



FINAL DECISION NOTICE AND FINDING OF NO SIGNIFICANT IMPACT
LOCUST GAP
U.S. FOREST SERVICE
PLEASANT HILL RANGER DISTRICT
OZARK-ST. FRANCIS NATIONAL FORESTS
JOHNSON AND MADISON COUNTIES, AR.

DECISION

Based on an Environmental Assessment (EA) prepared by an interdisciplinary team of Forest Service specialists, decisions regarding management actions for forest health, watershed improvement, ecosystem restoration, wildlife habitat, and recreation over the next several years have been made for the Locust Gap 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.

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, watershed improvement, 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, and increase Forest visitor safety. The management actions designed to meet these objectives address issues and concerns expressed by the public and interdisciplinary team (IDT).

The project area of **Locust Gap** comprises a total of approximately 10,553 total acres; 7,049 acres of National Forest land and 3,504 acres of private land. The Locust Gap Project area includes compartments 270, 271, 272, 276, 277, and 278. The legal description is T13N R25W Sections 1 and 12; T13N R24W Sections 3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 17, and 18; T14N R25W Sections 26, 35, and 36; and T14N R24W Sections 21, 28, 29, 30, 31, 32, and 33 (Figure 1 of EA). The project area is bounded on the north, east, and west by State Highway 16 while the southern boundary is bounded by Madison County Road 4310 and Clifty Creek. The town of Red Star is situated on the northern boundary of Locust Gap. Locust Gap is also approximately 6.5 miles to the north and west of Fallsville and approximately 11 miles east of St. Paul. The Locust Gap project area falls within the following management areas (MAs): Scenic Byway Corridor (1.H), Oak Woodland (3.B), Mixed Forest (3.C.), and Riparian Corridors (3.I.).

Connected Treatments for the Hardwood Shelterwood Stands: If desired species adequately replenish the new stands by natural means, release measures may be implemented using hand tools/herbicide/Rx burning, if necessary, to reduce competing vegetation. This will occur within 3 to 7 years after harvest. If the desired species fail to adequately establish new stands by natural means, planting & release of oak species will be required.

Hardwood Timber Stand Improvement (TSI) – Midstory Treatment & Burning: This treatment will occur on approximately 1,159 acres. These areas are comprised of mostly immature sawtimber, but do have a component of mature trees with dense midstory and understory of desirable/undesirable species. Removal of the undesirable midstory will allow oak and other desirable species currently in and underneath the midstory to be released and become competitive. The success of this treatment, via hand tool/herbicide means, will allow a regeneration harvest to be considered next entry. Undesirable species will be treated with herbicide. Some desirable species such as oak may be cut but not treated with herbicide and allowed to re-sprout. Prescribed burning may follow this treatment to further control unwanted competitors of oak.

Hardwood Pre-Commercial Thinning (PCT): This treatment will occur on approximately 390 acres and reduce the density of stands that have not yet reached commercial size. This will allow crowns and root systems to reach maximum potential. This will also give the remaining trees a head start to reach maturity in an optimum time and healthy condition. Hand tools, herbicides, mechanical applications, and power saws are all means that could be utilized.

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. This action will allow the District Ranger to respond to situations within the Locust Gap project 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.

Prior to conducting salvage and/or regeneration operations within the Locust Gap project area boundaries, site-specific documentation for each salvage and regeneration action would be prepared and retained by the District. As a minimum, this 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 Forests), 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 proposed, endangered, threatened,

reducing erosion and sediment from reaching streams.

Maintenance: Approximately 10.6 miles of open and closed roads will receive maintenance in order to obtain suitable road conditions for hauling timber. County roads anticipated to be used are regularly maintained by their respective counties, along with Forest Service assistance. Closed roads will temporarily be opened during timber/silvicultural activities and immediately closed again with gates or mounds after all activities have been completed to reduce erosion caused from vehicle traffic and protect wildlife habitat.

Decommissioning: Approximately 13.2 miles of existing roads no longer needed for management or access will be decommissioned. This entails restoring roads to a more natural state. Activities used to decommission roads will include, but are not limited to the following: re-establishing former drainage patterns, stabilizing slopes, restoring vegetation, blocking the entrance to the road, installing water bars (earthen mounds), and removing culverts. Decommissioning roads will be out-sloped and all natural drainages will be reconstructed. Unnamed and illegally accessed off-highway vehicles (OHV) trails present in the Locust Gap project area may be closed using debris, rocks, earthen mounds, or gates.

