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Region 8 / Kisatchie National Forest

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Biennial Monitoring Evaluation Report for the Kisatchie National Forest

Fiscal years 2022-2023

Kisatchie Hills Wilderness

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Why Monitoring Matters

There is no single correct approach to managing a forest or grassland. Each decision maker must weigh the ecological complexity of the ecosystems, the changing environmental conditions, the many different viewpoints of the public, and uncertainty about long-term consequences.

Data from monitoring can therefore be extremely useful. A robust, transparent, and meaningful monitoring program can provide information on specific resources, management impacts, and overall trends in condition – in other words, feedback on whether we are meeting our management objectives or not.

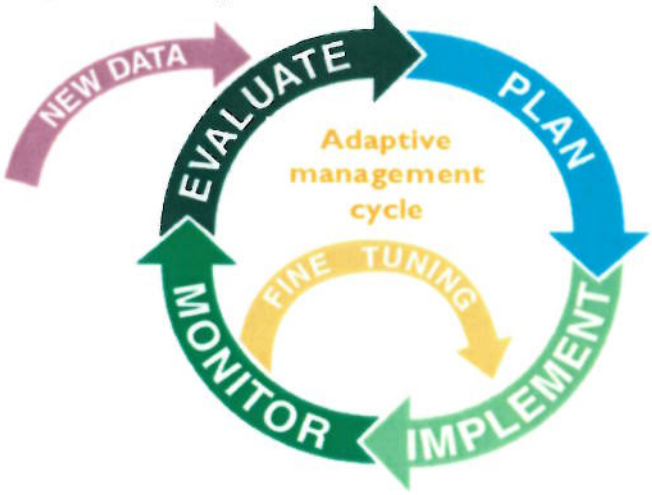
Each national forest or grassland has a land management plan or "forest or grassland plan" that balances tradeoffs among recreation, timber, water, wilderness, wildlife habitat, and other uses. The plan describes a set of desired conditions – a science-based vision for what forest or grassland conditions should be once the goals of the plan are met. The forest or grassland plan also includes a monitoring program, organized around a set of monitoring questions and indicators that are designed to track progress toward achieving the desired conditions in the plan.

Monitoring of certain resources is required by law, regulation, or directive (see box below for the required nine monitoring topics), although other monitoring occurs depending on specific needs of the national forest. Kisatchie National Forest, for example, has sixty-two monitoring questions.

Every 2 years, each forest or grassland compiles and evaluates the monitoring results and drafts a report like this one. Decision makers, such as forest and grassland supervisors, use these biennial monitoring evaluation reports (BMERs) to update their knowledge and assess progress toward the desired conditions in the forest or grassland plan. The public uses these BMERs to understand what's happening on the land that they depend upon and enjoy.

If the report reveals that we are not quite meeting the mark, then there might be a need to change management in some way; this is adaptive management. Monitoring also helps us be accountable and transparent to interested and affected parties, colleagues, and the public.

BMERs, like this one, are critical to adaptive management because they tell us and the public whether the land management plan is working. We don't make any decisions in BMERs; instead, we simply document and share monitoring results.



Because monitoring can be expensive, time-consuming, and labor-intensive, we rely on the help of our partners and work collaboratively with them to accomplish monitoring objectives. We also rely on existing data sources such as national and regional inventory, monitoring, and research

programs; federal, state, or local government agencies; scientists, partners, and members of the public; and information from Tribal communities and Alaska Native Corporations.

Our land management plan is available on our website [https://www.fs.usda.gov/detail/kisatchie/landmanagement/planning/?cid=stelprdb5391441] and the past monitoring and evaluation reports are found here [https://www.fs.usda.gov/detail/kisatchie/landmanagement/planning/?cid=stelprd3796199].

Monitoring questions must address the following topics (per 36 CFR sec 219.12 - Monitoring and Forest Service Manual 1909.12 sec. 32.13 - Content of the Plan Monitoring Program):

1. Status of select watershed conditions.
2. Status of select ecological conditions including key characteristics of terrestrial and aquatic ecosystems.
3. Status of focal species to assess the ecological conditions.
4. Status of a select set of the ecological conditions to contribute to the recovery of federally listed threatened and endangered species, conserve proposed and candidate species, and maintain a viable population of each species of conservation concern.
5. Status of visitor use, visitor satisfaction, and progress toward meeting recreation objectives.
6. Measurable changes on the plan area related to climate change and other stressors that might be affecting the plan area.
7. Progress toward meeting the desired conditions and objectives in the plan, including for providing multiple use opportunities.
8. Effects of each management system to determine that they do not substantially and permanently impair the productivity of the land.
9. Social, economic, and cultural sustainability must also be addressed in the monitoring plan because sustainability is an inherent part of several of the required monitoring items.

Report Summary

The Kisatchie National Forest (hereafter, typically referred to "Kisatchie NF", "KNF", or "Forest") is currently operating under the *Revised Land and Resource Management Plan, August 1999* based on the Final Environmental Impact Statement and Record of Decision (hereafter referred to as "forest plan" or "KNF Revised LRMP"; USDA Forest Service 1999a, b, and c).

Monitoring and evaluation has been an ongoing process since the forest plan became effective in 1999. It is designed to ensure that forest plan goals and objectives (KNF Revised LRMP, page 2-1 to page 2-7) are being achieved, standards and guidelines are being properly implemented, and environmental effects are occurring as predicted. Additionally, the process indicates whether the

application of management area prescriptions is responding to public issues as well as management concerns. The evaluation of monitoring results allows the Forest Supervisor to initiate actions to improve compliance with management direction and determine if any amendments to the plan are needed to improve resource management. Monitoring is conducted by field reviews of projects, inventory, survey work conducted by forest service resource specialists, research scientists, universities, state resource agencies, and other cooperators. Addressing the monitoring questions is accomplished by evaluating the results of annual monitoring activities.

This 2024 biennial monitoring evaluation report for the KNF documents monitoring activities that occurred during fiscal years 2022 and 2023. Resource specialists answered the monitoring questions to determine if current activities and monitoring described in Chapter 5 (the monitoring program) of our forest plan are moving the forest toward or maintaining the desired conditions or objectives.

The detailed resource reports that were used to build this monitoring report are available in the project record upon request. For a complete listing of monitoring elements, including method of data collection, monitoring frequency, and reporting interval for each, see Appendix F in the forest plan.

In the following pages of this report, you'll learn details about the key results of our monitoring efforts, and the changes that we're recommending to our forest supervisor. Lastly, we provide a summary table (**Table *2***) at the end of the report that rolls up the progress and recommendations for each of the 62 monitoring questions.

Forest Supervisor's Certification

This report documents the results of monitoring activities that occurred from fiscal year 2022 through fiscal year 2023 on the KNF.

I have evaluated the monitoring and evaluation results presented in this report. I have found that there are no recommended changes to the 1999 Land Management Plan at this time. The 2022-2023 recommended actions will be implemented unless new information or changed resource conditions warrant otherwise. I plan on having deeper examination of the recommended changes through engagement with resource specialists.

The KNF is currently in the beginning stages of forest plan revision. This will be the final BMER for the KNF, until the new forest plan is signed.

Lisa W. Lewis
FOREST SUPERVISOR

Status of Air, Soil, Water Conditions

The Forest's resources of air, soil, and water are conserved and protected. Air, soil, and water provide the basic elements for healthy, functioning ecosystems. Projects and activities on forest lands can impact air, soil, and water quantity and quality, so we monitor them to help us determine the types and level of the impacts to these resources. The forest plan aims to maintain healthy watershed conditions within the forest considering water quality, water quantity, soil productivity, and vegetation.

Smoke from prescribed fire occurs frequently and may temporarily affect air quality in localized areas. Smoke management practices provide for effective smoke dispersal. Class II air quality is maintained.

Streams recharge groundwater aquifers, provide habitat for aquatic and riparian dependent species, and supply water for a variety of human uses. The KNF provides roughly 14 million gallons of water a day to Rapides Parish, through watersheds and wells. Healthy watersheds support important ecological benefits such as productive soils, biological diversity, wildlife habitats, water supplies, and flood control benefits.

Our main sources of information about the status of watersheds come from the Watershed Condition Framework, a nationally consistent approach for assessing and implementing restoration efforts on priority watersheds on national forests and grasslands.

Monitoring Questions

Objective 1-1; Monitoring Question 1: Are management practices designed to minimize soil erosion, compaction and loss of soil productivity being applied?

Objective 1-1; Monitoring Question 2: Is allowable soil loss being exceeded? Are disturbed and degraded areas being restored and revegetated to a natural condition?

Objective 1-1; Monitoring Question 3: How do timber management practices, especially timber harvesting, and consequent compaction, affect soil productivity?

Objective 1-2; Monitoring Question 1: Are management practices designed to minimize contamination, sedimentation, and maintain stream channel stability being applied?

Objective 1-2; Monitoring Question 2: Are State water quality standards and State anti-degradation policies being met? Is water quality being degraded?

Objective 1-3; Monitoring Question 1: Are Forest Service and the La. Dept. of Agriculture & Forestry's smoke management guidelines and regulations being applied? Are performance requirements concerning air quality being incorporated in permitted activities?

Objective 1-3; Monitoring Question 2: Does air quality meet NAAQS and State standards?

Objective 2-6; Monitoring Question 1: Are lake predator-prey populations in balance? Are management practices sufficiently protecting stream and lake habitats? Are primary aquatic food chain organisms being impacted by siltation?

Objective 2-6; Monitoring Question 2: Are lake populations healthy? Are nonnatives and / or generalist-omnivore natives affecting lake biomass and balance? Is lake habitat sufficient?

Additional Questions from the 2012 Planning Rule:

How has climate variability changed and how is it projected to change across the region?

How is climate variability and change influencing the ecological, social, and economic conditions and contributions provided by plan areas in the region?

What effects do national forests in the region have on a changing climate?

Are long and short leaf pine management activities moving toward a reduction in climate related vulnerability by restoring and maintaining a healthy resilient native ecosystem in appropriate management areas?

Key Results

The Clean Air Act requires Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) for six common air pollutants. These pollutants are particulate matter, photochemical oxidants (including ozone), carbon monoxide, sulfur oxides, nitrogen oxides and lead. All Parishes within the KNF are within attainment (https://www3.epa.gov/airquality/greenbook/anayo_la.html). The Forest followed the direction and parameters of the "Louisiana Smoke Management Voluntary Guidelines". A burn plan is prepared for each prescribed fire. In addition, smoke sensitive areas, site specific concerns, and smoke management criteria for the individual burn units are identified in the burn plan.

Best Management Practices (BMPs) were monitored using the Forest Service's National BMP monitoring protocol. BMPs are part of all NEPA analyses and decisions. BMPs were monitored in FY 2022 and FY 2023. Monitoring events, determining effectiveness and implementation of BMPS, are given a composite score of Excellent, Good, Fair, Poor, or No Plan. Ground-Based Skidding and Harvesting had 9 Excellent monitoring events, while Prescribed Fire had 7 Excellent and 2 Good monitoring events. The Southern Research Station's Long Term Soil Productivity study has not produced any new publications that would lead us to change our design features or BMPs.

