DRAFT
DECISION NOTICE
and
FINDING OF NO SIGNIFICANT IMPACT

USDA Forest Service R-8
Ozark National Forest
Pleasant Hill Ranger District
Johnson County, Arkansas

Compartments 344, 379,380, 381, 389, 390, 391, 392, and 395

Low Gap/Chinquapin
08-28-2013

DECISION NOTICE (DN)

Based on an Environmental Assessment (EA) prepared by an interdisciplinary team of Forest Service specialists, decisions regarding management actions for forest health, recreation, ecosystem restoration and wildlife habitat over the next several years have been made for the Low Gap/Chinquapin project. Decisions have been made for pine and hardwood forest stand management and the connected actions of site preparation for regeneration, midstory control, release, timber stand improvement (TSI) and associated roadwork to access the forest management areas, together with decommissioning of roads. In addition, decisions for wildlife habitat improvements consisting of wildlife pond maintenance and reconstruction, wildlife thinning, fish habitat improvements, and prescribed burning have been made.

These actions are planned to implement the Ozark-St. Francis Land and Resource Management Plan (LRMP-Revised 2005) goals, objectives, and desired future condition for the timber, recreation and wildlife resources within the project area. In general, the objectives for management in the project area are to restore ecosystem health and sustainable conditions, increase plant and wildlife diversity, reduce forest fuel loading through restoring a more frequent fire-return interval, reduce conflicts between motorized vehicles and other resource values, increase Forest visitor safety and provide forest products to the public. The management actions designed to meet these objectives address issues and concerns expressed by the public and interdisciplinary team.

The Low Gap project area comprises a total of 5,973 acres and includes compartments 344, 379, 380, and 381. Approximately 2,272 acres are privately owned within the Low Gap project area. The legal description is T11N R23W Sections: 6, 7, 18, and 30; and T11N R24W Sections: 1, 2, 11, 12, 13, 14, 23, 24, 25, 26, 27, 34, 35, and 36. It is bounded by JO 4490 on the north, 1429 (Apple Road) on the east, National Forest Boundary on the south, and JO 4341 on the west. The Chinquapin project area comprises a total of 5,077 acres and includes compartments 389, 390, 391,392, and 395. Approximately 2,893 acres are privately owned within the Chinquapin project area. The legal description is T10N R25W Sections: 2 and 3; T11N R24W Sections: 18, 19, 30, and 31; and T11 R25W Sections: 24, 25, 26, 34, 35, and 36. The Chinquapin project area is bounded by Yarbrough Gap on the north, highway 103 on the east, National Forest Boundary on the south, and Horsehead Creek on the west. The project areas fall within Management Areas: Scenic Byway Corridor (1.H), Pine Woodland (3.A), Mixed Forest (3.C.), Oak Decline Restoration Areas (3.D), and Riparian Corridors (3.I.).

Based on the analysis documented in the EA, it is my decision to implement **Alternative 2** (see attached maps). These actions will have some impact on National Forest lands from vegetation management and wildlife habitat improvement work.

Private lands may be involved in the completion of prescribed burning to restore ecosystem health and reduce forest fuel loading, but only with consent of private landowners and completion of applicable agreements.

Specifically, the following actions are planned:

VEGETATION MANAGEMENT:

TIMBER HARVESTING:

Pine and Hardwood Shelterwood, followed by site preparation of handtool/herbicide & burning, would occur in 76 acres of pine and 109 acres of hardwood. These stands are mature; growth has slowed and the trees are beginning to weaken. The objective of a shelterwood is to open up the stand allowing sunlight to reach the forest floor while leaving an adequate amount of trees to provide seed and establish young trees. As the name implies, several trees would be left in the overstory to provide shelter to the developing regeneration on the ground. The mature trees left over from the harvests will remain until the new stands receive their first thinning. The combination of stump/root sprouts from oak species and pine seed will establish the new stands. An average basal area of 20-40 ft^2 would be retained.

After harvest, these stands will have herbicide applied to undesirable stems using hack and squirt and foliar methods, and then site prep burning to prepare the site for seedfall. If pine & oak species adequately replenish the new stands by natural means, **release** measures may be implemented using handtools/herbicide, if necessary, to reduce competing vegetation. This would occur within 2-5 years after harvest. If desired species fail to adequately establish new stands, **planting & release** of pine & oak species will be required.

Pine and Hardwood Thinning followed by TSI - Midstory Control would occur in 1,265 acres (39 stands) of pine and 160 acres of hardwood (5 stands). Thinning would increase growth of residual trees, reduce the susceptibility of the stand to insect and disease, and improve habitat for wildlife. The stands would be thinned to a target basal area of 60-70 ft^2/acre. Trees that are suppressed or that have poor form would be removed. Trees of good form and/or close to the correct spacing would be favored over trees that are simply of larger size. The target spacing would depend on the average diameter of the trees in the stand. Prescribed burning following thinning would provide beneficial effects for wildlife. TSI treatments of the midstory using herbicide and/or handtools may be utilized to further reduce competition of the remaining trees.

Pine Woodland Thinning is proposed in 20 stands, approximately 444 acres. They will be thinned, either commercially or otherwise, to a 50 ft^2 basal area density and maintained throughout most of its 120-150 year life span at this spacing. At age 120-150, the trees will be harvested via the shelterwood method. A pool of pine seedling regeneration should be in place by the time the overstory is removed. Rx burning will be done on a 3-5 year return-interval until age 120-150, at which time burning will halt to allow pine seedlings to become firmly established. Thinning during this 150 year rotation can be done either commercially or non-commercially, and can be accomplished by mechanical/handtool/herbicide means as well. Stands along good access roads can be thinned by firewood sales. After the pine is harvested, mid-story removal of hardwood would occur. Approximately 5 to 10 mast producing trees would be left per acre.

Pine Seedtree harvests are proposed in 3 stands, approximately 200 acres. This type of regeneration harvest would retain 10-20% of the overstory (BA=20). Site preparation will be done with herbicide treatments and with a prescribed burn in order to prepare a proper seed bed. Adequate natural regeneration should be present to re-stock the stands with an average 300 trees/acre; however, planting may be necessary if stocking levels are not met through natural means. Following the establishment of the regenerated stand, release treatments with herbicide may be needed to promote “free-to-grow” conditions. The remaining mature overstory trees would be harvested when the new stand is ready for its first thinning.