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.

Temporary Roads: Approximately 6.9 miles of temporary roads will be needed to access timber stands. These roads will be blocked, and then rehabilitated with seeding and/or natural re-vegetation. Temporary roads will not be included as part of the forest transportation system as they are managed for short-term projects or activities, followed by decommissioning after use.

Access: Adjacent landowners whose property blocks access to Federal land will be contacted by the Forest Service. Neighbors of the forest will be asked to consider allowing entrance to these otherwise inaccessible areas for forest management and fire protection.

Recreation:

If funding becomes available and the trail is approved under the forests trail priority list, an interpretive/nature hiking trail may be constructed south of the Headwaters School and State Highway 16 located in Compartment 270, Stand 1. The hiking trail will be considered a nature trail focusing on the tree and plant species native to the area as well as conservation and environmental education. Panel displays or wooden signs may be used to describe a tree, plant species or other environmental feature along the trail. The trail will be no more than 1 mile in length and open to the public year around.

Heritage Resources

The project has been designed so all sites that may be eligible for the National Register of

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 (Figure 2) falls within the Arkansas-White-Red region (11), the Lower Arkansas sub-region (1111), the Lower Arkansas-Fourche La Pave basin (111102), and the Frog-Mulberry sub-basin unit (11110201). The Ozark-St. Francis National Forests further classify land areas into progressively smaller units: watersheds and sub-watersheds. The proposed project areas fall within the Headwaters Mulberry River watershed (1111020106) and at the smallest scale, the proposed project occupies the northern portion of the Upper Little Mulberry Creek sub-watershed (111102010601). This sub-watershed, or 6th level Hydrologic Unit Code (referred to as a watershed), will serve as the analysis boundary for the proposed project with respect to water resources. 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. There are approximately 53.7 miles of streams within the analysis area, 26.7 miles of which occur in the proposed project area. The primary streams that are found in the project areas are: Little Mulberry Creek and several unnamed tributaries. Beech Hurricane Creek borders the project area on the southwestern edge. The Arkansas Department of Environmental Quality (ADEQ) maintains a monitoring station (ARK0143) on Little Mulberry Creek at the southern end of the proposed project area and another near Friley (ARK0144) at the southern end of the watershed.

The cumulative effects analysis indicates minimal risks to the water resource's current condition. The activities proposed by the Forest Service for the Proposed Action and alternative road construction alternative will result in a decrease in sediment production from the landscape. Additionally, it should be possible to schedule these activities over time instead of instantaneously as predicted by the analysis, thus further reducing the possibility of acute effects. Through the use of Forest Plan standards and the use of Arkansas Silviculture BMPs, the activities scheduled for implementation should not pose additional risks to water quality or designated uses. Monitoring in the form of subsequent fisheries evaluation and BMP compliance checks should be adequate to discern any adverse effects which may result from the implementation of the proposed action.

Soils - The analysis area for soils will be Compartments 270, 271, 272, 276, 277, and 278. The project area is located on the southern side of the Ozark Plateau in a heavily dissected section called the Boston Mountains. Project area elevation varies from about 1240 feet at the southern tip of the project area on Beech Hurricane Creek and Clifty Hollow to 2480 feet near Red Star at the northern end of the project area. Several types 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 bedded

potential to be applied for site preparation. Non-ionic surfactants may be mixed with herbicides in order to improve application success. With use of listed mitigation measures, no significant long-term degradation or cumulative effects, including state standards, on soils and water quality are anticipated from implementation of Alternative 3. Herbicide use will only be conducted under the cut-surface method to eliminate foliar spraying on a wide-scale area.

Direct effects, occurring at time of application, to birds or large mammals are unlikely, since these species are likely to move from the area when project activities are implemented. Although direct effects to amphibians are more likely since contact with herbicide could be absorbed through the skin, amphibians are likely to be under logs, rocks or leaves, making direct contact (from spray) with chemicals less likely. Direct effects to other non-target plants occurring in these habitats could occur. Application methods, including direct application to target foliage or to freshly cut stumps/surfaces, will minimize the possibility of direct contamination to non-target species. The most plausible possible direct effects to humans will be to workers from continuing work in contaminated clothing. Proper handling and cleanliness of personal protective gear would mitigate this possibility. More implausible direct effects to the general public may occur through walking through recently treated (wet) vegetation in shorts and consuming contaminated fruit. Narrative (shown above) for HQs \geq for non-accidental acute exposure (single exposure for both triclopyr (amine and ester formulations) and hexazinone shows these situations are unlikely.

