Foust Forestry Management

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STANDING TIMBER ASSESSMENT FOR: ROLLING HILLS RANCH, LLC

740 Acres, MOL
Faulkner County, Arkansas

Prepared By: Foust Forestry Management
Heber Springs, AR

July, 2011

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AREA OF INTEREST/LOCATION. Figures 1-5.

The *Jacuzzi* tract is located in Faulkner County, Arkansas and further described as: S ½ SW ¼, SW ¼ SE ¼, PART OF S ½ N ½ SE ¼, SECTION 30; NW ¼, N ½ SW ¼, W ½ NE ¼, NW ¼ SE ¼, PART OF NW ¼ SW ¼, SECTION 31; NE ¼, PART OF SE ¼, SECTION 36; ALL SITUATED IN T-6-N, R-12-W, FAULKNER COUNTY, ARKANSAS, AND CONTAINING 740 ACRES, MOL.

PURPOSE OF REPORT/METHODS

The purpose of this report is to help define current standing timber conditions and to aid the landowner with useful and significant information to promote sustainable and desirable forest management.

A 10 BAF prism was used to execute a *variable-plot* inventory on this tract. Data was collected at 136 plots within this AOI (*area of interest*). Species, DBH (diameter @ breast high or 4.5' above ground level) grade, heights, product category, and other significant timber/stand related observations were considered at each plot. Plots were established in an unbiased and grid-type manner to promote the best possible sample of the overall characteristics and significant features of the entire tract.

BEST MANAGEMENT PRACTICES

Arkansas' "Best Management Practices" should be considered during all phases of timber management/harvesting operations on this property. The following suggestions are just some of many important BMP guidelines that should be implemented.

1. MINIMIZE STREAM CROSSINGS.

2. WHERE FEASIBLE, LOCATE ROADS ON A CONTOUR AND AT A REASONABLE DISTANCE FROM STREAMS.

3. DESIGN ROADS NO WIDER THAN NECESSARY TO ACCOMMODATE THE ANTICIPATED USE.

4. INSTALL DITCHES, CULVERTS, CROSS DRAINS, AND WING DITCHES AT LOW POINTS IN ROADS.

5. WHEN NEEDED, PROVIDE DRAINAGE ON TEMPORARY ROADS.

6. CONTSRUCT STREAM CROSSINGS TO MINIMIZE THE DISTURBANCE TO STREAMBANKS AND EXISTING CHANNELS.

7. KEEP DITCHES FREE FROM BLOCKAGES.

8. LOCATE LANDINGS TO MINIMIZE ANY IMPACT THAT SKIDDING MAY HAVE ON THE NATURAL WATER DRAINAGE PATTERNS.

9. LOCATE LANDINGS ON FIRM GROUND OUTSIDE SMZ AREAS.

10. DON'T USE STREAM CHANNELS AS SKID TRAILS.

TIMBER TYPES AND MANAGEMENT UNITS. Figures 4 and 5.

This tract should be divided into 5 different major Timber Types. These Timber Types are separated and unique when considering

current timber stocking conditions, existing species composition, ecological considerations, and future timber management recommendations.

Timber Management Unit's *(Figure 5)* will be considered after existing Type conditions are determined and established. Timber Management Unit's reflect more intensive future management scenarios for the landowner to consider. These Units may be considered for prescriptions in portion and in a more suitable time-line of operations. One may, for example, choose to convert 80 acres per year or different time and area values.

Type "H1". 332 Acres. MOL. Figures 4.

Type H1 is generally poorly stocked with native and typical upland mixed species such as post oak (*Quercus stellata)*, shortleaf pine (*Pinus echinata)*, black oak (*Quercus velutina)*, southern red oak (*Quercus falcata)*, white oak (*Quercus alba)*, cherrybark red oak (*Quercus falcata var. pagodaefolia)*, and scattered sweetgum, elms, and hickories.

Much of this type is located in the steeper terrain and rocky areas. General health appears fair-good. The steeper terrain and areas with rock outcroppings within this Type area should not be considered for conversion (clearcut) into loblolly pine due to potential erosion problems. I would maintain this Unit in mixed native species that are best suited for each individual and unique acre. One may consider a thinning within the more accessible areas of this Unit (if feasible) designed to harvest the more mature and undesirable hardwood species/stems. Any thinning should be designed to skew the species composition toward a more desirable and productive oak/pine forest.