Pine Single-tree Selection harvest, followed by site preparation, burning, and release measures, would occur in 1 stand (42 acres). This is an uneven-aged harvest method that attempts to establish three or more distinct age-classes, each class being separated by 20 years or more through a series of thinnings spaced 10 years apart. An "all-aged" stand is the goal of this treatment, representing trees in the 0-20 year age-class as well as the 100+ year olds. The target stand density-basal area is 50 ft^2/ acre.

Pine Site Preparation, Planting, and Release are recommended in 8 stands totaling approximately 209 acres. Some of these stands were damaged by the tornado of November 2001. Currently, hardwood brush has invaded and overtaken pine regeneration. These stands will require site preparation measures through mechanical and handtool/herbicide methods. After site preparation, planting with pine seedlings is recommended. Subsequent treatments of release using handtool/herbicide means will be needed to ensure pine seedlings survive to fully stock the stands.

Pine release by handtools/herbicide is recommended in 2 stands totaling approximately 54 acres. These juvenile stands have an abundance of hardwood brush competition which is threatening to overtop and suppress the young pine regeneration. This treatment would be accomplished with handtools and ensure pine seedlings fully occupy the sites.

Salvage of Dead, Down, and /or Damaged Timber

The Pleasant Hill Ranger District is susceptible to natural occurrences such as severe drought, wildfire, tornadoes, windstorms, lightning strikes, insect and disease outbreaks, catastrophic ice storms, natural mortality, and human-caused events such as arson and residual material from implemented management activities (i.e. ponds, midstory reduction, thinning, and prescribed burning). These occurrences cause hazards for the public and have negative effects on the overall health of the forest. In 2001, a tornado struck portions of the Chinquapin project area causing a large amount of mortality to forest stands. Also, in 2011, another tornado struck the Low Gap project area causing the same type of mortality to forest stands. This action will allow the District Ranger to respond to situations within the two project area boundaries where dead, down or damaged trees pose a threat to the public or the health and well-being of the forest in a consistent and timely manner. If the district waits until an incident occurs before making the decision to remove the dead, down or damaged trees through a salvage or firewood sale, a time lag of several months or more could pass before the decision would be implemented. In many cases this time delay is unacceptable because of hazards to the public and/or it could cause the value of the timber product to degrade significantly due to insect and fungal infestations of damaged trees.

In 2001, a tornado struck portions of the Chinquapin project area around the Horsehead Lake Recreation Area. The impact of this tornado destroyed a large area of timber in stands that are proposed for timber harvest in this EA.

Prior to conducting salvage and/or regeneration operations within the two project area boundaries, site-specific documentation for each salvage and regeneration action would be prepared and retained by the District. As a minimum, that documentation will have statement of heritage resource survey requirements and clearance type (categorical exclusion or project notification, or other written agreement between the Arkansas State Historic Preservation Office, affected Native American Tribes, and the Ozark-St. Francis National Forest) stand prescription cards with details of the current stand and a regeneration plan to return the affected area back to its' desired future condition as well as a statement of effects on PETS species. Documentation will include the location (compartment and stand), estimated area affected (acreage), a map of the impacted area(s), an estimated volume of timber to be removed, identification of the watershed containing the affected area, and identification of the management area within which the affected area lies and actions to be conducted. Each salvage site will be reviewed by the timber assistant and the timber sale administrator or other staff prior to commencement of salvage operations. The number of acres in which salvage operation activities may take place would not exceed 500 acres per event. Salvage and/or regeneration operations will be conducted within the two project area boundaries following the guide lines from the Ozark-St. Francis National Forest Revised Land and Resource Management Plan.

Prescribed Fire

All of the Forest Service land within the project areas (5,885 acres) would potentially receive low to moderate intensity prescribed burns to reduce hazardous fuels and wildfire risk, improve wildlife habitat, and for silviculture purposes. Approximately 400 acres have been added to the southwest portion of the Low Gap project area to facilitate easier implementation of prescribed burning (east side of project north of 1422 and west of Apple Road 1429). Knutson-Vandenberg (KV) retained receipt funded prescribed fire will be implemented on all acres possible within KV sale area boundaries surrounding pine and hardwood thinning units.

Prescribed fire treatments may occur on private lands located within the Low Gap/Chinquapin project areas (approx.. 5,165 acres), but ***only*** after consultation with landowners and a prescribed fire agreement under the Wyden Amendment (Section 334(a) of Public Law 105-83) and/or Stevens agreements in cooperation with the Arkansas State Forestry Commission. Should agreements with private landowners be signed, private lands would be burned by Arkansas Forestry Commission under prescription in conjunction with prescribed burns on public lands. Prescribed fire would be utilized for several purposes in the project areas.

Prescribed fire would serve to re-introduce fire into a fire-adapted ecosystem, promote oak regeneration in canopy openings created by red oak borer damage/oak decline, promote regeneration in shelterwood and seedtree harvest areas, maintain pine/hardwood stands in open conditions, increase herbaceous understory species density and diversity, improve habitat conditions for fire-dependent special-status plants, increase soft-mast production and reduce potentially hazardous accumulations of fuels on the forest floor, and improve wildlife habitat conditions. The entire project area would be burned on an approximate 3-10 year fire return interval, based upon best available science regarding beneficial fire-return intervals for the project area. If Rx burning is not conducive, then mechanical fuel reduction will be applied.

Roadwork

Decommissioning: The transportation system in this project has been assessed to determine the need for closing roads no longer needed for land management. Roads (approximately 10 miles) to be decommissioned and closed with gates are displayed on the GIS maps associated with this project proposal.

Road Decommissioning is defined by 36 CFR 212.1 as activities that result in the stabilization and restoration of unneeded roads to a more natural state. Several of these roads currently traverse natural fluvial systems and concentrations of water may result in possible resource damage. Priorities for decommissioning these roads include access, drainage, stability, erosion, and re-vegetation. These roads will be removed from the transportation system.