Water quality on a select number of streams is monitored quarterly for the following parameters: temperature, specific conductivity (µS/cm), pH, turbidity (NTU), and dissolved oxygen (mg/L). All monitored streams have Louisiana pearlshell mussels except for Saline Bayou. Quarterly samples indicate that streams meet state water quality standards for the parameters tested. Bi-weekly testing of fecal coliform levels at Kincaid (Calcasieu Ranger District), Caney Lake

(Caney Ranger District), and Stuart Lake (Catahoula Ranger District) swim beaches indicated that water quality standards for protection of public health and safety were commonly met.

Population trends of management indicator species (MIS) suggest that BMPs 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. Relative weights of fish are within acceptable limits and no diseased fish have been observed. Predator / prey populations across the Forest are sufficient for a sustainable recreational fishery. Lake water quality and habitat are adequate. Vegetation management and habitat work is ongoing on several lakes.

The impacts of climate variability and of management on climate is assessed at the regional scale. The Regional Broad-Scale Monitoring Strategy is posted on-line at https://www.fs.usda.gov/main/r8/landmanagement/planning#Monitoring. As of 2020, the Southern Region has updated the Regional Broad-Scale Monitoring Strategy. The Southern Region has decided to build this strategy in "stages", structured around the eight monitoring requirements identified in the 2012 Planning Rule at 36 CFR 219.12(a)(5). The Southern Region has completed the second stage. These regional monitoring reports identify monitoring questions and indicators addressing changes on plan areas related to climate change; and progress toward meeting social, economic and cultural desired conditions.

- Broad-Scale Climate Change Monitoring Evaluation Report for the Southern Region
- Five-Year Report for the Regional Broad-Scale Monitoring Strategy for the Forest Service Southern Region

Recommendations

Continue to check U.S. Environmental Protection Agency's website for nonattainment areas and follow the direction and parameters of the "Louisiana Smoke Management Voluntary Guidelines." Continue preparation of burn plans for prescribed fires.

Continue to use the Forest Service's national BMPs protocol for monitoring while continuing to monitor BMPs for implementation and effectiveness. Review any new Long Term Soil Productivity publications produced by the Southern Research Station. Restore and revegetate disturbed areas as needed.

Continue to monitor water quality to ensure that stream and lake habitats are being protected. In lieu of extensive water chemistry analysis of forest streams, monitor the same streams for temperature, specific conductivity (µS/cm), pH, turbidity (NTU), and dissolved oxygen (mg/L) via a portable water quality probe. Continue to monitor for the health of stream and lake ecosystems. Establish size and creel limits on the Forest if needed to ensure recruitment and sustainability of the resource. Continue stock assessments and replenish fish when needed. Continue sampling and analyzing data. Continue required monitoring for coliform bacteria at KNF swim beaches. Continue implementation of BMP and streamside habitat protection zones (SHPZ).

Status of Select Biodiversity Conditions

Biological diversity is critical to sustaining healthy ecosystems. Forest management activities are proposed to improve forest health by increasing vigor, replacing off-site species with species appropriate to the site, or replacing non-native invasive species with native species. Forest health proposals are designed to eliminate, suppress, or reduce infestations of forest insect and disease pests. Sound timber management practices help establish and maintain healthy and productive forests.

The KNF supports a natural diversity of species and habitats. A diverse habitat varies in number and species of trees, with different types of herbaceous understory. We aim to maintain or improve terrestrial, aquatic, and riparian habitats. Threats to ecosystem health includes dense stands of trees, wildfire suppression, and the spread of invasive species, insects, and disease.

Monitoring Questions

Objective 1-5; Monitoring Question 1: Do management practices provide for correct site/species selection, reduce overstocked stands to optimum levels and insure prompt detection and control of insects and diseases?

Objective 1-5; Monitoring Question 2: Has management resulted in a decrease of susceptibility of southern pine beetle and other pests? Are pest incidents decreasing with applied integrated management?

Objective 2-1; Monitoring Question 1: Are management practices designed to restore or maintain the structure, composition, and processes of the four major landscape forest ecosystems and the embedded plant communities within them being implemented?

Objective 2-1; Monitoring Question 2: Are the management practices successfully restoring or maintaining quality forest ecosystems; and, the structure, composition, and processes of the four major landscape forest ecosystems?

Objective 2-2; Monitoring Question 1: Are management practices successfully expanding quality habitats for management indicators?

Objective 2-2; Monitoring Question 2: Are the habitat objectives for selected management indicators providing for healthy populations of all existing native and desirable nonnative wildlife, fish, and plants?

Objective 2-3; Monitoring Question 1: I: Are management practices designed to protect, improve, and maintain threatened, endangered, sensitive, and conservation species being implemented? Are management strategies designed for Red-cockaded Woodpecker habitat management being implemented within designated habitat management areas?

Objective 2-3; Monitoring Question 2: Are habitat conditions for threatened, endangered, sensitive, and conservation species improving?

Objective 2-3; Monitoring Question 3: Are Red-cockaded Woodpecker and Louisiana pearlshell mussel population trends responding positively to management strategies?

Objective 2-4; Monitoring Question 1: Are management practices designed to develop old-growth forest attributes being implemented?

Objective 2-4; Monitoring Question 2: Are the management practices successfully developing or maintaining forest attributes similar to those found in old growth?

Objective 2-5; Monitoring Question 1: Are streamside habitat protection zones and riparian area protection zones being delineated and managed as prescribed?

Objective 2-5; Monitoring Question 2: Are these zones successfully protecting or enhancing unique plant and animal communities, special habitat features, habitat linkages, and aquatic ecosystems?

Objective 3-4 Monitoring Question 1: Are forage resources being maintained or improved on the designated allotments?

Objective 3-4 Monitoring Question 2: Are active allotments meeting the needs of the local demand for forage resources?

Key Results

Thinning is implemented to reduce competition in the young stands of longleaf and shortleaf pine plantations, resulting in improving site/species selection. Restoration is used to convert sites to appropriate tree species. Program management provided for the thinning of 1,619 acres of loblolly stands (FY 2022: 679 acres, FY 2023: 940 acres), reducing the Southern Pine Beetle (SPB) hazard rating of these acres. Additionally, 2,569 acres were converted from loblolly pine, highly preferred by SPB, to more resistant longleaf or shortleaf pines.

Thinning and restoration in timber sales sold are implemented to restore or maintain the landscape of the forest ecosystems. Other management activities such as wildlife habitat management improvement and prescribed burning are implemented to maintain the landscape of the forest ecosystems. Timber stand improvements on young longleaf and shortleaf pine stands help improve the ecosystem.

For FY22 and FY23, a total of 2162 acres of longleaf pine were planted across the Forest. No shortleaf pine was planted during this period. The planted longleaf acres increased the early successional habitat.

Southern Pine Bettle (SPB):

SPB populations are dynamic; findings from 2022 and 2023 trapping efforts indicate that SPB populations continue to be low, as they have been for nearly three decades. District personnel monitor KNF forests in part by deploying three funnel traps baited with a pine volatile lure and two sex pheromone lures (all attractants to SPB) in the same locations on each of the five KNF Districts each year. These surveys consist of four weekly collections conducted in both spring and fall, during the natural dispersal periods when it is likely to capture SPB colonizing new lightning-struck trees, drought-stressed trees, or pines which are otherwise stressed. The District personnel distribute traps across the Ranger Districts near pine-dominant areas, which ideally remain in that same location each year to monitor local population trends. The survey results do not rule out the possibility that SPB may be locally more or less abundant across the Ranger Districts in areas distant from traps, so these results are regularly combined with additional trapping, ground, aerial and satellite survey information to provide a more complete assessment and more accurate predictions. These results, when compared to the collection totals reported in years previously, indicate extremely small, static SPB populations on the KNF Districts.

Table 1. SPB Trapping Survey Summary: Kisatchie National Forest, 2022-2023

	2022		2023	
Ranger District	**Spring**	**Fall**	**Spring**	**Fall**
Caney	0	0	0	0
Calcasieu	0	1	0	0
Catahoula	4	0	1	0
Kisatchie	0	0	0	0
Winn	0	0	0	0

*All values are totals of 3 traps per District

Table 1 indicates how few SPB were collected on KNF lands over the last two years. (Note--in areas where SPB populations are large and causing active infestations, the total SPB collected per District may number in the thousands over the four-week trapping period).

The LA Dept. of Agriculture and Forestry (LDAF) also conducts a six-week spring SPB trapping survey using the same traps and attractants as those described above. State personnel deploy one to two traps in each of the 25 pine-rich Parishes in the State.

In 2022, LDAF collected just nineteen individual SPB west of the Mississippi (MS) River, in Caldwell Parish (6) and western Rapides Parish (13). LDAF collected no other SPB in traps

across central and north LA. In 2023, LDAF reported extremely low SPB collections west of the MS River over the six-week collection period; these beetles were collected in Bienville (31), Evangeline (1), Beauregard (4), and Red River (2) Parishes.

These low collection totals in traps west of the MS River indicate small, insignificant SPB populations. A lack of reported SPB infestations (through LDAF aerial surveys and KNF ground surveys) support this assertion. The few spots LDAF reported that were ground-truthed by Forest Health Protection (FHP) consisted of dead and dying trees colonized by secondary species, including the Ips Engravers, Southern Pine Sawyer, and Black Turpentine Beetle.

Laurel Wilt Disease (LWD):

By 2019-2020, LWD had progressed east and southward into the central LA region, causing sassafras, swamp bay, and spicebush mortality. The redbay ambrosia beetle, which readily colonizes healthy hosts exclusively in the family Lauraceae, vectors the fungal pathogen which causes the disease. Redbay ambrosia beetles preferentially attack larger diameter trees (approx. >5" DBH), however we have observed infected smaller diameter stems. Only the smaller diameter sassafrass and swampbay (2-3" DBH) occurs on the landscape on each KNF Ranger District.

Emerald Ash Borer (EAB):

The emerald ash borer (EAB), a flat-headed borer in the family Buprestidae which attacks only species within the family Oleaceae, is progressively moving southward in LA. Traps detected EAB in Natchitoches, Winn, and LaSalle Parishes in 2021, and Grant Parish in 2022. FHP is currently maintaining detection traps on the Calcasieu R.D., and we have collected no EAB as of the end of the 2024 adult flight season. Ash mortality began in 2015-2016 on the Caney RD and in 2023 we observed ash morality on the central LA Ranger Districts, when significant crown dieback and mortality was noted among white ash growing in the calcareous woodlands near the Keiffer Prairie sites. In the past it has progressed southward at a rate of 15-20 mi/year, and it is therefore likely that undetected EAB is now in Rapides and Vernon Parishes. In many cases there is a time lag that may span a few years between initial detection and observed tree mortality (though this is highly variable due to the difficulty in trapping adults when populations are low). In some cases, initial detections within LA have been due to the observation of ash mortality rather than through traps, indicating EAB was present for multiple years prior to detection.