If thinning, target the undesirable species such as hickories, cedar, gums, and elms. The best residual stand would be a mixed species and

uneven-aged stratum of native and desirable oak/pine species. One may consider FSI (*forest stand improvement)* injection work in this unit or selection type thinning in the future. One major hindrance of hack-n-squirt prescriptions is the existence of dead snags following the herbicide application. Consider areas within this unit for FSI that are more heavily stocked with undesirable species (hickories, elms, sweetgum) competing with desirable species and individual stems. Bear in mind the damage that would occur to the residual stand when executing a commercial pulpwood thinning would probably not be acceptable (residual stand damage) considering the monetary returns. A prescribed fire may be executed within designated areas of upland hardwood stands to promote wildlife habitat/browse, but be aware that any fire will hinder hardwood species growth and production. A cool fire prescribed in the winter months when the sap is down may be recommended in native hardwood areas that have no significant timber management potential to enhance wildlife habitat.

Type "H2" and "SMZ". 72 Acres and 48 Acres, MOL. Figure 4.

Type H2 and the SMZ areas are well stocked with native hardwood species such as willow oak (*Quercus phellos),* black oak (*Quercus velutina),* cherrybark red oak (*Quercus falcata var. pagodaefolia),* white oak (*Quercus alba),* cow oak (*Quercus prinus),* Shumard oak (*Quercus shumardii),* sycamore (*Platanus occidentalis),* river birch (*Betula nigra),* and scattered ash, sweetgum, and elms. Most of this Type is located in very productive bottomland soils and along existing creeks/drains. All of the established Streamside Management Zones (SMZ) is located within this Unit. I would recommend leaving most of this area pristine to enhance diversity and to help maintain water quality, prevent erosion, and enhance aesthetics. The established SMZ areas provide and promote invaluable edge for existing wildlife as well as create natural fire barriers. If thinning, consider the following scenarios and suggestions.

A basic understanding of bottomland regeneration may be helpful for the landowner to understand their Forester's terminology.

There are two alternatives for consideration of regeneration of bottomland hardwoods. Even-aged and uneven-aged. Even-aged systems consist of 1) clearcutting, 2) seed tree and 3) shelterwood. Uneven-aged systems consist of 1) single tree and 2) group selection.

The clearcutting method of regeneration favors the growth of moderately intolerant species because it provides full sunlight to the forest floor. However, there are three important requirements for successful regeneration using the clearcutting method: 1) presence of adequate oak regeneration prior to clearcutting, 2) adequate sprouting potential from severed stumps and 3) clearcutting of all stems. The clearcutting method seems to be the most reliable method for oak regeneration in bottomland oaks.

The seed tree methods of regeneration favors light-seeded species such as sweetgum and yellow poplar. This method is generally not suitable for oak regeneration unless adequate advanced oak regeneration is established.

The shelterwood method tends to favor light-seeded species. This method has been widely used throughout the southern bottomlands in the past. This method can work but it isn't very consistent. There must be adequate desirable oak regeneration available before removal of the overstory. Intermediate treatments such as harvesting the undesirable species and chemical control of undesirable species may be necessary. Thinnings should be designed to enhance oak regeneration and help eradicate undesirable species.

The single tree method of regeneration is designed to harvest single, mature trees periodically throughout the stand at regular intervals. Do to the smaller openings on the forest floor, this type of thinning

generally doesn't favor shade-intolerant species. There are few commercially valuable shade-intolerant species. Oaks generally need at least 2-3 hours/day of direct sunlight to survive and live. This method is not recommended for bottomland oak regeneration.

The group selection method of oak regeneration is designed to harvest small groups of mature trees throughout the stand at regular, periodic intervals to help create or maintain an uneven-aged stand. The general rule is to create openings that are no wider than twice the equivalent of the tallest tree. These openings are too small to encourage oak regeneration and favor lighter-seeded and more shade tolerant species.