Reconstruction, Maintenance, etc.: To access the project area and implement vegetation management, roadwork would be necessary and consist of (approximately) maintaining 28 miles of existing Forest Service roads and reconstructing 7 miles. Roads designated as temporary roads would be blocked following completion of use, and rehabilitated with seeding and/or natural re-vegetation. No new roads will be constructed for this project. Closed temporary roads would be managed as linear herbaceous strips for wildlife in appropriate locations. The number of temporary roads would total approximately 4 miles. Temporary roads are not intended to be included as part of the forest road atlas, as they are managed for projects or activities and decommissioned after use. Roads to be maintained are displayed on the GIS maps associated with this project proposal. The Roads Analysis Process (RAP) report prepared for this project describes all road decommissioning, closures, and traffic levels. Closures are evaluated as to what type will be used; whether they will be closed with gates, earthen mounds, or other means. Illegal, “renegade” OHV trails would be closed with earthen mounds or gates.

When administrative activities are complete and a forest system road is no longer needed for one or more years, they are closed for resource protection and to improve watershed integrity. Gating has proven to

be a more effective method of eliminating illegal motorized vehicle use. Closure denotes storage for future use; the road remains on the forest development transportation system and periodic maintenance may be required.

Roads that are currently closed or sections of roads would be open to administrative use only and closed with gates/berms after they are no longer needed.

Recreation:
Approximately 7 miles of existing road templates would be designated as equestrian trails in the Chinquapin project area. When funding is available a primitive horse camp with the basic necessities would be constructed. Also when funding is available a fishing pier and pavilion would be constructed at Horsehead Lake. The boat ramp parking lot may be expanded to help accommodate a larger number of vehicles and to provide more room to maneuver the vehicle and trailer while unloading.

Heritage Resources
The project has been designed so that all sites that may be eligible for the National Register of Historic Places, or that are of undetermined eligibility, lie outside any of the project's areas of planned ground-disturbing activity. Historic site areas which contain no organic cultural material will undergo prescribed burning. Past research has shown that sites such as these will not be affected by a low-intensity prescribed burn.

Should any additional sites be found during project implementation, they will be examined by a professional archeologist (mitigation measure 3), who will prescribe necessary mitigation measures.

Based on these findings, all sites will be preserved intact and no significant effects will be produced upon historical or prehistoric sites that may be eligible for nomination to the National Register of Historic Places.

Wildlife & Fishery Habitat Improvement

Wildlife Opening Reconstruction
A total of 8 wildlife openings totaling approximately 13 acres would be reconstructed within the Low Gap project area. These wildlife openings would be located in Compartments 344, 379, and 381. The preferred method of reconstruction would be per use of herbicide application followed by liming, disking, seeding, and fertilization. These openings would be maintained by subsequent mowing and herbicide application. Only 1 of the 8 wildlife openings within a pine stand located in compartment 344, stand 2 would be enlarged in size by 1 acre.

New Wildlife Opening Construction
Timber in locations of proposed openings will be marked with 1 to 1.5 acre removal-cuts designated by Wildlife Biologist or Wildlife Technicians within the Low Gap project area. There would be 7 new wildlife openings totaling approximately 10 acres. These openings would be located in Compartments 344, 380, and 381. There are 7 new wildlife openings within the Chinquapin project area proposed totaling approximately 12.5 acres in size. These new wildlife openings would be constructed with the use of a bulldozer and herbicide application followed by liming, disking, seeding, fertilizing, and maintenance with mowing and herbicide application.

In addition, 4 proposed wildlife openings would be constructed in the Low Gap project area using only the cut-surface method and foliar spraying of hexazinone application.

Wildlife Pond Construction
There are 2 wildlife ponds proposed for construction within the Low Gap project area in Compartments 344 and 381. These ponds would be between ¼ and ½ acre in size and construction implemented by using a rental or contract bulldozer. Also, 4 wildlife ponds would be constructed in the Chinquapin project area in Compartments 389 and 391. These wildlife ponds would also be between ¼ and ½ acre in size. Bentonite clay may be utilized to insure ponds are sealed well.

Fish Pond Improvement
Approximately 6 acres of fish pond improvements would occur within the Low Gap project area in McConnell Pond (5 acres) and Dry Spadra Pond (1 acre). The placement of structures and gravel for fish habitat improvement would be implemented in McConnell Pond. Following the fish habitat improvement, forage fish, bass, bream, catfish, and grass carp would be stocked, The improvements proposed in the Dry Spadra Pond would include clearing pond dam and banks of trees and encroaching brush with the use of Chainsaws and herbicide applications and the placement of structures and gravel for fish habitat improvement. Following these improvements the pond would be stocked with forage and predator fish, bass, bream, catfish, and grass carp.

Glade Restoration
A glade is located in the south-central portion of compartment 344 stand 16 within the Low Gap project area. Approximately 5 acres would be restored to glade-type conditions with Wildlife Stand Improvement (WSI) using the cut-surface method and foliar application of herbicide.

Roadside Treatment of Non-Native Invasive Species (NNIS)
There are 9 roads within the Low Gap project area that roadside spraying would occur to target sericea lespedeza. The mileage of roadside spraying would total approximately 11.5 miles and include roads 1427 (McConnell), 1422 (Lower McConnell), 1443 (Dry Spadra), and 1429 (Apple). Also, Forest Service roads 94381H, 94381M, 94381I, 94381K, and 94381B would be included in the roadside spraying. Roadside spraying would also be implemented on 6 roads in the Chinquapin project area along roads 1446W, 94391A, 94391B, 94391C, 1446A, and 94389A. Approximately 6 miles of roadside spraying would take place along these roads. Spraying would target NNIS species within 30 feet of these roads.

NNIS Treatment
Approximately 75 acres of Tree of Heaven would be treated in the Low Gap project area with the cut-surface method and foliar herbicide application. This acreage would encompass Compartments 344 (25 acres), 379 (43 acres), 380 (4 acres), and 381 (3 acres). The Chinquapin project area has approximately 13 acres of Tree of Heaven and ½ acre of Mimosa that would be treated. In the future, if more NNIS species occur on roadsides additional foliar herbicide application will be implemented. The use of herbicides to treat NNIS would not exceed 500 acres annually.