The relatively low abundance of *Fraxinus* sp. on the primarily upland KNF Districts, except for those occurring in the calcareous woodlands, will reduce the ecological impact of losses of these hosts across the KNF landscape. Note—while EAB has been confirmed to attack white fringetree / grancy graybeard, it is a poor host and significant tree mortality is unlikely.

"Hotter Drought" of summer/fall 2023:

Beginning in the summer of 2023 and not breaking until the late fall, most of Louisiana (LA) experienced severe to exceptional drought conditions (resulting in the 8th driest year ever recorded for the state, with nearly 75% of the state classified as being in exceptional drought by

mid-November). Accompanying the widespread, prolonged and pronounced drought, much of the state (i.e., central and southwest LA) also experienced higher than normal maximum daily air temperatures over an extended period during the summer (i.e., a heat wave), including numerous instances of extreme and record setting heat (e.g., 100-110° F). 2023 ended up as the hottest year on record in LA, since weather data has been recorded (i.e., 1895). This unprecedented hotter drought event caused extreme moisture stress on trees everywhere and fostered a large scale outbreak of Ips engraver beetles, capitalizing on the abundance of weakened and susceptible host trees. Widespread tree mortality, particularly among loblolly pines approx. 20-yrs old or greater and among various hardwood species, began in late 2023. Mortality has been variable but extensive across the landscape, and the final impact of this historic event will not be known for years. Ground and remote sensing surveys appear to reflect that the trees and forests of KNF were not nearly as adversely impacted as the trees/forests in urban and wildland urban interface areas. Many trees which survived the initial stress are now vulnerable and susceptible to other stressors, including additional climatic extremes, fire, insect and disease pressure, etc.

Terrestrial:

Overall, management practices were somewhat expanding or maintaining quality habitat for terrestrial wildlife management indicator species (MIS) associated with longleaf pine, pine/hardwood, and riparian ecosystems. Quality shortleaf pine/oak hickory forest were somewhat maintained but not significantly expanded. A total of 2,162 acres of longleaf pine were planted, 0 acres of shortleaf pine were planted, and 17,363 acres were harvested and thinned to improve native longleaf pine and shortleaf/oak hickory ecosystems across the Forest. To maintain native upland ecosystems, approximately 2,688 acres were treated to control invasive species and mid-story vegetation and to release young plantations. Approximately 274,172 acres of upland forest were also burned to maintain existing wildlife habitat. Many terrestrial management indicator populations were likely still recovering from the impacts caused by the multiple wind events, hard freezes, and a historical drought that have occurred since 2020.

Results from wildlife surveys and research conducted prior to the historic 2023 summer drought indicate that terrestrial threatened, endangered, sensitive, conservation (TESC), MIS, and game species populations were at least somewhat stable or increasing. This suggests that our habitat management objectives are sufficient in providing healthy populations for all native and desired wildlife populations. For example, we detected more northern bobwhite, red-headed woodpecker, red-cockaded woodpecker, northern parula, and pileated woodpecker during our 2023 annual breeding bird survey than in the last 10 years. However, we expect the 2023 drought negatively impacted many of our wildlife populations, at least temporarily.

Management practices were implemented to improve or maintain many TESC species populations, including the red-cockaded woodpecker (RCW) though not always at the level possible or desired. Surveys and research conducted indicate terrestrial TESC species populations were at least somewhat stable or increasing during this time. We observed more RCWs during our 2023 annual breeding bird survey than in the last 10 years. Record numbers of RCW hatchlings survived during this time. Such increases may have been primarily a result of weather (e.g., wind events thinning the overstory and relatively dry springs improving hatchling

survival) combined with active RCW cluster management. However, no Louisiana pinesnakes were observed or trapped on the Vernon Unit or Kisatchie District during this time. We expect the 2023 drought negatively impacted some of our TESC populations, at least temporarily. Population growth increased from 33.7% to 42% (8.3 % growth rate) of KNF recovery goals for RCW during this time.

Treatments have been designed to restore species diversity and composition by increasing acres of native longleaf pine; to promote growth of trees into the larger, older age class to sustain RCW nesting and roosting habitat; and to move toward the historic disturbance regime by returning fire to the landscape. Stands are continuing to age since the forest plan was signed.

The Forest's prescribed burning program is the most important management tool used for restoration of pre-settlement habitats. Prescribed fire can also be very effective in protecting, improving, and maintaining TESC species. On a small scale, some bogs were managed for the benefit of sensitive and conservation species by clearing encroaching shrubs and trees.

Treatment of non-native invasive species continues to improve habitat, with approximately 649 acres treated in 2022 and 2023.

Habitat conditions are improving or declining for TESC species, depending on the area and the species. However, Louisiana pinesnake on the Catahoula has declined mostly due to decreased prescribed burning.

Louisiana Pearlshell Mussel (LPM):

Mussels were monitored in FY 2022. Not all beds were counted and scattered mussels between beds were not counted. On the Calcasieu Ranger District, in beds that we were able survey, the numbers declined after the 2020 hurricanes but were still higher than the pre-2019 levels. Some of the decline may have been due to actual loss of mussels, but some may have been due to difficulty in seeing all the mussels because of the large woody debris in the streams. The Catahoula Ranger District population has continued to decline since 2007. The mussel population on Forest Service land is now very close to complete extirpation. Drought and predation are believed to be the main causes of this decline in many of the streams. The Forest Service is working closely with the U.S. Fish and Wildlife Service (USFWS) on addressing predation and on mussel head-starting for future reintroductions.

The USDA Animal and Plant Health Inspection Service (APHIS) continues to monitor beaver activity on LPM streams. Beavers and dams are removed when activity is negatively affecting LPM. There are no active range allotments on the KNF.

Per the 2012 Planning Rule Monitoring Transition, the plan monitoring program must include monitoring questions and indicators on the status of a select set of focal species to access ecological conditions (see 36 CFR 219.12(a)(5)(iii)). A "focal species" is defined as a "species whose status permits inference to the integrity of the larger ecological system to which it belongs and provides meaningful information regarding the effectiveness of the plan in maintaining or restoring the ecological conditions to maintain the diversity of plant and animal communities in

the plan area" (36 CFR 219.19).

The following table (Table 2) shows the species that have been identified as "focal species" for this plan's monitoring program, along with ecological conditions that each focal species will serve as an indicator of.

These species are already being monitored in the existing monitoring program and will continue to be monitored according to the protocols already established. However, the evaluation of the information gathered from the monitoring of these species will now be used within the context of evaluating the integrity of the ecological system the species is a part of, along with the effectiveness of the plan in maintaining or restoring those ecological conditions. A "focal species" is defined as a "species whose status permits inference to the integrity of the larger ecological system to which it belongs and provides meaningful information regarding the effectiveness of the plan in maintaining or restoring the ecological conditions to maintain the diversity of plant and animal communities in the plan area" (36 CFR 219.19).

Table 2. Focal species, ecological system/conditions and status

Focal Species	Ecological System/Conditions	Status
Longleaf Pine	Longleaf pine landscape community.	The KNF continues to make progress in the restoration of longleaf pine and associated native communities through active management activities: timber harvests, prescribe burning, natural and artificial regeneration, competitive vegetation control.
Shortleaf Pine	Shortleaf oak-hickory landscape community.	The KNF continues to make progress in the restoration of shortleaf pine and associated native communities through active management activities: timber harvests, prescribe burning, natural and artificial regeneration, competitive vegetation control.
Red-cockaded Woodpecker (RCW)	Longleaf pine landscape community.	Population stable.

Recommendations:

Stand exams need to be continued on 10 percent of the forest every year and used to continue preparing environmental documents addressing management practices on as many of these acres as possible. Identify restoration and forest health needs through the inventory process and incorporate them into the NEPA process. Thinning overstocked pine stands will improve

growing conditions of residual tree species and reduce the susceptibility of pine stands to SPB, Ips, and climatic extremes. Emphasize longleaf and shortleaf restoration, where applicable, in project level management activities.

Detection and monitoring of SPB using all available tools, including routine aerial and trapping surveys and satellite imagery, should continue in KNF. LA Department of Agriculture and Forestry continues to maintain an ash wood quarantine restricting the movement of ash material (unless wood is fumigated, and chips are of a prescribed size) out of positive Parishes to nearby mills.

Field-check samples of implemented project decisions. Monitor management practices being implemented within streamside and riparian area protection zones for compliance with the forest plan, through timber sale contract administration and field checks. Continue to adhere to forest plan guidance.

Increase the annual number of acres treated with management practices, such as timber harvest/thinning, prescribed burn, and invasive species control to expand and restore quality habitat for MIS and TESC Species (especially RCW). Conduct after-action evaluations to ensure Forest projects are meeting wildlife habitat objectives. Continue to conduct or permit regular surveys for a variety of our TESC, management indicator, and game species. Monitor LPM streams that are prone to drought and investigate streams that are experiencing depredation. Control beaver activity and enforce regulations that prohibit off-road vehicles (ORV) from damaging LPM habitat. Rehabilitate areas that are contributing to LPM habitat damage. Provide assistance to the USFWS and interested parties with habitat improvements, monitoring, head-starting, and reintroductions. Continue to release Hatchery Head-started mussels as they become available.

Continue the current prescribed burning program of 80,000 to 160,000 acres per year. Increase the ratio of growing season burns to dormant season burns, since growing season burns are critical for successful gains in our botanical restoration efforts. It is important to increase efforts to remove encroaching woody plants in the Winn District prairies and in pitcher plant bogs throughout the forest, as these natural communities provide habitat for many of our TESC species. Due to the extreme stress imposed during the hotter drought of 2023, avoid prescribed burns under marginal conditions in stands/compartments with obvious, significant canopy decline (crown dieback, thinning crowns), when possible.

The Forest needs to consider old growth areas during project level proposals and interdisciplinary team meetings. Evaluate old growth characteristics in project level NEPA analysis. Continue emphasis on tracking and reporting old growth allocations at the project and landscape scale. Continue prescribed fire and commercial thinning in some old growth patches in the uplands to enhance the old-growth attributes and help mold appropriate overstory and understory composition.

Encourage and foster greater participation in the range program.

Status of Cultural Resources

The forest plan aims for cultural resources to be fully integrated into the management of the forest, where proper monitoring, stewardship, and preservation of the cultural resources is carried through an effective heritage program. The program assures effective and efficient care and management of the resources. It fosters the linking of past and present peoples by expanding the knowledge and understanding of history; and permits scientific and academic engagement with the available resources.

Some benefits, such as timber, have an easily identifiable monetary value. Others, such as cultural heritage, have tangible forms of value, such as artifacts, buildings, and landscapes, and intangible forms of value that support value systems, beliefs, traditions, and lifestyles All historic properties that are eligible, potentially eligible, or may suffer an adverse effect from one of our undertakings are protected. The KNF Heritage personnel are included at the planning and implementation stage of an undertaking to determine how the undertaking will potentially affect the known historic properties, and potential historic properties, located within the KNF. The forest supervisor consults with the State Historic Preservation Office and federally recognized tribes on each project prior to a decision being made.