Patch cutting is a newer and more widely applied method that is actually a combination of uneven-aged (group selection) and even-aged (clearcutting) Silviculture. This method can release areas that are at least 1-2 acres that in turn can allow for the uneven-aged development of small even-aged groups. This method combines the biological advantages of clearcutting by creating larger openings, with the aesthetics and wildlife advantages of group selection. The openings should be no less than 80-100 yards in diameter. The key is to match the size of your opening to the reproductive requirements of the desirable species. This is a hard system to execute, but should produce the biological conditions suitable for bottomland oak regeneration.

All forest management practices within this area should be designed to promote the development of desirable bottomland hardwood species. This property represents a very productive site suitable for the growth of quality bottomland hardwoods. The first step in managing this forest is to conduct a complete inventory of the entire tract. This will allow the managing forester to determine stocking levels, stand conditions, species compositions, and current development stages. All of these factors are necessary to implement management recommendations that will benefit bottomland hardwood management in the future, and avoid any further degrading of the resource.

There are four stages of development that must be recognized in bottomland hardwood management. These four stages are stand initiation, stem exclusion, old growth (gap phase dynamics), and stand re-initiation. Each area should be divided according to stocking levels of overstory, understory, and existing regeneration. After these levels have been determined, the stage of development should then be recognized. The management recommendations should then target increasing the rate at which the forest progresses into each stage. In other words, the management practices should focus on mimicking natural stand development. The benefit of such management is an increased stocking of desirable bottomland oak component at a faster growth rate. *Any forest management practices that require harvesting should always focus on creating an environment suitable for the establishment or development of natural oak regeneration.*

The management options listed below will describe some forest management practices that are suitable for reaching desired objectives.

Option 1:

The first option to consider is designed specifically for the management of areas that are recognized as currently being in the stem exclusion stage of development. These areas will also need to contain an acceptable level of oak component. Areas such as these should be scheduled for an intermediate thinning treatment. The stem exclusion stage of development will contain noticeable competition at the crown level. This thinning should be selectively marked by a managing forester to remove poorer formed and less dominant crown class trees. This thinning should also target the removal of less desirable species such as gums and maples. The residual stand should contain an acceptable level of oak component. These individual oak trees will now be able to expand their crowns and increase diameter growth. The available water and nutrients will also increase to the trees in the

residual stand further increasing the growth rate. The level of stress, due to competition, will decrease and improve the health of the forest.

As stated above, all harvesting operations should have an objective to increase the establishment and growth of natural regeneration. This type of thinning treatment is designed to reach such an objective. The removal of the selected trees will allow for an increased level of light to reach the forest floor. This increased level of light will allow for the possibility of natural bottomland hardwood regeneration to become established. The existing regeneration will also develop faster due to a higher photosynthetic rate. It has been suggested that newly established oak regeneration requires at least 1-2 hours of direct overhead sunlight to survive in the understory. The amount of direct overhead light available to the forest floor after the thinning treatment is expected to be greater than the 1-2 hours needed for survival. The regeneration should be able to become established and develop under these conditions.

Option 2:

The second option to consider is designed to further the growth and development of areas in the old growth stage. These areas may not be true "old growth", but they are areas that will experience "gap-phase" dynamics in the future. Gap-phase dynamics creates "holes" or large openings in the canopy. These holes are relatively large due to the size of the dominant crown class trees that are usually removed by natural causes. The creation of these holes provides an environment suitable for the establishment of bottomland hardwood regeneration.

The first step in managing these areas is to determine if the level of oak component is suitable for mimicking this type of development. If the area contains a sufficient amount of oak component, a crown thinning (high thinning) can be implemented to create these large holes in the

canopy. This is a very critical step in the management of the forest, and the trees to be removed should be selected by a managing forester. After these trees have been removed, the large holes in the canopy will provide an area suitable for the establishment of natural hardwood regeneration. Forest that contains trees of this crown size usually has a very clean understory with little to no regeneration. If this is the current condition, a high thinning alone will be a good management tool for establishing natural regeneration. However, if the forest floor does contain a high level of undesirable competition, a herbicide treatment may be necessary before the harvest to prepare the area for the establishment of natural regeneration. This herbicide treatment should eliminate all species that are not red or white oaks. After the Silvicultural operations are complete, the stand should successfully regenerate with the species desired. The only difference between this management practice and the way in which the stand will progress naturally, is the ability to manipulate the stocking of a more desirable species.