Wildlife Prescribed Burning
Stands to be burned would include all thinned pine stands, all woodland restorations stands, and stands adjacent to commercial thinning units which may fall within sale area boundaries. First entry with prescribed fire would occur following completion of timber harvest. A second entry with fire is planned for 3-10 years following the 1st entry.

Gate Construction
A total of 6 new gates would be constructed within the Low Gap project area of which all are associated with the proposed wildlife openings located in Compartments 344, 380, and 381. The placement of gates will be on roads 94381E (near McConnell Pond), 94381G (south of McConnell Pond), 94381B, 94380A, and a wildlife opening access roads. An additional 4 new gates would be installed within the Chinquapin project area of which all are associated with proposed wildlife openings in Compartments 389, 390, and 391. These gates would be compatible with planned equestrian use of the area on roads/trails. The placement of gates would be on roads 1446W (near junction with 4100), 1446A (near boundary of public/private land), 94389B (west of Cole Creek and junction of Hwy 103), and 94389C (west of junction with Hwy 103). The closures of these roads would also improve/maintain watershed conditions and wildlife habitat by reducing disturbance from vehicles and providing recreational experiences to forest users by limiting areas to walk-in hunting, wildlife viewing, and other foot travel.

Riparian Stand Improvement (RSI) along streams
This treatment involves felling and leaving the tree on floodplains or stream channels to improve riparian conditions within 100 feet of the stream channel. Stand basal area would be reduced to 60-80 ft²/acre. Cutting would focus on removal of pine and cedar from the riparian area because those species did not

naturally exist in high numbers on the flood plain. Preferred leave trees would include hickory (especially shagbark for bats), walnut, and oaks for wildlife. Other preferred leave trees would be riparian dependent species such as sycamore, birch, ash and sweet gum. At least 8 to 20 trees per mile greater than 20 inches in diameter would be cut and felled into the stream channel or floodplain to improve stream habitat. RSI would increase the roughness coefficient of the floodplain, thereby decreasing flow velocities during flooding, thus decreasing the flood potential downstream. Slowing velocities would also allow fine materials to drop out during flood events which would increase soil productivity within the floodplain. There would be a higher chance for wood laying on the floodplain to be imported into the channel thus increasing the large wood in the actual channel. Small mammals, reptiles, and amphibians in the riparian area would benefit from the increased amount of habitat. Subsequently, it would decrease the competition for resources with less stems per acre increasing the growth rates of the remaining trees. Lastly, by thinning the overstory it would allow midstory species like native cane to potentially reestablish within the Low Gap project area restoring this rare community and associated wildlife that was historically very dominant within riparian areas of the Forest. The RSI would be implemented on approximately 50 acres in portions of Compartments 379 stand 16 and 380 stand 15 of the Low Gap project.

Large Woody Debris (LWD)

Chainsaw felling of trees into creek channels would be implemented in the Low Gap and Chinquapin project areas. Approximately 20 to 25 trees of 8" plus diameter would be felled into creek channels with chainsaws. This would serve to provide structure for fish, stabilize banks, reduce velocity of water flow and help create pool habitat for fish. This treatment would be implemented on approximately 3 miles of Dry Spadra Creek and its tributaries located in the Low Gap project area. Additionally, this type of treatment would occur on approximately ¾ mile of Cole Creek and approximately 3 miles of Horsehead Creek located in the Chinquapin project area. Prior to implementation, the area will be re-assessed for current LWD load due to the tornado in 2011.

Fish Passage Improvement

In Low Gap, potentially 2 barriers to fish passage would be improved should funding become available. These crossings are located on Forest Service road 1422 in Compartment 381 on a tributary to Spadra Creek and Dry Spadra Creek. In Chinquapin, an additional Fish Passage Improvement site would occur where Forest Service road 1408 crosses Horsehead Creek near the Horsehead Lake Recreation Area. The Center for Aquatic Technology Transfer (CATT) team surveys classified these 3 crossings as impassable for aquatic organisms. The current concrete slabs would be replaced with a structure allowing aquatic organism passage. These may be bottomless box-shaped culverts replacing the concrete slabs.

Horsehead Lake Habitat Improvement

Horsehead Lake borders the Chinquapin project area and several habitat improvement projects would be implemented by the Forest Service. These improvements would include the following:

1) **Lake Fertilization** would be completed annually on 96 acres of the lake. Fertilization would be completed by introduction of liquid fertilizer into the lake by hand from a boat

2) **Lake Liming** would be completed annually on 96 acres of the lake. Liming would be completed by introduction of pelletized lime into the lake by hand from a boat.

3) **Fish Habitat Structures** would be completed to improve spawning habitat, habitat for fry, and general cover for fish. Structures would be constructed from PVC pipe, pallets, rock, cement blocks, and/or wood and brush.

4) **Large Woody Debris** would be introduced into the lake for fish cover by chainsaw felling of large diameter trees into the lake from the banks.

ENVIRONMENTAL EFFECTS:

Implementation of alternative 2 using the mitigation measures as shown on pages 28-34 of the EA will have some effects on the environment. These effects are stated on pages 34-97 of the EA and are summarized in Table 13 on page 34 and 35 of the EA. Environmental effects by various resource categories are briefly described as follows:

Water – Watersheds in the United States are divided into progressively smaller units known as hydrologic units, recognized by the United States Geological Survey (USGS) - as regions, sub-regions, basin, and sub-basin units. This hierarchical division of watershed boundaries is useful for assigning address-like codes to drainage basins. This project area falls within the Arkansas-White-Red region (11), the Lower Arkansas sub-region (1111), the Lower Arkansas-Fourche La Fave basin (111102), and the Dardanelle Reservoir sub-basin unit (11110202). The Ozark-St. Francis National Forests further classify land areas into progressively smaller units: watersheds and sub-watersheds. The proposed project areas occupy portions of both the Horsehead Creek (1111020202) and Spadra Creek (1111020203) watersheds. At the smallest scale, the proposed project is located in the Upper Horsehead Creek (111102020201) (Chinquapin project area) and Upper Spadra Creek (111102020301) (Low Gap project area) sub-watersheds), will serve as the analysis boundaries for the proposed project with respect to water resources. The project areas and analysis areas are illustrated on the map below. Because they occur in separate watersheds, the projects will be analyzed independently but discussed together in this document. The proposed project area as discussed in this section of the document will consist of the compartment boundaries where activities are proposed.