Significant heritage resources are protected, managed, and interpreted to provide visitors an understanding of the cultural heritage of the Forest.

Monitoring Questions

Objective 5-1; Monitoring Question 1: Are significant archeological and historical sites being identified, prior to project decisions, through inventories conducted in consultation with the Louisiana State Historic Preservation Officer (SHPO) according to the National Historic Preservation Act (NHPA), 36 CFR 800, NEPA, and the Southern Regional Heritage Programmatic Agreements (PA)?

Objective 5-2; Monitoring Question 1: Is law enforcement and heritage support provided at sufficient levels to protect significant heritage sites from internal and/or external activities?

Objective 5-2; Monitoring Question 2: Are protection measures effective at preventing unacceptable damage?

Objective 5-3; Monitoring Question 1: Are sufficient numbers of significant or potentially significant sites being evaluated so that the number of backlogged properties decreases each year?

Objective 5-4; Monitoring Question 1: Are sites and heritage values being identified for public interpretation?

Objective 5-4; Monitoring Question 2: Has interpretation enhanced awareness of heritage values among the general public?

Key Results

A total of 29,769 acres were surveyed for cultural resources through Phase 1 Survey. All compliance reviews and consultations pursuant to Section 106 of the National Historic Preservation Act (NHPA) were completed prior to agency decisions. Pilot testing of sharing digital site boundaries and placing temporary flagging, rather than physically marking them with white paint, has been effective in preventing internal site damage while also not broadcasting site locations for unauthorized excavations. More than 75 site evaluations have been completed since acquiring hurricane relief funding in 2021. This is one of the largest Phase II site evaluation projects for the Forest Service in the nation. Another 50 site evaluations are planned for 2025.

Phase III salvage excavations on the Calcasieu District by University of Louisiana Lafayette and USFS were covered by local and national media, as the project documented one of the earliest known archaeological sites in Louisiana.

More than a half-dozen ongoing Archaeological Resources Protection Act (ARPA) cases have required archaeological damage assessments. Zone archaeologists and Heritage Program Manager work closely with all resource areas to ensure sites are not damaged by internal activities.

Rivercane, a culturally important plant, has been featured in numerous media reports, including interviews with the Forest Archaeologist and Botanist. The Heritage Program has worked extensively with affiliated Tribes, the National Forests and Grasslands in Texas, NRCS, and other partners to develop a rivercane identification and restoration plan. This has resulted, so far, in the identification of over 50 rivercane patches on KNF, and a pilot rivercane propagation program with the Jena Band of Choctaw Indians with 100 rivercane seedlings being grown at their cultural center. Northwestern State University and University of Louisiana Lafayette have assisted in curating both artifacts and documents to proper curation standards.

The Forest continued government-to-government relations with nine federally recognized tribal nations. These include the Caddo Tribe of Oklahoma, the Chitimacha Tribe of Louisiana, the Coushatta Tribe of Louisiana, the Jena Band of the Choctaw Indians, the Tunica Biloxi Tribe, the Choctaw Nation of Oklahoma, the Mississippi Band of Choctaw, the Alabama-Coushatta, and the Quapaw Tribe of Oklahoma.

A sign commemorating the first African American Tank Battalion in WWII was erected at Camp Claiborne, which was filmed for a History Channel documentary. A new interpretive trail is being developed for Fullerton Mill. These projects have enhanced awareness of Native American heritage values on the Forest, as well as African American and WWII heritage.

Bipartisan Infrastructure Law (BIL) funds were allocated toward rivercane, native understory plant restoration, and high-resolution LiDAR image heritage surveys that enhance social conditions of American Indian Tribes.

Recommendations

Complete Phase I survey on medium and high-probability areas for the Caney Ranger District and continue with our protocols adhering to the Programmatic Agreement. Continue Phase II site investigations, especially for sites in or near firelines or complex management areas, as well as places on the Forest where there has been less archaeological research. Utilize information from Phase II evaluations to produce research publications. Continue evaluating new methods of site boundary marking in lieu of permanent white paint. Maximize usage of blowers on firelines near archaeological sites so that they are not inadvertently plowed into.

More funding, capacity, and support is needed for cameras, our own Special Agent specifically for KNF, and other monitoring requirements to adequately address rising ARPA violations across the forest.

Continue showcasing diverse heritage connections on the forest. Continue Tribal partnership.

Recreation/Human Influences/Infrastructure

Recreation activities provide enjoyment for millions of national forest and grassland visitors. Recreation improves physical and mental health and helps people connect with the outdoors. Participation in recreational activities is how most of us experience our national forests and grasslands. The Forest provides a wide variety of outdoor recreation opportunities and experiences. Historically hunting, camping, driving for pleasure, swimming, and fishing have been the five most popular outdoor recreation activities on the KNF. KNF is home to many spectacular natural features, including approximately 8,700 acres of designated wilderness and 19 miles of Saline Bayou (Louisiana's only National Wild and Scenic River) and many miles of trails from horseback riding, hiking, and off-highway vehicle use. Abundant wildlife, lush vegetation, magnificent scenery, and numerous recreation opportunities offer visitors much to enjoy.

Infrastructure in the forest is varied and vast, and consists of buildings, roads within the forest boundaries, external roads, parking, trails, research facilities, recreation facilities, abandoned facilities, water intakes, and non-Forest Service buildings. The forest infrastructure supports recreation, communications, access, water supply, research, and resource management.

The Forest's transportation system provides a broad spectrum of facility types and service levels to all users and visitors. Forest roads provide convenient access to developed recreation sites, trail heads, scenic areas, wilderness, lakes and streams, and wildlife management areas; and basic access requirements for management and protection.

Monitoring Questions

Objective 1-6; Monitoring Question 1: Are non-federal lands being acquired to enhance public benefits and improve management effectiveness? Are acquired rights-of-way achieving better Forest management? Are land use authorizations being issued only after all other alternatives are explored to provide goods and services? How well are landline boundaries being established, maintained, and protected from obliteration?

Objective 1-6; Monitoring Question 2: Are newly acquired lands compatible with management practices in the Management Area where they are located? Are encroachments discouraged by well-defined property lines?

Objective 2-7; Monitoring Question 1: Are management practices successfully expanding quality habitats for game and fish species?

Objective 2-7; Monitoring Question 2: Are habitat objectives for selected demand species providing game and fish populations sufficient for quality recreational opportunities?

Objective 2-8; Monitoring Question 1: Are management practices designed to protect, restore, maintain, and improve waterfowl and wetland wildlife being implemented?

Objective 2-8; Monitoring Question 2: Are these management practices successfully providing for waterfowl and wetland wildlife?

Objective 3-6; Monitoring Question 1: Are programs and opportunities for improving rural economies and social conditions being developed?

Objective 3-6; Monitoring Question 2: Are programs and opportunities improving sustainable local economies and social conditions?

Objective 3-7; Monitoring Question 1: Is the transportation facility serviceable by the intended user?

Objective 4-1; Monitoring Question 1: Is the Forest being managed in accordance with the assigned SIO's?

Objective 4-2; Monitoring Question 1: Has class eligibility shifted significantly?

Objective 4-3; Monitoring Question 1: How satisfied are our recreation customers? Are recreation resources managed in a manner that is responsive to public recreation needs yet as cost effective as possible, in accordance with the negotiated recreation program of work based on Meaningful Measures standards?

Objective 5-5; Monitoring Question 1: I: Does the interpretive services program provide usable information to the public about the full scope of forest management practices and philosophy?

Objective 5-5; Monitoring Question 2: E: Has interpretive services increased measurable public support of Forest Service resource management goals and objectives?

Objective 5-6; Monitoring Question 1: Is Forest Plan SIA direction being applied?

Objective 5-7; Monitoring Question 1: Is Kisatchie Hills Wilderness being managed to enhance and perpetuate wilderness values? Are natural processes allowed to operate freely? Is Forest Plan direction that would ensure the above being applied?

Additional Questions from the 2012 Planning Rule:

What changes are occurring in the social, cultural, and economic conditions in the areas influenced by national forests in the region?

Are the identified contributions to social and economic sustainability in the Forest Plan desired conditions being achieved?

Key Results:

No non-federal lands or ROW were acquired, thirty (30) Special Use permits were authorized, 175 miles of boundary and corners maintenance were completed and No lands were acquired in FYs 2022 or 2023. Land surveys are needed within storm damage boundary. There are five (5) areas across the forest with encroachment issues.

Turkeys on the Kisatchie and Calcasieu Ranger Districts are being studied to determine best combination and order of land management practices needed to improve turkey populations. Some game populations were likely still recovering from the impacts caused by the multiple wind events, hard freezes, and historical drought that have occurred since 2020.

Overall, objectives appear to be providing sufficient habitat for select game species, based on game and game habitat survey and harvest results on or near the Forest that were collected prior to the historic 2023 summer drought. For example, northern bobwhite detections increased across the KNF and deer browse survey results suggest management practices allow deer to meet their reproductive and growth potential for the KNF. The average number of turkey poults per hen (PPH) increased slightly from approximately 1.28 PPH from 2020-2021 to 1.43 PPH from 2022-2023.

Appropriate forest plan standards and applicable guidelines are included in management activities and associated project NEPA documents and are designed to protect, restore, maintain, and improve waterfowl and wetland wildlife.

Approximately 8 percent of the KNF is categorized as riparian / bottomland hardwoods. This percentage and the amount of open and shallow water on the Forest hasn't changed over the years. This is a good indicator that sufficient habitat for waterfowl and other wetland wildlife species is being maintained Forest-wide. Consequently, we believe current management practices are adequately providing for waterfowl and wetland wildlife species. For example, 224 wood ducks were banded in 2023 on the Caney District. LDWF regularly bands ducks using wetlands on KNF lands.

The KNF reviews 100 percent of the roads reconstructed or constructed, to ensure they are serviceable by the intended user and require no significant increase in the level or frequency of maintenance. Continue to complete transportation specialist reports for project level NEPA analysis. Recreation Opportunity Spectrum (ROS) class eligibility did not occur because only minor road construction or decommissioning was planned and accomplished. ROS class eligibility changes are primarily dependent on changes in road density and off-road vehicle (ORV) management status.

Consultations with district staff reveal recent management actions do consider Scenic Integrity Objectives (SIO). SIO considerations played a big role in the Hurricane Laura recovery assessment and planning for trails and recreation sites, especially in debris removal. Recreation site and any assigned trail inventories were completed, and data was updated to the corporate INFRA database

and critical standards are being met.

Customer service response has continued to improve. The customer service representative receives requests, questions, or complaints. The representative answers or refers to appropriate district or source for best response.

Some recreation areas continued to be closed due to damage from Hurricane Laura. A portion of the requested funding has been obtained and the rehabilitation plan is underway so that the areas can be reopened. The sustainability process is assisting the recreation staff in identifying projects that may be associated with SIAs.

Saline Bayou Interpretive Panels continue to enhance visitor education and interpretation. An agreement for a partnership continues to be instrumental in continued maintenance of Saline Bayou. Information continues to be updated annually in the Wild and Scenic River NRM database.