A good management practice to combine with this type of thinning is under-planting of a selected species of red or white oak. This is more intensive, but it will ensure the establishment of a desired oak component.

Option 3:

The third option is designed to convert areas that have been degraded due to high grading by past harvesting operations. High-grading is best described as removing the best quality and species of trees that the site has to offer. This type of harvesting is easily recognized, and it requires intensive management practices in order to promote a future stand of quality oaks.

The first step is to completely harvest the entire area that has been high-graded. After the harvest is complete, the area should be allowed to "lie out" for a period of at least one year. This period of time could be extended to two years, but this productive site may not need as long of a time period. This will allow for sufficient "green-up" of unwanted competition. It will also allow for coppice sprouting (stump sprouting) to become established. Since these areas only contain less-desirable species, the establishment of coppice sprouting is important. In bottomland hardwood species, trees with a 14" stump diameter and smaller are usually the only concerns. The larger diameter stumps are not expected to produce coppice sprouting.

After the area has sufficient green up and coppice sprouting is evident, the area should be treated with an herbicide application in the late summer months. This will eliminate any unwanted competition in the understory. When the area has "browned up" indicating a successful treatment, it should be re-planted with a chosen species of containerized red and white oak seedlings. These trees should be planted on a 12' x 12' spacing or 302 trees per acre (TPA). Due to the changing water levels on this property, the containerized seedlings will probably have a much better survival vs. bare root seedlings that may not be capable of withstanding higher water levels. Before planting this area, it would be a very good idea to implement a process referred to as "bedding". This bedding will increase the chances of seedling survival and development. This planting operation could be implemented in the early fall or spring.

The new stand of desirable bottomland hardwoods will represent a much better quality species composition and controlled level of stocking. This site is just too productive to remain in a degraded condition. The conversion to a bottomland hardwood plantation will greatly increase the productive potential of this extremely good site.

Option 4:

The fourth option is designed primarily to recognize areas that are in the stand re-initiation stage of development. These areas have already gone through some type of gap-phase dynamics. As described earlier, these gaps have created holes in the canopy and allowed for the establishment of natural bottomland hardwood regeneration. These areas should not be considered for any harvesting activity at any time in the near future. The stand has simply developed naturally, and it is re-initiating a future forest.

The first step is to evaluate the type and stocking level of natural regeneration that has become established. The objective is to maintain the quality oak regeneration. If a sufficient level of desirable oak regeneration has become established, water levels should be monitored in these areas. In other words, the regeneration should not be eliminated by holding high levels of water in these areas. This is a critical stage in the development of the future stand. It has been recognized that duck hunting is an important value on this property, but if the future stand is not managed correctly there will not be a suitable oak forest that will provide a habitat for migratory waterfowl. Therefore, it is very important to determine long term goals that will provide future generations with the same and possibly better habitat for timber and wildlife.

Type "P1". 6 Acres, MOL. Figure 4.

Type P1 is well stocked with the best grade loblolly pine timber on the entire tract. This area is well established and ready for conversion. The Unit has been thinned properly in the past and may be considered economically mature in the near future. This stand represents what could realistically be established on much of this tract and shows some of the true potential and productivity of the better sites on your land.

Basal areas within P1 average about 150 square feet/acre. DBH average is about 18", ranging from about 12"-22" DBH. Overall health is very good and the site potential productivity (site index) is probably some of the best on the tract. I have no doubt that the site index of this area could be manipulated to achieve 90-100' base age 50.

Manage this area to produce grade and high demand quality pine sawtimber. Previous thinnings were well executed and the residual stand is in great shape. This Unit is a liquid asset and may be considered for conversion/thinning whenever it is best suited to help attain the landowner's objectives. Execute a proper prescribed fire when feasible within this Unit to help promote wildlife browse, reduce excessive fuels, and control smaller diameter undesirable hardwood species. Maintain fire lanes.

Type "OF". 143 Acres, MOL. Figure 4.