The project area and the sub-watershed analysis area support streams and rivers that have a dendritic drainage pattern. Dendritic drainage patterns typically have branching tributaries, which can concentrate precipitation across a wide area into one main stream channel. The primary streams that are found in the project area are: Cole Creek, Horsehead Creek, Dry Spadra Creek and unnamed tributaries to these streams. The creeks and tributaries flow south and join the Arkansas River. Much of the Upper Spadra Creek watershed is designated as water supply intake protection area due to the use of Spadra Creek by Clarksville Waterworks. Horsehead Lake, at the southwest corner of the Chinquapin project area, is a recreational lake used for fishing and swimming. The Arkansas Department of Environmental Quality (ADEQ) maintains a monitoring station (LARK017A) at Horsehead Lake.

Soils - The analysis area for soils will be Compartments 389, 390, 391, 392, 395, stand 1, 344, 378 southwest of Apple Road and north of Forest Road 94378A, 379, 380, and 381. The Project Area is located on the southern side of the Ozark Plateau in a heavily dissected section called the Boston Mountains. Chinquapin project area elevation varies from about 720 feet along Dry Spadra Creek to 2060 feet in the northeast part of the project area. Several typs of topography exist in this Boston Mountain section. Most of the timber harvest will occur on a common Stair-Stepped landform, called "Bluff-Bench" topography that developed from the long-term weathering/erosion of sedimentary layers of different hardness, mainly shales and sandstones. The remainder of the topography varies from nearly level to rolling mountain tops that developed from weathering of level-dedded sandstones to alluvial areas along Horsehead Creek, Cole Creek, and Dry Spadra Creek. Most of the mountain tops and creek bottoms and some wider benches now or have been under cultivation or in pastures. The federal lands that were under cultivation or in pastures are forested. Project area topography varies from 0-3% slope on mountain tops, benches, and creek bottoms, to fairly steep 40-60% on the 200 to 500 foot long slopes between the benches and just above the stream bottoms in Horsehead Creek, Cole Creek, and Dry Spadra Creek.

The soils in the project area are mostly stable, but there are some areas of past instability. There is a small stable soil slump less than 0.1 acre just above and extending onto road 1446W in compartment 391 stand 14. There is a small previously disturbed area in compartment 344 stand 19 where the top soil was removed and there are a few small stable gullies. Tree growth is good in the disturbed area and the gullies have healed. Portions of Forest Service road 1427 are gullied and eroding. Soils are mostly well-drained and range from shallow to deep. There are some small areas of poorly-drained hydric soils in depressions included in the Ceda-cobbly-fine-sandy loam soil map units on the floodplains along Horsehead Creek, Cole Creek, and Dry Spadra Creek. Hydric soils are one of the three components of a wetland. Water and wetland plants are the other components. Wetlands are “those areas that are

inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

There are some stumps in previously harvested stands, but there is only a small amount of detrimental soil disturbance in a few old skid trails. Stands are well stocked and are productive. Most of the soils have 100% cover consisting of leaf litter, twigs, limbs, logs, gravel, stones, and have an intact root mat.

Herbicides - The herbicides glyphosate, triclopyr, imazapyr, imazapic and hexazinone have the potential to be applied for site preparation, TSI, and wildlife opening creation. Additionally, non-ionic surfactants may be mixed with herbicides in order to improve application success. With use of listed mitigation measures (pages 28-34, EA), no significant long-term degradation or cumulative effects, including state standards, on soils and water quality are anticipated from implementation of this alternative.

Air - Prescribed burning for pine and hardwood site preparation, TSI/PCT, wildlife forage production, ecosystem health, and hazardous fuel reduction will release approximately 19,488 tons of carbon dioxide along with lesser amounts of other emissions into the atmosphere for a short period of time. Burns will follow approved burning plans to manage the smoke and burning intensities. Mitigation measures will ensure compliance with federal, state and local clean air requirements, and no long-term cumulative effect is anticipated from implementation of the proposed action. Arkansas voluntary smoke management guidelines will be followed to assure adherence to air quality regulations to manage smoke from prescribed fire so the smoke's impact on people will be acceptable.

Climate Change - With this alternative, some of the carbon currently sequestered in vegetation and soils will be released back to the atmosphere. In the short-term, greenhouse gas emissions and alteration to the carbon cycle will be caused by hazardous fuel reduction activities, harvests and thinning overstocked stands. In the long term, however, these actions will also increase the forest's ability to sequester additional carbon, improve the forest's resilience to the potential impacts of climate change and decrease the potential for uncharacteristically severe wildfires.

Road Work – Maintenance on approximately 28 miles of open and closed roads will be performed in this project to get the roads in a suitable condition for hauling timber across them. Maintenance consists of spot blading and graveling. County roads that will be used are regularly maintained by their respective counties. Special cooperative agreements are in place to assist in any required maintenance resulting from logging operations. Several maintenance level 1 and 2 roads that were previously closed will be re-closed with gates/berms to reduce erosion and protect resources. The Forest Service Manual states that level 1 roads are to be closed to motorized traffic when management activities are complete.

Reconstruction on approximately 7 miles of roads is proposed (94391C, 1446W, 1446A, 94389A, 94389B, 1427B, 94381B, 1429B, and 1443). These roads are not maintained on a regular basis thus requiring more work than the roads that require maintenance. Up-grading these roads by installing culverts, wing-ditches, gravel, and rolling dips will stabilize them, thus minimizing sediment delivery to streams and drainages.

Approximately 10 miles of existing roads no longer needed for management or access are proposed for decommissioning. Decommissioning roads involves restoring them to a more natural state. Activities used to decommission a road include, but are not limited to the following: reestablishing former drainage patterns, stabilizing slopes, restoring vegetation, blocking the entrance to the road, installing water bars (earthen mounds), and removing culverts. These activities are designed to completely eliminate the road bed by restoring natural conditions. Unnamed and illegally accessed OHV trails that are present in the project area may be closed using debris, rocks, earthen mounds, or gates.