Direct and indirect effects from chemical spills of all herbicides analyzed to humans, wildlife and plants are minimized by following proper mixing and handling procedures, Forest-Wide Standards and BMPs.

Adverse, indirect effects to management indicator species (MIS) and habitats treated with all chemicals are reduced given that applicators treat target plants only, field formulations contain diluted concentrations of chemical and that mitigation measures, BMPs and Forest-Wide Standards will be used.

Implementation of Alternative 3 (no foliar spraying-reduced Rx burning) will not provide the level of indirect benefits to wildlife as would be expected with implementation of Alternative 2. Reduction of herbicide use will reduce the levels of early successional habitat, reduce diversity of herbaceous species in woodland restoration areas and reduce the promotion of oak/pine regeneration – below levels which would be expected with implementation of Alternative 2.

Air - Prescribed burning for pine and hardwood site preparation, TSI/PCT, wildlife forage production, ecosystem health, and hazardous fuel reduction will release approximately 6,404 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 and prevent negative impacts to smoke sensitive areas.

Climate Change - With this alternative, some of the carbon currently sequestered in vegetation

Alternative 3, rates of delivery are considered low risk.

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 are 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 – The compartments for which vegetation was analyzed contain approximately 7,049 acres of National Forest land, of which 5,440 acres are suitable timber-producing lands. The project area consists of pine timber types (3%) and hardwood timber types (97%). Currently, the project area does not have a balanced age-class with 82 percent of forest stands being over 80 years old (Table 15) and less than 2 percent being younger than 20 years old. Table 15 exhibits the age-class distributions on public lands in the Locust Gap Project.

Alternative 3 excludes the use of foliar application of herbicide. Eliminating the use of foliar herbicides and replacing it with a less-effective method (i.e., herbicide applied directly onto cut surface or by a streamline-to-bark application, or even handtools) could slow the process of regenerating the desirable species. However, using herbicides is always more effective than using handtools because it lasts longer and does not require repeated applications. Additionally, herbicides severely retard stump-sprouting. When only using handtools to cut undesirables, stump-sprouting will almost always occur, thus causing the desirable species to struggle against formidable competition for sunlight.

Alternative 3 also includes less Rx burning per day, but will require more burning days. Smoke and fireline management will be easier and more controllable. However, additional miles of fireline may be needed to restrict burning size. This may cause a temporary slight increase in sedimentation in streams but no significant negative effects are anticipated.

Based on this analysis, the implementation of Alternative 3 could have a negative cumulative impact on human worker resources because of more intensive use of herbicide/handtool work.

Wildlife – With implementation of Alternatives 3, approximately 398 acres will be converted, through harvest and subsequent regeneration, from the 81-100+ year age classes to the 0-10 year age class. Implementation of the shelterwood regeneration system will result in 6 percent of the public land-base within the project area compartments in early successional forest habitat, as opposed to <1 percent under current conditions. Approximately 1,619 acres will be restored to woodland condition through thinning in the 61-100 year age classes. Browse and early-successional habitat will be provided in these regeneration areas and thinned woodlands for a variety of wildlife species, especially when combined with prescribed fire. Viability of disturbance-dependent avian species will be enhanced. Avian species requiring both large and small areas of early successional vegetation and forest edge will benefit.

four plant species (Ouachita leadplant, Ozark chinquapin, Southern lady's slipper, and Ozark spiderwort) were identified within the analysis area (OAR "5").

Also, the site specific Biological Evaluation shows fourteen 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 "6"): 1 bird species (bald eagle), 4 mammal species (gray bat, Eastern small-footed bat, Northern long-eared bat and Indiana bat), 1 isopod species (Iris isopod), 1 crayfish species (William's crayfish) and 7 plant species (Bush's poppymallow, Moore's larkspur, French's shooting star, small-headed pipewort, Ovate-leaf catchfly, Nuttall's cornsalad, and Ozark cornsalad).

Human Health – There is a risk of worker injury during the completion of manual/mechanical vegetation treatments, and prescribed fire. Proper use of PPE, adherence to job hazard analyses and safety practices mitigate this risk. Risk to the public from these types of work is minimal. With proper handling/transport methods, use of signing in application areas (where required), use of proper application methods and equipment, and use of required PPE, risk of herbicide exposure to workers and the public is mitigated with implementation of Alternative 3.

Removal of dead and/or aging trees through thinning operations and fireline preparation will make the forest safer for forest visitors, through reducing the incidence of falling snags and limbs.

