. Atlas of the vascular flora of Louisiana. Volume II: Dicotyledons Acanthaceae - Euphorbiaceae. Louisiana Department of Wildlife and Fisheriers, Natural Heritage Program, Baton Rouge, LA. 213 pp.**

**Thomas, R. D., and Allen, C. M. 1998. Atlas of the Vascular Flora of Louisiana, Volume III: Fabaceae-Zygophyllaceae. Louisiana Department of Wildlife and Fisheries Natural Heritage Program, Baton Rouge, LA.**

**Thomas, R.D. and C.M. Allen. 1998. Atlas of the vascular plants of Louisiana. Volume 2. Dicotyledons. Acanthaceae-Euphorbiaceae. Louisiana Department of Wildlife and Fisheries, Baton Rouge.**

**US Census Bureau 2000.** *Census 2000 Data for the State of Louisiana***. [Electronic database]. Available online: http://www.census.gov/census2000/states/la.html**

**US Census Bureau 2005.** *2005 American Community Survey (ACS) Special Product for the Gulf Coast Area***. [Electronic database]. Available online: http://www.census.gov/acs/www/Products/Profiles/gulf_coast/profiles.htm**

**Verry, E. S., J. W. Hornbeck, and C. A. Dolloff (eds). 2000. Riparian management in forests of the continental Eastern United States. Lewis Publishers, Boca Raton, FL. 402p.**

**Williams, R. A., and L. M. Smith. 1995. A survey and description of the natural plant communities of the Kisatchie National Forest: Caney District. Louisiana Natural Heritage Program, Louisiana Department of Wildlife and Fisheries, Baton Rouge, LA.**