Approximately 4 miles of temporary roads would be needed to access timber stands. These roads would be blocked and rehabilitated with seeding and/or natural re-vegetation. Temporary roads are not intended to be included as part of the forest transportation system but rather managed for short-term projects or activities and will be decomminssioned after use.

Gates will be installed that close the following numbered roads: 94380A, 94381B, 94381E, 94381G, along with two gates blocking on un-numbered roads to wildlife openings in the Low Gap project area. Roads 1446A, 1446W, 94389B, and 94389C will be gated in the Chinquapin project area. Approximately 10 gates will be installed in both the Low Gap and Chinquapin project areas. Foot travel will still be invited on all roads in the project area.

Heritage Resources – The greatest risks for archeological sites on the Forest come from unmanaged and unmonitored resources. Planned management and restoration activities benefit the cultural landscape by controlling intrusive vegetation, excessive accumulation of fuel load and risk of wildfire, and managing recreational use (i.e. dispersed campsites, OHV usage of roads and trails). The federal presence that results from the implementation of project activities would be expected to benefit cultural resources over time by increasing opportunities for the monitoring of sites for looting and vandalism, thus assisting with enforcement of federal protection laws.

Vegetation and Vegetation Diversity – Of the 5,885 acres of total federal lands in the project area for which vegetation was analyzed, 4,590 acres are suitable for timber management. The project area consists of pine timber types (48%) and hardwood timber types (52%). Currently, the project area does not have a balanced age-class with 69% of stands being 80 years or old (Table 18). About 3% (204 acres) of the area's “timber management-unsuitable” acreage will remain designated for old-growth management. Implementation of this alternative is not expected to have a negative cumulative impact on vegetation. The forest condition would be more diverse and left in a more sustainable condition. Risk of insect/disease outbreaks would decrease and growth of residual trees would increase. Also, potential old-growth would not decrease in the project area.

Wildlife – With implementation of Alternatives 2, approximately 385 acres would be converted, through harvest and subsequent regeneration, from the 81-100+ year age classes to the 0-10 year age class. In addition, approximately 11 acres would be converted via construction and enlargement of wildlife openings from the 81-100+ year age classes to grass/forb habitat. Browse and early-successional habitat would be provided in these regeneration areas and wildlife openings for a variety of wildlife species. Viability of disturbance-dependent avian species would be enhanced. Avian species requiring both large and small areas of early successional vegetation and forest edge would benefit. Implementation of the shelterwood regeneration system would result in 9% of the federal land-base that is suitable for timber management within the project area compartments in early successional forest habitat, as opposed to 2% under current conditions. Construction of new wildlife openings and enlargement of existing wildlife openings would result in <1% of the public land-base within the project area being in grass/forb habitat, 11 acres greater than current conditions.

Implementation of Alternative 2 would result in an approximate 7% reduction of forest habitat that is greater than 81 years old (federal lands). Following implementation of this alternative, approximately 62% of the forested (both pine and hardwood) public land base within the project area compartments would remain in the 81-100+ year age classes. With implementation of Alternative 2 and taking into consideration recruitment of stands from the 61-80 year age class (approximately 910 acres or 15% of project area land base) in the next 1-20 years, as well as examination of distribution of stand age classes, fragmentation of interior forest habitat is not anticipated.

The construction of early seral stage wildlife openings would provide necessary habitat for several wildlife species including neotropical migratory birds. Wildlife stand improvement (WSI) /thinning completed would create indirect positive impacts to wildlife through increasing herbaceous and shrub understory vegetation and increasing hard and soft mast production.

The effects of Prescribed Burning on roughly 5,885 acres of federal land and 5,165 acres of private land (if consent of landowner is given) will be the replacement of brushy and woody vegetation in the understory to a more grass and forb composition, benefiting quail, deer, and many species of neo-tropical migratory birds. Oak & Pine regeneration would be encouraged, fuel accumulations would be reduced,

risk of wildfire would decrease, and an increase in favorable habitat for fire- adapted and fire-dependent vegetation species would occur.

Fisheries – Activities planned will have minimal effect on water quality and fish habitat using the planned mitigation measures. Existing quality of fisheries should be maintained with a low risk of acute or chronic adverse effects to aquatic species from the planned actions.

TES (Threatened, Endangered and Sensitive Wildlife Species) – From past field surveys and knowledge of the area, and given the proposed action, those species which are analyzed and discussed in the EA are those that: a) are found to be located in the activity area (OAR code "5"), b) were not seen during the survey(s) or field survey was not conducted when species is recognizable (OAR code "6"), and c) aquatic species known or suspected downstream of the project/activity area, but where project effects will be immeasurable or insignificant (OAR code "7").

The occurrence analysis results table on page 83 of the EA shows one amphibian species (Oklahoma salamander), one mammal species (gray bat), one isopod species (Lirceus bicuspidatus), and two plant species (Ouachita leadplant and Ozark spiderwort) were identified within the analysis area (OAR code "5").

Eleven species were not seen during field surveys, but possibly occur in the analysis area based on habitat observed or the field surveys were conducted when the species is not recognizable (OAR code "6"); 2 bird species (Bachman's sparrow and Bald eagle), 3 mammal species (Ozark big-eared bat, Indiana bat and Eastern small-footed bat), and 6 plant species (Ouachita leadplant, Bush's poppymallow, southern lady's slipper, Moore's larkspur, small-headed pipewort, and Nuttall's cornsalad).

A "may effect - not likely to adversely affect" determination was made for all potential endangered or threatened species utilizing the project area. Concurrence from the U.S. Fish and Wildlife Service was obtained for these determinations. In addition, the biological evaluation for the project area determined that there are no foreseeable activities in the area that will directly or indirectly affect the viability of sensitive species found in the project area, or cause additive or synergistic adverse cumulative impacts in conjunction with the proposed projects. Planned actions will not have a negative effect on these sensitive plant species. Protection measures defined in the Land and Resources Management Plan and will be implemented and will provide protection for all known TES species.