The Forest continues to update contents for all six education kits for the districts and the supervisor's office. The Forest continues to integrate into the wilderness monitoring strategy and INFRA reporting as required. The KNF has a representative as a member of the Southern Wilderness Advisory Group. Minimum standards were not maintained under the new performance standards, but significant progress was made.

The KNF continues to have a strong Facebook following, continuing to grow in followers over the reporting period with a total of 17,600 followers, a 76% increase from FY2021. We continue to reach people from all ages and from multiple countries. Resumed outreach efforts with monthly television appearances, media interviews for special events, and news releases to inform the public of various activities and opportunities on the Forest.

Presentations were delivered to non-profit organizations, schools, civic groups, tribal organizations, and other nontraditional audiences throughout the state and outside the Forest's boundaries as requested. Sustaining the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations is the mission the interpretive services program strives to accomplish though offering a wide array of programs, services, and resources to people of all ages, from pre-school to senior adult groups. During FY 2022 and 2023, informing the public of the Forest Service's mission and our progress in meeting our goals was achieved by utilizing media outlets. Sixteen television appearances were conducted for the local NBC affiliate morning talk show "*Good Day Cenla*", one radio interview to KVVP in Leesville was given, three magazine articles to *Forests & People* were published, four news releases were sent out during this period disseminating information about the activities of the Kisatchie and one special article devoted to Unmanned Aerial Systems use in prescribed burning was published by the local newspaper.

A total of 3,784 mentions on the worldwide web of KNF occurred during this timeframe with a potential editorial reach of 11.8 billion people, according to Meltwater which tracks such analytics for each national forest. Major stories which were shared during this time were the Tellurian donation of $25 million dollars to the National Forest Foundation which was

announced at a special event on the Kisatchie and the incredible archaeological find of 12,000-year-old artifacts on the Calcasieu Ranger District. Facebook and the worldwide web remain valuable resources to communicate with the public. During this period, the website underwent a major conversion to a new external-facing system, stream-lining the content and making the interface more user-friendly.

During FY 2022, 230 Facebook posts had a combined reach of 113,900; 7,300 visits; and 2,800 new followers. During FY 2023, 238 Facebook posts had a combined reach of 293,200; 36,400 visits; and 1,600 new followers. The KNF continues to provide funding and/or staffing for high-profile and effective interpretive programs such as Passport in Time, National Association of Conservation Districts, Louisiana Association of Conservation Districts, National Hunting and Fishing Day, Louisiana Women in Agriculture, Earth Day, LSU AgMagic, Kent House Bug Day, multiple Forestry Awareness Weeks and Project Learning Tree sessions in the colleges and local schools. During the reporting time period, over 69 presentations, field trips, or events were conducted by the public affairs staff (this does not include district staff outreach efforts), reaching an estimated 7,100 members of the public in person.

The impacts of changes in social, cultural, and economic conditions are assessed at the regional scale. These regional monitoring reports identify monitoring questions and indicators addressing progress toward meeting social, economic and cultural desired conditions.

- Broad-Scale Socioeconomic Monitoring Evaluation Report for the Southern Region
- Five-Year Report for the Regional Broad-Scale Monitoring Strategy for the Forest Service Southern Region

Recommendations:

The KNF will continue to require proponents to pass both first and second screening as well as meet all NEPA requirements. A minimum of 80 acres will be acquired to enhance public benefits.

The boundary and corner markers management program will target a minimum of 225 miles in FY 2024 and FY 2025. The KNF are looking to acquire isolated tracks of land, as well as tracks that will help provide for BMPs. Survey the townships within the storm damaged boundary.

Review proposed projects for SIO compliance. Work with districts to continue to implement scenery management system (SMS) guidelines. Monitor new projects and changes in trails or roads to identify any possible ROS class eligibility changes. Increase education of personnel on scenery management.

Encourage participation at interdisciplinary team meetings. Continue to monitor for changes annually as the Motor Vehicle Use Map (MVUM) is monitored and updated. Continue the annual update of INFRA data. Continue management of the recreation program using the IWEB INFRA system and the recreation sustainability process. Continue to improve customer service through the customer service representative. The recreation program manager will assist with

customer service requests and assist with the INFRA database and inventory needs.

Continue to move forward with rehabilitation assessments and plans to reopen trails and recreation areas affected by Hurricane Laura. Continue to update and add information to the Wild and Scenic River NRM database. Work with district personnel to determine needs and work towards solutions for SIA management. Work towards building partnerships for Saline Bayou education and maintenance. Ensure that other processes such as special uses follow guidelines for SIAs. The Forest will continue to complete wilderness character monitoring strategy progress and INFRA reporting as required. Continue to have a representative from the KNF as a member of the Southern Wilderness Advisory Group. Continue to work towards meeting and exceeding minimum performance standards set for wilderness management. Develop a Forest Wilderness Advisory Group. Work towards building partnerships for Wilderness education and maintenance of trails. Educate personnel through training about wilderness program and strategies.

Continue to utilize Facebook as a method to disperse information to the public on Forest opportunities and events. Continue outreach efforts through all forms of media: radio, television, social media and print. Continue to deliver presentations and programs to organizations, sharing information about the KNF. Continue to make regular appearances on the local television stations, submit press releases as needed, and conduct presentations for the schools and civic organizations as requested. Support ongoing conversions of the internal-facing website software program changes and recreation.gov transition. Review and update District recreational brochures. Remain supportive in providing funding and/or staffing for high-profile and effective interpretive programs such as Passport in Time, National Association of Conservation Districts, Louisiana Association of Conservation Districts, National Hunting and Fishing Day, Louisiana Women in Agriculture, Earth Day, LSU AgMagic, Kent House Bug Day, multiple Forestry Awareness Weeks and Project Learning Tree sessions in the colleges and local schools. Continue to post on Facebook information on recreation sites and other Forest activities, utilizing Facebook's wide reach with the public to disseminate information in a timely manner.

Prescribed Burning

Prescribed fire is a common practice and occurs on a large majority of the Forest. It is used to mimic natural fire regimes required to maintain the Forest's fire-dependent ecosystems. Alterations to the Forest are implemented to mimic natural ecological processes. Visible changes in forested areas result primarily from stand regeneration, stand improvement practices and the periodic use of prescribed fire.

Monitoring Questions and

Objective 1-4; Monitoring Question 1: Is wildfire protection being provided in a cost-effective manner? Are losses to wildfire being minimized?

Objective 1-4; Monitoring Question 2: Are resources identified in NFMAS being made available in accordance with budget funding levels? Are acres lost to wildfire within the range identified by NFMAS for the current budget level?

Objective 6-2; Monitoring Question 1: Are the prescribed fire regimes being applied to all appropriate landscapes as prescribed, to maintain fire-dependent ecosystems?

Objective 6-2; Monitoring Question 2: Are the natural plant communities being maintained by the prescribed fire regimes?

Key Results

To meet the desired future condition and mimic natural processes, prescribed fire must be applied on 80,000 to 160,000 acres annually. 2022 and 2023 were record breaking years for acres burned with 139,466 and 134,706, respectively, almost a 250% increase from 2020-2021 combined and more in line with program objectives. The purpose of utilizing prescribed fire is to maintain natural plant communities by varying fire timing, frequency, and intensity. To accommodate the variation required for fire timing FY 2022 burned 19% in the Fall burning season, 62% in the Dormant burning season, and 19% in the Growing season. FY 2023 burned 74% of acres in the Dormant burning season and 26% in the Growing season. An update to our Prescribed Fire Plan in 2022 introduced a "programmatic burn plan" to our program. This update made the prescribed fire planning process as well as implementation much more efficient and is a large contributing factor to our success during these years.

There were 38 wildfires for 1,460 acres in 2022. There were more wildfires in 2023 with 56 wildfires for 4,610 acres. Most of these fires were contained using USFS personnel and some required assistance through agreements with Louisiana Department of Agriculture and Forestry. During 2023 the Forest went through one of the worst droughts of all time. The state of Louisiana had more fires for more acres than ever before. Because of the Forest's robust prescribed burning program, losses on Forest Service protected land were much less than fires on State protected lands.

NFMAS is an outdated budget tool and no longer applies to the Fire Management Program.

Recommendations

Continue to utilize fuels treatment effectiveness monitoring to monitor the effects of prescribed burning on resource damage from wildfire. Continue to assess and update the fire organization to provide for the most cost-effective wildfire protection. Continue to utilize appropriate fire suppression strategies to minimize resource damage and fire suppression cost.

Utilize the updated Fire Danger Operating Plan to develop and maintain wildfire prevention plans. Complete the Prescribed Burn Plan for the Kisatchie Hills Wilderness and reintroduce fire inside of the wilderness boundary. Assess the prescribed fire monitoring program and continue to collect data regarding our prescribed fire effects, evaluate progress towards goals, and employ adaptive management to accomplish our desired future condition. Continue to update and modernize our Prescribed Burn Plans. Continue to work through the process of developing a Forest-wide Environmental Assessment to provide efficiency in our prescribed fire planning process.

Timber

The KNF provides timber products to a 30-parish market area within central and northern Louisiana. Within that area, the national forest timber supply competes with timber from private ownerships. Management activities can have a negative effect on the productivity of the land. It is important to monitor for any signs of degradation for habitat and watershed conditions. Silviculture practices should be mindful of maintaining site productivity and timber production should be based on sustainable levels. Many forest plan goals and objectives are met through vegetation management using silvicultural practices such as timber harvesting, site preparation, timber stand improvement and tree planting.

The forest plan timber sale volume is an average of volume sold on an annual basis (USDA Forest Service 1999a, Objective 3-2, page 2-5). There are 308,889 acres of lands classified as suitable for timber production and 268,271 acres of lands classified as unsuitable for timber production (USDA Forest Service 1999a, Table B-2 and Table 8-3). The forest plan (Objective 3-2) directs the Forest to offer an average of 9.69 MMCF of timber in the first decade and 11.43 MMCF of timber by the fifth decade of the plan on an annual basis (average annual ASQ). The ASQ is from the category "suitable lands" that is included in the timber commodity Outputs and Sale Schedule (USDA Forest Service 1999a, Table A- 3). Timber volume from "all lands" includes the ASQ as well as timber harvest from unsuitable lands to meet forest stewardship needs and the personal use by local citizens. Chart 1 shows the trend over time of the Forest timber volume by production area and the volume thresholds as identified in the forest plan.

Forest plan standards along with forest service handbooks and manuals provide the direction on how these practices are applied. Field reviews, spot checks and annual reports are utilized to monitor the compliance with this direction.

Monitoring Questions

Objective 3-1 Monitoring Question 1: How does the flow of commodity outputs to local economies and people compare with the Forest Plan projections?

Objective 3-2 Monitoring Question 1: Is the Forest providing for competitive bid the average annual allowable sale quantity it projected for the first decade?

Objective 3-5; Monitoring Question 1: How does management of these products compare with Forest Plan direction?