Type "OF" consists of mostly old field areas that have grown up into unproductive cedar glades, sweetgum and groups of other typical and natural species. Most of this area should be considered for conversion into loblolly pine where feasible. This area has productive soils that should be better managed for desirable production. These areas have been neglected for 20-30 years. I would put a priority on regaining some sort of direction within these areas; they are too productive to remain abandoned and out of suitable production.

Units 1 and 2. 337 Acres, MOL. and 61 Acres, MOL. Figure 5.

Management Units 1 and 2 should be considered in whole or part for conversion into a more productive loblolly pine stand. Both Units are well suited for loblolly pine production. Unit 1 includes portions of

the H1 and OF type. Unit 2 includes the open, semi-open and pasture areas (*except adjacent to residence area).* Timing scenarios consider that conversion takes place in 2011-2013.

Unit 1:

Unit 1includes areas that are significantly understocked with undesirable and unproductive species/stems and may be considered for conversion. The steepest and rocky areas within the H1 Type area should not be considered for conversion due to erosion concerns and rate-of-return issues. Unit 1 attempts to define the general suitable areas that may be considered for conversion. Actual plantation layout on the ground may be slightly different than shown on Figure 5.

Unit 1 is wooded and will require total harvest of the areas designated for conversion. Loblolly pine is a shade intolerant species that requires full sun for proper establishment.

After all merchantable timber is harvested, the area should have an aerial application of a suitable herbicide after sufficient leaf-out of the undesirable and residual stand. The areas should be ripped with a bulldozer on 10' rows and along the contours to help bust any existing hard pans and to help ensure that any rainfall will easily be transferred to the newly established seedling's root zone. If possible, the area should be burned to further promote a cleaner planting site and to help kill any undesirable residual stems that may have survived the aerial herbicide treatment. After proper preparation, the area should be hand planted with loblolly pine seedlings in December-March on a 7' x 10' spacing, or 622 trees/acre. Thickets and brushy residual areas of this Unit may also require a bulldozer to mechanically push and pile undesirable slash to facilitate proper seedling establishment.

A row thinning with a "low" emphasis should be executed in 2028-2029 (16-17 years old). Every 3rd-5th row should be totally harvested and the residual rows thinned to about 80-90 square feet of basal area, or 325-400 trees/acre. The down rows should be used as skidding trails as the other rows are thinned. When possible, harvest the poorer formed and less dominant stems leaving the best grade and most vigorous stems for crop trees. This type thinning is usually an operator-select and closely monitored to assure the proper and desirable residual stand stocking and density. This thinning will reap pulpwood and/or post products.

Expect another thinning in about 5-7 years or 2033-2035. This thinning should be designed as a low thinning that targets the poorer formed and less dominant trees for harvest. Forked, crooked, and overtopped trees should be designated first for harvest. The residual stand should be about 70-80 square feet of basal area. This thinning should reap pulpwood/posts and a smaller portion of pine chip-n-saw sawtimber products.

Expect another thinning about year 2038-2040. This thinning should only be executed if the stand has responded favorably to the past thinnings and overall stand stocking is sufficient. The poorer formed and less dominant stems should be harvested first. The residual stand should be 70-80 square feet of the best grade that each acre has to offer. This residual stand will be you crop trees for the final harvest.

Rotation should be about year 2046-2048. If the previous thinnings were executed in proper form and in a timely manner, one should expect rotation. This simply means that the area(s) are totally harvested, prepared and reforested as before. Loblolly pine is a shade intolerant species that responds well to this type of management. This harvest should reap quality sawtimber/pole products and a smaller portion of topwood.

The timing and frequency of thinnings are based on stocking conditions of the stand. Two or three years of drought during growing seasons could change the timing of any prescription. Intensively managed stands should be monitored periodically for growth and overall health.

Unit 2:

Unit 2 is currently open and semi-open fields and pastures. This Unit will require a slightly different preparation prior to planting loblolly pine seedlings.

The conversion areas should be designated, mowed, and burned prior to planting. If possible, the area should be machine planted on an 8' x 10' spacing, or 545 trees per acre in December-March. If the designated area is too rough or rocky for a machine planter, a hand planting crew will be required. If the area is not machine planted, rip on 10' rows prior to hand planting. Rips should be allowed to properly settle prior to planting. If the areas were burned prior to panting, a suitable release herbicide should be applied over top of the seedlings within 2 years of establishment with ATV's or a tractor equipped with a spray rigging.