Human Health – Risk of injury to forest workers performing the various tasks necessary to remove or manipulate the vegetation by using cutting tools (usually chainsaws) is possible. Manual application of handtools and herbicides using direct stem/leaf treatment for actions such as site preparation and creating wildlife openings provides opportunities for worker injuries from cutting tools and exposure to herbicide. Proper procedures for worker and public safety will be followed and the risk for on- and off-site health hazards will be very low. Mitigation measures for herbicides on EA pgs. 28-34 will be applied and monitoring will be implemented. Mitigation measures to be employed greatly reduce the chance of workers being exposed and ensure risks for any public exposure remain slight. Removal of dead and dying trees through harvest and thinning operations will make the area safer for forest visitors. No significant short-term, long-term, or cumulative effects to human health are anticipated.

Economic/Social – Gross timber sale receipts are estimated at $1,228,005.56. Annually, a portion of the gross National Forest receipts are returned to Arkansas to be distributed to the counties containing the public forests. An additional 10% of the gross receipts are also available to the Ozark National Forest to be used to improve watershed conditions at sites across the forest based on priority needs each year. Contracts for site preparation, wildlife habitat improvement, road work, and other treatments will also add benefits to the local economy. Implementation of the selected alternative will have a positive effect on the local economy in that it will provide revenue to the counties/schools and provide local jobs while at the same time improving ecosystem health in the project area. Long-term or cumulative effects on the social and economic factors are predicted to be non-significant.

Management Areas, Aesthetics, and Recreation –Timber harvest and prescribed burning will allow views which penetrate into the stands, allowing views further than the existing near foreground, giving the

stands a more park-like appearance and providing for a greater diversity of understory species. Area visitors will see and smell smoke during burning, see blackened trees and ground for the first season until the next spring green-up, see some browning of vegetation from harvest activities during the initial work in stands along county and forest roads.

Currently, there is only one designated OHV route in the Low Gap/Chinquapin project area. The OHV route is a section of a loop route located on the west boundary of the Low Gap project area on Forest Service road 1427. This road will be used to access harvest areas. Signs will be posted during timber activities notifying OHV users to avoid the area. Also, gate construction would reduce unauthorized OHV use in the analysis area. Some changes will be made to highway legal vehicles within the project area. This will affect the Motor Vehicle Use Map (MVUM). Changes can be seen on the Project Roads Management Chart Table 9a and 9b (pp. 24-25) of the EA.

Planned activities will have some short-term effects on aesthetics and recreational users may suffer temporary inconveniences from the implementation of planned work. No significant long-term or cumulative effects on these aesthetic and recreation resources are anticipated. Implementation of the selected alternative will have no long-term negative effects or cumulative negative effects.

Other alternatives considered in detail were:

Alternative 1. **No Action**: Analysis of this alternative measured the effects of not implementing the proposed ecosystem restoration, wildlife and associated vegetation management actions on the physical, biological, human health, and economic and social components of the environment. Only custodial management such as road maintenance, fire control and law enforcement would occur. Implementation of this alternative would not allow for the restoration of ecosystem health and creating sustainable forest ecosystem conditions through thinning and regeneration treatments and restoration of the fire regime mimicking historic/natural fire-return intervals. Implementation of this alternative would not increase plant and wildlife diversity. Habitat for early successional/disturbance-dependent species would not be improved. Historic ecosystems of oak forest would not be maintained for vegetation and wildlife. Implementation of this alternative would not reduce forest fuels and not reduce risk to forest ecosystems and private property. Implementation of this alternative would not reduce conflicts between motorized vehicle use and other resource values. Implementation of this alternative would not increase or improve recreational uses on the Forest. Implementation of this alternative would not improve Forest visitor safety. No direct revenues to the federal or county treasuries would occur from the sale of commodities and no employment opportunities would be generated. The objectives of the LRMP for wildlife and timber would not be met.

Alternative 3 No Herbicide: This alternative was developed in response to past public comments which relate to the use of herbicides, and its perceived effects upon the environment. Herbicides would not be used, but would be replaced by mechanical and/or hand-tool methods. Generally, hand-tools are not as effective for vegetation manipulation as herbicides; therefore, more applications would be required in this alternative. Alternative 2 was selected as the proposed action needed to complete a vegetation management prescription for all forest stands, both commercially and non-commercially. In addition to being selected as the proposed action, alternative 2 was analyzed to be economically viable, whereas, alternative 3 was not because of the multiple mechanical and/or hand tool treatments that would be necessary to achieve LRMP objectives without the use of herbicides.

My reasons for choosing **Alternative 2** were:

Overall, I viewed this proposal as the one best meeting the goals and objectives of the LRMP while still addressing the issues and concerns raised by the public, other agencies, and by the interdisciplinary team. Specifically, the reasons are:

- The selected alternative, as mitigated, addressed the issue of immediate and cumulative effects from past, current, and proposed actions on soil erosion, soil nutrient/productivity loss, and sediment/storm runoff, and wildlife habitat in the project area. The analysis shows that at

the harvest level of Alternative 2, some soil compaction, soil disturbance, slight increases in nutrient and erosion loss, some increased sedimentation and stormflow, and a possible change in water chemistry would occur. However, these changes are still below the threshold level of environmental concern. After a short degradation of wildlife habitat from vegetation manipulation, the early seral habitat produced from the activities will provide for increased biological diversity and long-term wildlife benefits. There should be no long-term or cumulative effects on the environment from the planned actions.

- Use of herbicides continues to be a concern for many people. Concerns regarding harmful effects to humans, plants and animals from herbicide residues in water are the primary issue. The proposed action contains the potential use of herbicide of up to 3,052 for site preparation, TSI/PCT, and creation of early seral habitat in wildlife openings. I decided this selection was acceptable due to the effects analysis in the EA which shows that, with mitigation measures in place, herbicides can be a safe, cost-effective, and an efficient tool to accomplish the needed work. Overall, there will be no significant short-term harmful effects to humans, TES species, or wildlife, and no significant long-term or cumulative effects from the planned herbicide use.

- The issue of effects of past, present, and proposed activities on vegetation is analyzed in the EA pp. 67-73. Effects for this alternative on fragmentation are minimal, since all areas to be worked will retain a forest canopy, except for road corridors, wildlife openings, and wildlife ponds.