Objective 6-1; Monitoring Question 1: Are management practices designed to achieve a mixture of desired future conditions being applied?

Key Results

Vegetation treatments prescribed and sold yielded 15.62 MMCF (3.77 unsuitable lands (156,166

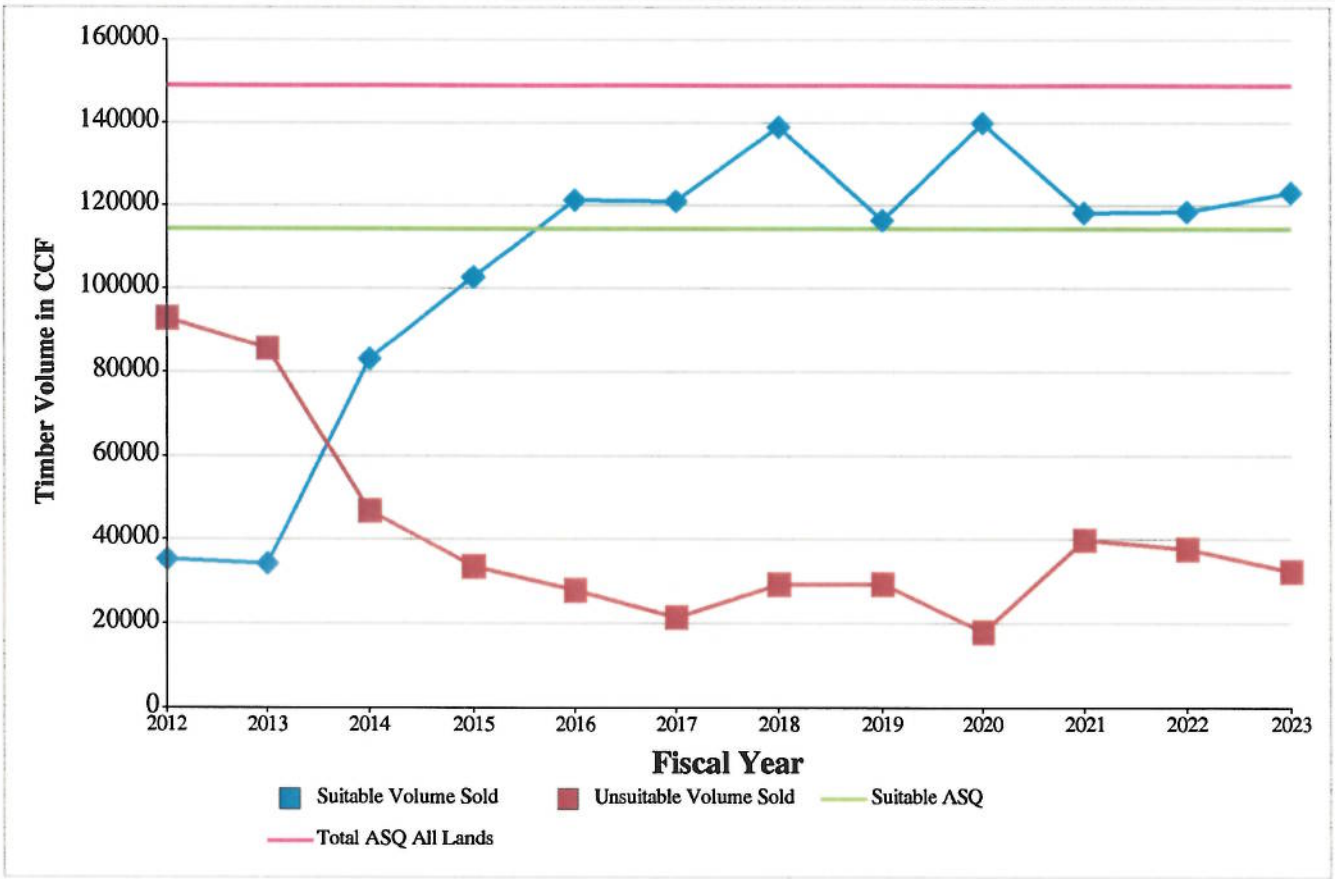


Chart 1. Forest timber volume by suitable and unsuitable production area

CCF; 37,678 unsuitable lands)) and approximately 10,887 acres to be treated in 2022 Vegetation treatments prescribed and sold yielded 15.55 MMCF (3.24 unsuitable lands (155,555 CCF; 32,404 unsuitable lands)) and approximately 10,756 acres to be treated in 2023. The average annual output from 2012 to 2023 was approximately 17.48 MMCF annually (Chart 2).

The Forest offered an average of 6.29 MMCF annually in the first decade of the forest plan. The Forest offered an average of 13.2 MMCF annually in the second decade of the forest plan, of which approximately 67 percent came from suitable lands. The forest has offered an average of 15.7 MMCF annually in the third decade of the forest plan, of which approximately 82 percent came from suitable lands.

Timber sales sold included 1313 and 1502 (2022 and 2023 respectively) acres of regeneration and 7625 and 6923 (2022 and 2023) acres of thinning for even-aged systems. Treatments included young plantation tree release, invasive species work, and mid-story removal.

Prices and markets continue to drive the demand for wood products. The future demand is uncertain, as housing starts have been in decline; markets are cautiously optimistic. Depressed pulpwood markets have had a significant impact not only locally but regionally. Capacity and markets are constraining the program's ability to increase and achieve the average of the

offer/sold levels outlined in the forest plan.

The Secure Rural Schools and Community Self Determination Act, passed in 2000 and extended in 2007 and 2008, was reauthorized in 2021. The total value of payments in 2022 was $1,921,795 and in 2023 the total value of timber receipts was $1,960,941.

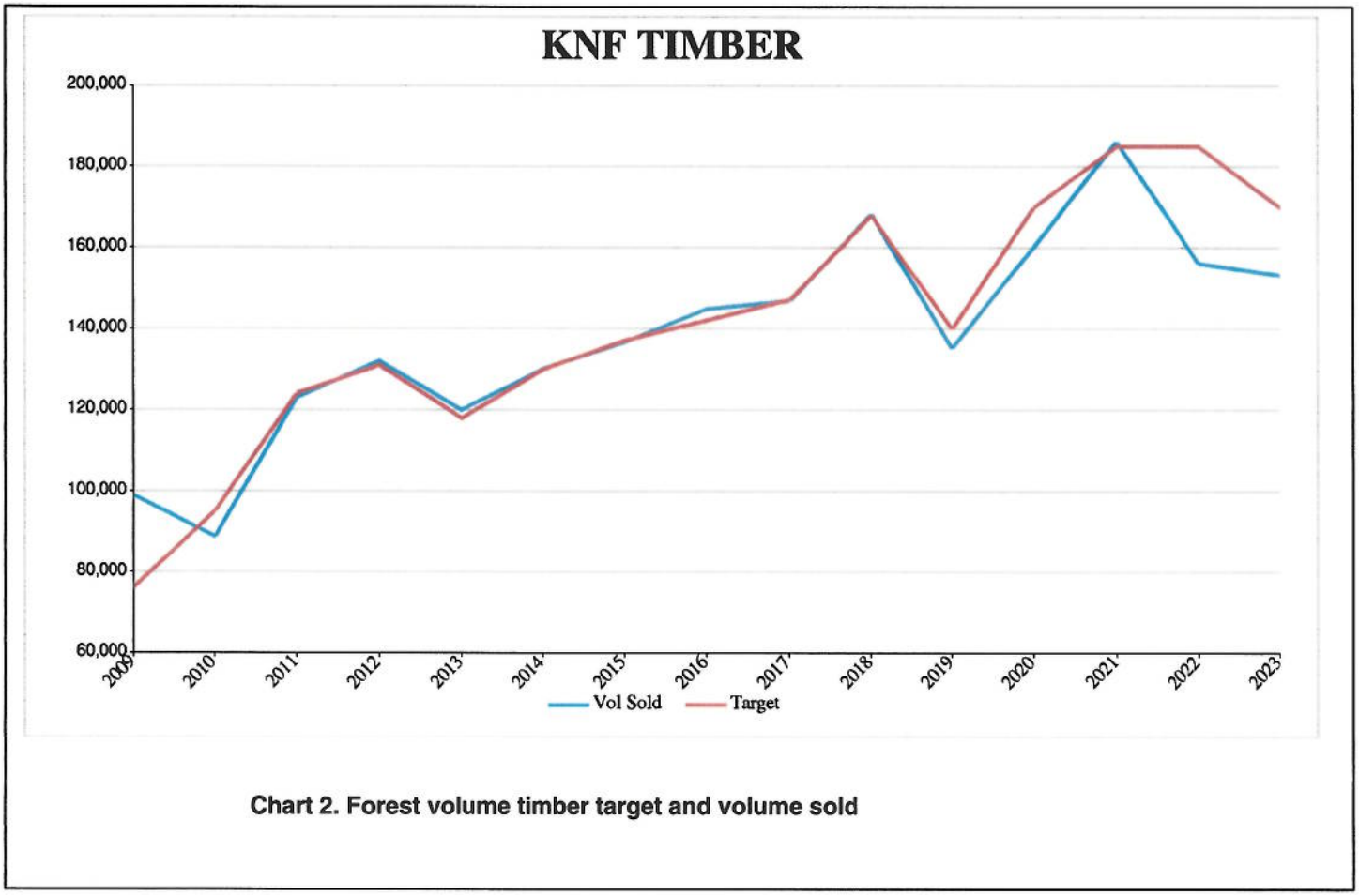


Chart 2. Forest volume timber target and volume sold

Recommendations

Maintain the current level of timber sale offering, providing economic benefits to local communities. Monitor the average annual offering and compare to the forest plan output identified for the next decade. Continue to monitor opportunities and impacts for providing economic products to local communities.

Increase scope and scale of longleaf and shortleaf pine restoration where applicable. Strive to increase the number of acres restored to longleaf and shortleaf pine. Continue to monitor sites for additional treatment needs.

Assure that treatment of NNIP is interwoven into each vegetation project. Evaluate and monitor NNIP response to treatment. Thinning prescriptions within RCW HMAs should emphasize the needed longleaf stand composition. Post implementation field checks should be done on the thinning areas to ensure sufficient longleaf emphasis, evaluate species composition changes and update the FSVeg database.

Continue restoration treatments on shortleaf/hardwood sites where there is high priority for regeneration such as stands damaged by disease, insect or storms as well as those stands showing signs of decline. Continue to complete field exams and prescriptions to meet forest plan goals.

Other

Other Forest products such as minerals development, firewood and pine straw add to the local economy and contribute towards community stability. Local communities continue to increase their economic diversity.

Monitoring Questions

Objective 3-3 Monitoring Question 1: Are parcels being made available for lease according to U.S. ownership and management restrictions? Are applications for minerals exploration and development being processed according to directions and in a timely manner? Are operating plans for exploration of private minerals being reviewed for compliance with existing State and federal laws?

Objective 3-5; Monitoring Question 2: Is the Forest providing opportunities for other specialty forest products without negatively impacting forest health or other resources?