Thinning scenarios for Unit 2 should be very similar to Unit 1. Monitor these stands for productivity and adjust thinning timing with regards to stand densities and market demand.

BOUNDARIES

Boundary lines are an important part of timber management. Good lines help prevent improper trespass and timber theft from adjoining areas. Any area scheduled for harvesting should be well defined to help prevent unnecessary contract violations.

ROADS/ACCESS

Good access and roads are invaluable considering fire suppression and maximizing monetary returns from timber sales. Roads that are present will not have to be built by logging contractors and charged back to the landowner as a stumpage variable (*also take advantage of tax credit instead of loosing it in stumpage rates).* Maintain good roads and manage water flow. Any existing road should be maintained periodically to help prevent major costs on down the line.

RED OAK BORER

I did not observe any *Red Oak Borer* damage. However, you should be aware of this insect and the signs of infestation. Die-back and dead or dying Red oak species should be noted and inspected.

STREAMSIDE MANAGEMENT ZONES (SMZ)

Streamside management zones, or SMZ, should be established and maintained around every suitable creek and pond on this tract. Many of your SMZ areas are within the H2 Type and are well established and protected. These water sources/drains are important to existing wildlife and the integrity of the tract. Maintain at least a 50' wide strip on either side of the creeks and pond levees when harvesting within the area to help create diversity, prevent undesirable erosion, create edge, and help protect the pure water source. These SMZ areas are also very valuable for fire breaks if needed. Any harvesting within designated SMZ areas should be low impact and skidder activity kept to a minimum.

PRESCRIBED FIRES

Some areas may be considered for a prescribed fire program. Loblolly pine is well adapted to prescribed fire as a management tool. Wildlife browse, fuel hazard reduction, and small diameter hardwood control are just a few of the benefits resulting from a properly prescribed fire program within established loblolly pine plantations and suitable hardwood stands. Some of the steep terrain areas within the native hardwood site will never be suitable for intensive timber management and may also be considered for prescribed fires.

Prescribed fires are a very valuable and inexpensive tool for wildlife habitat management. Prescribed fires may also be considered for hardwood areas. Cool backfires in the early spring and/or winter months will do minimal damage to the existing stands and create very beneficial browse for existing wildlife. Any hardwood areas should be chosen depending on current stocking conditions and the better grade oak sawtimber stands should probably not be included in this program. Hardwood species are much more susceptible to fire scar and fire damage than conifers. Fire lanes should be well established and maintained around any area considered for a prescribed fire. Do not prescribe a fire within 2 years of a commercial thinning due to existing fire ladders, tops, limbs, and logging residue/slash.

BEAVER CONTROL

I did notice minor beaver activity around the large pond. Beavers are regarded as one of the most serious threats for damaging the quality of natural bottomland hardwoods and more recently pine species. ATV trails should be designed to make it easy to inspect areas that may become a problem in the future. It would be a good management practice to inspect all ditches, drains, and culverts. This inspection

should be done periodically starting in the early days of February. **KEEP WATER OFF EXISTING TIMBER DURING THE GROWING SEASON!**

CURRENT STUMPAGE VALUATION. Tables 1-13.

SPECIES/PRODUCT	TABLE(S)	VOLUME	VALUE
Pine Sawtimber	3, 7	1,125 Tons	$24,759
Pine Pulpwood	3, 7	521 tons	$4,161
White Oak Sawtimber	11	1,638 Tons	$40,952
Red Oak Sawtimber	5	1,579Tons	$37,896
Miscellaneous Hardwood Sawtimber	9	595 Tons	$12,487
Cedar	13	629 Tons	$12,585
Hardwood Pulpwood	5, 9, 11	14,337 Tons	$114,691
TOTALS			**$247,531**

STUMPAGE RATES REFLECT NET MONIES TO THE LANDOWNER.

Due to the many different type sawmills and merchandising techniques, this estimate can't be guaranteed. Distance to the mill, grade and species offered, accessibility and operability are some of the variables that affect stumpage prices, or net returns to the landowner. This estimate is based on **optimum current** market conditions for this region of Arkansas. Stumpage rates change continuously for all wood products based on stumpage rate variables and supply and demand.