- With implementation of Alternative 2, approximately 385 acres would be converted, through harvest and subsequent regeneration, from the 81-100 year age classes to the 0-10 year age class. Browse and early-successional forest habitat would be provided in these regeneration areas for a variety of wildlife species. Viability of disturbance-dependent avian species would be enhanced. Avian species requiring both large and small areas of early successional vegetation and forest edge would benefit. Implementation of this alternative will result in a 7% reduction of interior forest habitat which is greater than 81 years old (within project area compartments). Following implementation of this alternative, 62% of the forested land base within the project area compartments would remain in the 81-100+ year age classes. When considering recruitment of stands into the 61+ year age classes in the next 1-20 years, and examination of distribution of stand age classes, fragmentation of interior forest habitat is not anticipated. Determination of effects to TES species is disclosed in the EA on pages 81-86. These determinations and concurrence from the U.S. Fish and Wildlife Service indicates viability of TES species found in the project area will not be compromised. Wildlife habitat is affected by the planned activities of Alternative 2 in an overall positive manner.

- Analysis for the selected alternative shows that prescribed fire can be a useful practice for several purposes. Prescribed fire would serve to reintroduce fire into a fire-adapted ecosystem, promote oak regeneration in shelterwood harvest areas, maintain pine/hardwood stands in open conditions, increase herbaceous understory species density and diversity, increase soft-mast production and reduce potentially hazardous accumulations of fuels on the forest floor.

- Alternative 2 will provide acceptable economic benefits. This alternative will provide a positive effect on the local economy by providing forest products, government revenues, and job opportunities.

- When implemented, alternative 2 will be monitored through timber sale inspections, regeneration surveys, water quality monitoring, and other actions listed in the mitigation measures on pgs. 28-34 of the EA.

FINDING OF NO SIGNIFICANT IMPACTS (FONSI):

Based on my review of the above analysis and from past experience, I have determined that the proposed actions are not a major Federal action either individually or cumulatively, and will not significantly affect the quality of the human environment. Therefore, an environmental impact statement is not necessary. This determination is based on the following factors (40 CFR 1508.27):

1. Both beneficial and adverse effects have been considered and this action should not have a significant effect on the quality of the human environment (EA, pp. 34-97).

2. The actions should not significantly affect public health or safety (EA, pp. 86-88).

3. The project will not significantly affect any unique characteristics of the geographic area such as proximity to historic or cultural resources, ecologically critical areas, or wild and scenic rivers (EA, pp. 63-67, 67-86, 90-97).

4. The effects on the quality of the human environment are not likely to be highly controversial (EA, pp. 34-97).

5. The actions do not involve highly uncertain, unique, or unknown environmental risks to the human environment (EA, pp. 34-97).

6. The actions in this decision will not establish a precedent for future actions with significant effects nor does it represent a decision in principle about a future consideration.

7. There will be no cumulatively significant impacts on the environment. The cumulative effects of the proposed actions have been analyzed with consideration of other similar activities on adjacent lands, in past actions, and in foreseeable future actions (EA, pp. 34-97).

8. The actions will not affect any sites listed, or eligible for listing, in the National Register of Historic Places nor will they cause loss or destruction of significant scientific, cultural, or historic resources (EA, pp. 63-67).

9. The actions are not likely to adversely affect endangered or threatened plant or animal species, or their critical habitat (EA, pp. 81-86).

10. None of the actions threaten to lead to violation of federal, state, or local laws imposed for the protection of the environment (EA, pp. 34-97).

For water quality management, state-approved Best Management Practices (BMPs), which are incorporated into the mitigation measures, will be used for this project (EA, pp. 26-28). These BMPs are from the state water quality management plan and have been designed with the goal of producing water that meets state water quality standards. The project will be monitored to ensure BMPs are implemented. If implementing BMPs on a specific site results in effects significantly higher than anticipated because of unforeseen site factors or events, appropriate corrective measures will be considered and implemented.

Actions are also consistent with the Antiquities Act, Endangered Species Act, Clean Air Act, Clean Water Act, and all other applicable state and federal laws and regulations. Additionally, the best available scientific data was used when selecting and analyzing the effects of the proposed action.

OTHER FINDINGS:

1. The actions of the project are consistent with the Ozark-St. Francis National Forests LRMP goals and objectives (Revised-2005). All of the actions associated with this project occur within Management Areas: Scenic Byway Corridor (1.H), Pine Woodland (3.A), Mixed Forest (3.C),

Oak Decline Restoration Areas (3.D), and Riparian Corridors (3.I). all stands bordering the proposed scenic forest highway 103 will be managed to meet the visual quality ojbjectives for maintaining the integrity of a scenic forest highway. All of the planned actions associated with these projects are consistent with the management prescriptions and management practices for this Management Area. The actions are also consistent with the LRMP because mitigation measures for impacts shall be fully applied in implementation. The project is feasible and reasonable, restores ecosystem health, protects the environment while producing goods and services.

2. The actions of this project comply with the ecological, social, and economic requirements of 36 CFR 219.19 by following the Forest-wide standards and guides. These actions also meet the General Management requirements and Mitigation Measures in the ROD of the FEIS of the Vegetation Management in the Ozark/Ouachita Mountains. The requirements met are:

    1. The activities chosen are best suited for the multiple-use goals of the area.

    2. All practices prescribed for timber harvest areas will maintain adequate stocking for the area now and in the future. Areas selected for shelterwood harvest are mature stands of trees, have good seed-producing qualities, and are situated on suitable soils for natural regeneration.

    3. Alternative 2 was not selected based upon the output of timber. This alternative provides a positive effect on the local economy, forest health, recreation and wildlife and has only minimal short-term effects on other resources.

    4. The activities chosen will not adversely affect residual trees in adjacent stands.

    5. The activities chosen, with mitigating measures, avoid permanent impairment of site productivity and ensure conservation of soil and water resources.

    6. The activities provide for meeting LRMP objectives for all resources.

    7. The activities are practical in terms of transportation and harvesting and total cost of site preparation, logging, and administration.

IMPLEMENTATION:

This decision is subject to to pre-decisional objection process pursuant to 36 CFR 218 Subparts A and B. A written Notice of Objection must be postmarked or received within 45 days after the date this notice is published (August 28, 2013). Only those who provided substantive comments regarding the proposed action during the scoping and/or comment period will be accepted as objectors.

PAT KOWALEWYCZ Date
District Ranger