Key Results

There were no new oil and gas leases in FY 2022 or FY 2023. No biomass was offered in FY 2022 or FY 2023, however a portion of roundwood harvested from KNF lands was hauled to a pellet mill in Urania, LA and utilized as biomass. The demand for biomass continued to remain low. In FY 2022, two decked sales of timber damaged by Hurricane Laura were sold. The public interest in collection of pinestraw has decreased over the life of the forest plan. There are currently no contracts of pinestraw collection and no request for commercial use of pinestraw. One free use permit for pinestraw was issued in FY 2022 and none issued in FY 2023. 15 permits were issued for other forest products, other than firewood, in FY 2022 and 5 issued in FY 2023. The Forest issued 2 permits for Forest Botanical Products in FY 2022 and 1 in FY 2023. There was 1 permit for native seed in FY 2022, and none in FY 2023. No negative impacts on forest health or resources are noted.

Recommendations

Process Special Use Applications for mineral, oil, and gas in a timely manner in accordance with Forest Service and Bureau of Land Management (BLM) direction. Continue offering special wood products, especially firewood, where it is appropriate. Continue offering roundwood products in normal timber sales, which allows purchasers to utilize products as biomass as the demand and prices allow. Continue offering Forest Botanical Products and Native seed where appropriate. Monitor sustainability and effects on soil and water.

Organizational Effectiveness and Collabration

To keep the revised forest plan dynamic and responsive to changing conditions, an annual Monitoring and Evaluation Report is completed that evaluates the results of our management. This report includes the implementation status of the previous fiscal year monitoring recommendations as well as the detailed results and action plan of the fiscal year being monitored. Collaboration has been a major focus from project development through implementation of the projects.

Monitoring Questions and

Objective 7-1; Monitoring Question 1: Is the Forest preparing and distributing a yearly monitoring and evaluation report to the public?

Objective 7-2; Monitoring Question 1: Is the Forest Plan being kept current through timely changes as identified in the annual M&E Report?

Objective 8-1; Monitoring Question 1: Are cooperative relationships being developed and maintained?

Objective 8-2; Monitoring Question 1: Are research needs being identified in a timely manner?

Objective 9-1; Monitoring Question 1: Are coordination and cooperation efforts being conducted with federal and State agencies?

Objective 9-2; Monitoring Question 1: Are memorandums of understanding, cooperative agreements, partnerships, and challenge cost share agreements being developed? Are we increasing the participation of groups and individuals in the accomplishment of Forest Plan goals and objectives?

Key Results

Cooperative relationships are being maintained and developed with APHIS, LDWF, TNC, NWTF, and multiple universities, zoos, and SWCDs through over 15 agreements or research permits. We work with these agencies and other non-governmental agencies to ensure the KNF stays consistent with the best available science. The KNF accommodates and recommends research activities on the Forest.

Recommendations

Need to continue relationships and partnerships to accomplish work and ensure the best available science for the Forest is achieved. Continue collaboration with other agencies, partners, private landowners, and volunteers.

Public Engagement

After publication of this monitoring report, the KNF will begin a forest plan revision process. This process will update the 1999 Revised Land and Resource Management Plan. This revision process will take several years, and all previous Monitoring and Evaluation Reports will be looked at to see what changes will be made. No future Monitoring and Evaluation Reports will be completed until the new forest plan has been signed.

Additional information is available at the following links:

Monitoring plan:
https://www.fs.usda.gov/detail/kisatchie/landmanagement/planning/?cid=stelprd3796199

Table 3 – Summary of Results and Recommendations

Kisatchie National Forest monitoring questions and evaluation addressed in this report. Possible types of recommendations include changes to the land management plan or monitoring plan, changes in management activities, or recommendations for a new focused assessment.

Table 3. Monitoring questions, results, and recommendations.

Monitoring question (MQ)	Progress Toward Land Management Plan Desired Conditions and Objectives	Recommended Actions/Next Steps
MQ1: Are management practices designed to minimize soil erosion, compaction and loss of soil productivity being applied?	Yes.	Continue to use the Forest Service national BMPs protocol for monitoring
MQ2: Is allowable soil loss being exceeded? Are disturbed and degraded areas being restored and revegetated to a natural condition?	No and Yes.	Continue to monitor BMPs for implementation and effectiveness. Restore disturbed areas as needed.
MQ3: How do timber management practices, especially timber harvesting and consequent compaction, affect soil productivity?	Unknown. No new publications have been produced from The Southern Research Stations Long Term Soil Productivity study.	Continue to use BMPs and design features to limit compaction.
MQ4: Are management practices designed to minimize contamination, sedimentation, and maintain stream channel stability being applied?	Yes.	Continue to use the Forest Service national BMPs protocol for monitoring
MQ5:Are State water quality standards and State anti-degradation policies being met? Is water quality being degraded?	Yes and No. Quarterly samples indicate that streams meet state water quality standards fror tested parameters. Public KNF swim beaches tested B-i-weekly indicated that water quality standards for protection of public health and safety were commonly met.	Continue monitoring of streams and public KNF swim beaches
MQ6: Are Forest Service and the La. Dept. of Agriculture & Forestry's smoke management guidelines and regulations being applied? Are performance requirements concerning air quality being incorporated in permitted activities?	Yes.	Continue preparation of burn plans for prescribed fire. Continue following the direction and parameters of the "Louisiana Smoke Management Voluntary Guidelines"
MQ7: Does air quality meet NAAQS and State standards?	Yes.	Check the EPAs website for nonattainment areas

MQ8: Is wildfire protection being provided in a cost-effective manner? Are losses to wildfire being minimized?	Yes and Yes.	Continue to utilize Fuels Treatment Effectiveness Monitoring to monitor effects of resource damage from wildfire. Assess and update the fire organization to provide for the most cost-effective wildfire protection. Utilize appropraite fire suppression strategies to minimize resource damage. Develop and maintain wildfire prevention plans using updated Fire Danger Operating Plans.
MQ9: Are resources identified in NFMAS being made available in accordance with budget funding levels? Are acres lost to wildfire within the range identified by NFMAS for the current budget level?	This is an outdated tool.	NFMAS is an outdated budget tool.
MQ10: Do management practices provide for correct site/species selection, reduce overstocked stands to optimum levels and insure prompt detection and control of insects and diseases?	Yes.	Continue to identify restoration and forest health needs through inventory process and incorporate them in the NEPA process.
MQ11: Has management resulted in a decrease of susceptibility of southern pine beetle and other pests? Are pest incidents decreasing with applied integrated management?	Yes and Yes. 2,162 acres were converted to Longleaf Pine. Stands are being resorted to site appropriate species. SPB and other pest are reduced and not impacting the forest.	Harvest overstocked stands making them less susceptible to pest incidents. Restore site appropriariate tree species where applicable. Continue to monitor for any pest incidents across the forest.
MQ12: Are non-federal lands being acquired to enhance public benefits and improve management effectiveness? Are acquired rights-of-way achieving better Forest management? Are land use authorizations being issued only after all other alternatives are explored to provide goods and services? How well are landline boundaries being established, maintained, and protected from obliteration?	No federal lands or rights-of-ways were acquired in FY22 or FY23. There were 30 Special Use Permits issued. 175 miles of landline boundary and corner maintenance was completed.	Minimum 80 acres for any land exchanges. Target 225 miles of boundary and corner maintenance over the next 2 years.

MQ13: Are newly acquired lands compatible with management practices in the Management Area where they are located? Are encroachments discouraged by well-defined property lines?	No lands were acquired. 5 areas of encroachment have been identified.	Aquire isolated tracks of land, as well as tracks of land that help with BMPs. Survey lands in storm damaged areas.
MQ14: Are management practices designed to restore or maintain the structure, composition, and processes of the four major landscape forest ecosystems and the embedded plant communities within them being implemented?	Yes.	Continue stand exams on 10% of the forest. Emphasize longleaf and shortleaf restoration. Field check implementation of project decisions.
MQ15: Are the management practices successfully restoring or maintaining quality forest ecosystems; and, the structure, composition, and processes of the four major landscape forest ecosystems?	No. A total of 2,162 acres of longleaf pine was planted. 0 acres of shortleaf pine planted.	Keep striving to restore longleaf and shortleaf pines. Monitor management practices being implemented within the streamside and riparian management zones for compliance with forest plan.
MQ16:Are management practices successfully expanding quality habitats for management indicators?	Mixed results. Management practices were somewhat expanding or maintaining quality habitat for terrestrial wildlife MIS associated with longleaf pine, pine/hardwood, and riparian ecosystems. Shortleaf pine/oak ecosystem is somewhat maintained, but not significantly expanded.	Increase the number of acres treated with management practices wo expand and restore quality habitat. Conduct after action reviews to ensure Forest projects are meeting objectives.
MQ17: Are the habitat objectives for selected management indicators providing for healthy populations of all existing native and desirable nonnative wildlife, fish, and plants?	Yes. Results from wildlife surveys and research shows populations were at least somewhat stable or increasing during this time. However, we expect the 2023 drought negatively impacted many of our wildlife populations, at least temporarily.	Increase the number of acres treated with management practices. Expand and restore quality habitat. Conduct after action reviews to ensure Forest projects are meeting objectives.
	Yes and Yes. The forest's	

MQ18: Are management practices designed to protect, improve, and maintain threatened, endangered, sensitive, and conservation species being implemented? Are management strategies designed for Red-cockaded Woodpecker habitat management being implemented within designated habitat management areas?	prescribed burning program is the most important tool used for restoration of pre-settlement habitats. Treatment of non-native invasive species continues to improve habitat for TESC and RCW. More RCW observed in 2023 annual breeding bird survey than in the last 10 years.	Continue prescribed burning on 80,000 to 160,000 acres per year. Increase ratio of growing season burns to dormant season burns. Increase the number of acres treated with management practices. Expand and restore quality habitat. Conduct after action reviews to ensure Forest projects are meeting objectives.
MQ19: Are habitat conditions for threatened, endangered, sensitive, and conservation species improving?	Mixed Results. RCW is improving on districts. The Louisiana Pinesnake is declining because of lack of prescribed fire.	Increase the number of acres treated with management practices, particularly prescribed burning across the forest overall and in the growing season. Conduct after action reviews to ensure Forest projects are meeting objectives. Increase ratio of growing season burns to dormant season burns.
MQ20: Are Red-cockaded Woodpecker and Louisiana pearlshell mussel population trends responding positively to management strategies?	Yes and No. For RCW- Populations increased significantly during this time with an 8.3% growth rate. Louisana Pearlshell Mussel- Numbers declined on the Calcasieu RD population, some of this may be attributed to difficulty in seeing mussels because of woody debris in the streams. The Catahoula population has continued to decline since 2007 due to predation.	Continue active management within RCW habitat. Monitor LPM streams that are prone to drought and predation. Control beaver activity and enforce regulations prohibiting off-road vehicles from damaging habitat. Provide assistance to USFWS and others interested in habitat improvement, monitoring, head-starting, and reintroduction.
MQ21: Are management practices designed to develop old-growth forest attributes being implemented?	Yes.	Consider Old-Growth areas during project proposal and interdisciplinary team meetings.
MQ22: Are the management practices successfully developing or maintaining forest attributes similar to those found in old growth?	Yes. Stands are continuing to age since the Forest Plan was signed.	Emphasis on tracking and reporting Old-Growth stands at project and landscape scale. Continue burning in Old-Growth patches to enhance attributes and mold composition of