Use of prescribed burning will lessen potential wildland fire occurrence, wildland fire severity and unplanned smoke emissions. Strict adherence to FEIS and RLMRP guidelines, a site-specific burning plan and Arkansas Voluntary Smoke Management Guidelines will limit the area where specific burn plans, and Arkansas Voluntary Smoke Management Guidelines ensure that smoke or other combustion products do not reach, or significantly affect, smoke sensitive areas. Smoke monitoring during and after prescribed burns will be conducted to determine compliance with smoke management guidelines, and for potential future mitigation required for downwind smoke sensitive areas. These actions will ensure that the requirements of the Clean Air Act, EPA air standards, and state requirements will be met and there should be no smoke related long-term or cumulative effects from implementation of prescribed fire.

Economic/Social – Activities proposed will affect the local economy by supplying timber for local mills, employing loggers to harvest timber, employing people to do site preparation, TSI/PCT, and wildlife habitat improvement work.

The revenues derived from the selling price of timber will contribute to school and road funds in Madison County, in accordance with PL 112-141. At the time of the Locust Gap Project economic analysis, hardwood sawtimber sold for \$54.53/CCF, hardwood pulpwood sold for \$13.81/CCF, pine sawtimber sold for \$63.03/CCF, and pine pulpwood sold for \$22.53/CCF. These figures reflect an average from several timber sales recently sold on the OSFNFs. Table 20 lists the Present Value of implementing Alternatives 3.

Management Areas, Aesthetics, and Recreation –Vegetation management and prescribed burning will allow views which penetrate into the stands, allowing views further than the

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 3, some soil compaction, soil disturbance, slight increases in nutrient and erosion loss, some increased sedimentation and stormflow, and a possible change in water chemistry will 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 use of herbicide using a cut-surface herbicide application rather than foliar spray application. It is anticipated this will reduce the amount of herbicide used, thereby responding to public concerns. 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.
- Use of LWD is a growing concern for the public. Perceived concerns include streambank erosion, log/debris buildup and increased damage to personal property during flood events, and danger to canoers/kayakers. Field surveys of Little Mulberry Creek and its tributaries within the project area show existing levels of LWD are adequate for fish habitat. Alternative 3 removes this provision of placing LWD into streams.
- The issue of effects of past, present, and proposed activities on vegetation is analyzed in the EA pp. 98-104. Effects for this alternative on fragmentation are minimal, since all areas to be worked will retain a forest canopy, except for road corridors.
- With implementation of Alternatives 3, approximately 398 acres will be converted, through harvest and subsequent regeneration, from the 81-100+ year age classes to the 0-10 year age class. Implementation of the shelterwood regeneration system will result in 6 percent of the public land-base within the project area compartments in early successional forest habitat, as opposed to <1 percent under current conditions. Approximately 1,619 acres will be restored to woodland condition through thinning in the 61-100 year age classes. Browse and early-successional habitat will be provided in

“Response to Comments” section. All relevant comments pertaining to the EA were addressed in this section.

FINDING OF NO SIGNIFICANT IMPACT

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. 46-131).
2. The actions should not significantly affect public health or safety (EA, pp. 118-123).
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. 94-98, 98-104, 124-131).
4. The effects on the quality of the human environment are not likely to be highly controversial (EA, pp. 46-131).
5. The actions do not involve highly uncertain, unique, or unknown environmental risks to the human environment (EA, pp. 46-131).
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. 46-131).
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. 94-98).
9. The actions are not likely to adversely affect endangered or threatened plant or animal species, or their critical habitat (EA, pp. 113-118).
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. 46-131).

6. The activities provide for meeting LRMP objectives for all resources.
7. The activities are practical in terms of transportation, vegetation management and total cost of site preparation, logging, and administration.

OBJECTION OPPORTUNITIES

This decision was subject to objection pursuant to 36 CFR 218, and a legal notice of the opportunity to object was published on November 26, 2014, in the *The Graphic* – Clarksville, AR. and sent to those who provided comments during the Draft EA scoping period. One objection was filed and processed by the objection reviewing officer.

IMPLEMENTATION DATE

This decision may be implemented any time after the date of signature.

CONTACT

For additional information concerning this decision, contact: Patricia Kowalewycz, District Ranger, Pleasant Hill Ranger District, 2591 Highway 21, Clarksville, AR. 72830, 479-754-2864.



Patricia Kowalewycz

District Ranger



Date

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