		stand.
MQ23: Are streamside habitat protection zones and riparian area protection zones being delineated and managed as prescribed?	Yes.	Continue to monitor during management activities to ensure correct buffer distances are used.
MQ24: Are these zones successfully protecting or enhancing unique plant and animal communities, special habitat features, habitat linkages, and aquatic ecosystems?	Yes. BMPS are being implemented.	Continue to use the Forest Service national BMPs protocol for monitoring
MQ25: Are lake predator-prey populations in balance? Are management practices sufficiently protecting stream and lake habitats? Are primary aquatic food chain organisms being impacted by siltation?	Yes, Yes, and no. Predator-prey populations are sufficient for sustainable recreational fishing. BMPs are adequately protecting the integrity and quality of watersheds. Sediment has not inhibited reproduction of fish.	Establish size and creel limits on Forest, if needed to ensure recruitment and sustainability of the resource. Stock assessments and replenish fish when needed. Monitor water quality and ensure BMPs implementation and effectiveness. Monitor health of streams and lake ecosystems.
MQ26: Are lake populations healthy? Are nonnatives and / or generalist-omnivore natives affecting lake biomass and balance? Is lake habitat sufficient?	Yes, No, and Yes. Lake habitat is sufficient and healthy. Vegetation management and habitat work is ongoing on several lakes.	Continue sampling and analyzing data.
MQ27: Are management practices successfully expanding quality habitats for game and fish species?	Yes.	Increase the number of acres treated with management practices. Expand and restore quality habitat. Conduct after action reviews to ensure Forest projects are meeting objectives.
MQ28: Are habitat objectives for selected demand species providing game and fish populations sufficient for quality recreational opportunities?	Yes.	Increase the number of acres treated with management practices. Expand and restore quality habitat. Conduct after action reviews to ensure Forest projects are meeting objectives.
MQ29: Are management practices designed to protect, restore, maintain, and improve waterfowl and wetland wildlife being implemented?	Yes.	Continue to adhere to the KNF Revised LRMP guidance.
MQ30: Are these management practices		Continue to adhere to the KNF

successfully providing for waterfowl and wetland wildlife?	Yes.	Revised LRMP guidance.
MQ31: How does the flow of commodity outputs to local economies and people compare with the Forest Plan projections?	Prices and markets drive the demand for wood products. The future demand is uncertain, as housing starts have been in decline. Depressed pulpwood markets have had a significant impact not only locally, but regionally. Capacity and markets are constraining the ability to increase and achieve the average of the offer/sold levels outlined in the forest plan.	Maintain current level of timber sale offering, providing economic benefits to local communities. Monitor the average annual offering and compare to the forest plan output identified for the next decade.
MQ32: Is the Forest providing for competitive bid the average annual allowable sale quantity it projected for the first decade?	Yes. The forest has increased average sold annual of the three decades of the forest plan.	Continue to monitor opportunities and impacts for providing economic products to local communities.
MQ33: Are parcels being made available for lease according to U.S. ownership and management restrictions? Are applications for minerals exploration and development being processed according to directions and in a timely manner? Are operating plans for exploration of private minerals being reviewed for compliance with existing State and federal laws?	No new oil and gas leases.	Minerals applications processed in accordance with USFS and BLM Direction.
MQ34: Are forage resources being maintained or improved on the designated allotments?	No. There are no active allotments on the KNF.	Evaluate management needs. Encourage greater participation in the range program.
MQ35: Are active allotments meeting the needs of the local demand for forage resources?	No. There are no active allotments on the KNF.	Encourage greater participation in the range program.
MQ36: How does management of these products compare with Forest Plan	Demand for biomass has remained low. Interest in pinestraw collection has decreased over the life of the	Continue offering special wood products, especially firewood. Continue to have purchasers the

direction?	plan. 20 permits were issued for forest products other than firewood in FY22 and FY23.	option to utilize products as biomass as demand and prices allow.
MQ37: Is the Forest providing opportunities for other specialty forest products without negatively impacting forest health or other resources?	Yes. There are no known impacts.	Monitor sustainability and effects on soil and water.
MQ38: Are programs and opportunities for improving rural economies and social conditions being developed?	Yes. Bipartisan Infrastructure Law funds went towards enhancement of social conditions of American Indian Tribes.	Continue Tribal partnership and develop projects that incorporate heritage interpretation into outdoor recreation opportunities.
MQ39: Are programs and opportunities improving sustainable local economies and social conditions?	Yes. Bipartisan Infrastructure Law funds went towards enhancement of social conditions of American Indian Tribes.	Continue Tribal partnership and develop projects that incorporate heritage interpretation into outdoor recreation opportunities.
MQ40: Is the transportation facility serviceable by the intended user?	Yes.	Continue to review100 percent of roads constructed or reconstructed to ensure they are serviceable. Complete transportation analysis for project level NEPA analysis.
MQ41: Is the Forest being managed in accordance with the assigned SIOS ?	Yes.	Continue to review SIO compliance. Encourage participation of IDT meetings.
MQ42:Has class eligibility shifted significantly?	No.	Monitor for changes annually as Motor Vehicle Use Map (MVUM) is monitored and updated.
MQ43: How satisfied are our recreation customers? Are recreation resources managed in a manner that is responsive to public recreation needs yet as cost effective as possible, in accordance with the negotiated recreation program of work based on Meaningful Measures standards?	Satisfied and Yes. Some recreational areas have been closed since Hurricane Laura.	Continue annual update of INFRA data. Continue to improve customer service. Move forward with rehabilitation assessments and plans to reopen trails and recreational areas affected by Hurricane Laura.
MQ44: Are significant archeological and historical sites being identified, prior to project decisions, through inventories		Aim to complete Phase 1 survey on

conducted in consultation with the Louisiana State Historic Preservation Officer (SHPO) according to the National Historic Preservation Act (NHPA), 36 CFR 800, NEPA, and the Southern Regional Heritage Programmatic Agreements (PA)?	Yes.	Aim to complete Phase I survey on medium and high probability areas for the Caney RD. Continue protocols for adhering to the Programmatic Agreement.
MQ45: Is law enforcement and heritage support provided at sufficient levels to protect significant heritage sites from internal and/or external activities?	Yes.	More funding, capacity, and support is needed for cameras, our own Special Agent for the forest, and other requirements to adequately address rising ARPA violations across the forest.
MQ46: Are protection measures effective at preventing unacceptable damage?	Yes. Zone Archaeologists work closely with resources.	Evaluate new methods of site boundary marking. Maximize use of blowers on firelines near archaeological sites.
MQ47: Are sufficient numbers of significant or potentially significant sites being evaluated so that the number of backlogged properties decreases each year?	Yes.	Continue Phase II site investigations, especially for sites in or near firelines or complex management areas. Plan to do 50 site evaluations in 2025.
MQ48: Are sites and heritage values being identified for public interpretation?	Yes.	Utilize information from Phase II evaluations to produce research papers. Maximize public outreach opportunities.
MQ49: Has interpretation enhanced awareness of heritage values among the general public?	Yes.	Continue showcasing diverse heritage connections on the forest.
MQ50: Does the interpretive services program provide usable information to the public about the full scope of forest management practices and philosophy?	Yes.	Continue making regular appearences on local media outlets. Review and update District recreational brochures. Support funding and staffing for high-profile and effective interpretive programs. Continue to use facebook for information about Forest activities in a timely manner.
MQ51: Has interpretive services increased measurable public support of	Yes.	Continue to use facebook for information on Forest activities in a timely manner. Continue outreach

Forest Service resource management goals and objectives?		efforts through media. Continue sharing information about the KNF to organizations.
MQ52: Is Forest Plan SIA direction being applied?	Yes.	Continue to update and add information to the Wild and Scenic River NRM Database. Work towards building partnerships for Saline Bayou education and maintenance. Ensure projects follow guidelines for SIA
MQ53: Is Kisatchie Hills Wilderness being managed to enhance and perpetuate wilderness values? Are natural processes allowed to operate freely? Is Forest Plan direction that would ensure the above being applied?	Yes.	Complete wilderness character monitoring strategy progress and INFRA reporting as required. Continue to have a representative on the Southern Wilderness Advisory Group from the KNF. Develop a Forest Wilderness Advisory Group. Work towards meeting and exceeding minimum performance standards set for wilderness management. Work towards building partnerships for Wilderness education and maintenance of trails.
MQ54: Are management practices designed to achieve a mixture of desired future conditions being applied?	Yes	Increase Longleaf and Shortleaf Pine restoration. Treat non-native invasive species (NNIS). Evaluate and monitor treatment of NNIS.
MQ55: Are the prescribed fire regimes being applied to all appropriate landscapes as prescribed, to maintain fire-dependent ecosystems?	No. There was an almost 250% increase in burning acres from 2020-2021 to 2022-2023. However, The Kisatchie Hills Wilderness is not being burned.	Complete a prescribed burn plan for the Kisatchie Hills Wilderness Area and reintroduce fire inside the wilderness boundary. Update and modernize burn plans. Assess prescribed fire monitoring program and continue to collect data regarding our prescribed fire effects, evaluate progress towards goals, and employ adaptive management to accomplish our desired future conditions.
MQ56: Are the natural plant communities being maintained by the prescribed fire regimes?	Yes.	Continue to monitor prescribed burning to ensure objectives are met.
MQ57: Is the Forest preparing and	Yes	The M&E Report was done yearly until

distributing a yearly monitoring and evaluation report to the public?	Yes.	2015, then completed every two years according to Forest Service Policy.
MQ58: Is the Forest Plan being kept current through timely changes as identified in the annual M&E Report?	Yes.	No Changes to the Forest Plan have been identified through M&E Reports.
MQ59: Are cooperative relationships being developed and maintained?	Yes. Over the life of the current Forest Plan we have partnered with countless local interested organizations, universities, tribes, and public through various means. We will continue this trend into and through the next Forest Plan.	Continue to include cooperators in planning process and keep them appraised of forest activities.
MQ60: Are research needs being identified in a timely manner?	Yes.	Continue to seek out research opportunities.
MQ61: Are coordination and cooperation efforts being conducted with federal and State agencies?	Yes	Continue to include federal and state partners in our planning process and events.
MQ62: Are memorandums of understanding, cooperative agreements, partnerships, and challenge cost share agreements being developed? Are we increasing the participation of groups and individuals in the accomplishment of Forest Plan goals and objectives?	Yes. Over the life of the current Forest Plan we have partnered with countless local interested organizations, universities, tribes, and public through various means. We will continue this trend into and through the next Forest Plan. The KNF will also be open to creating new and meaningful relationships with other organizations, partners, and groups.	Continue outreach efforts.