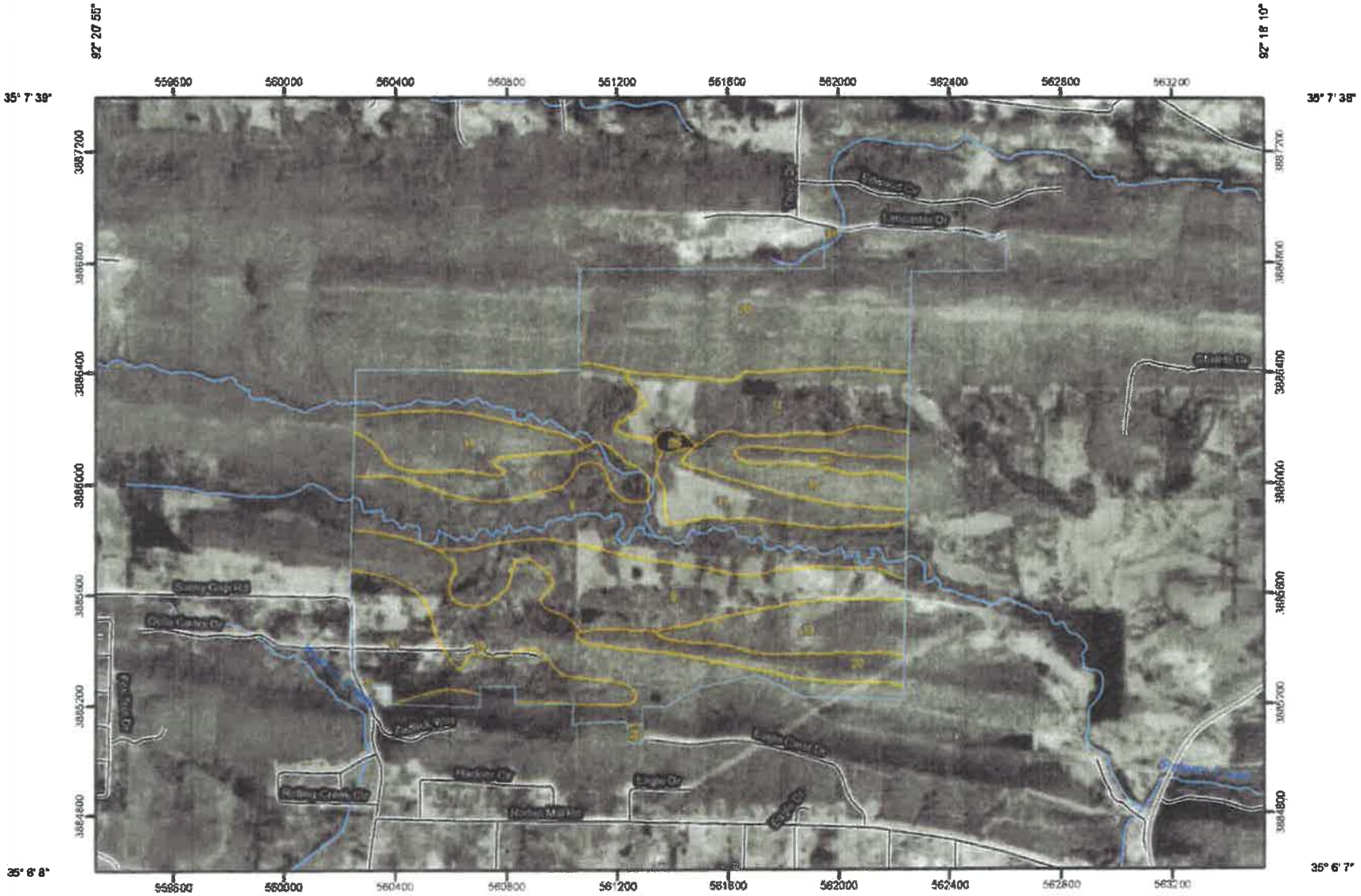
GENERAL CONCLUSIONS

The Jacuzzi tract has excellent access and includes many productive areas. This plan is not the one and only way to manage this property, but hopefully a step in the right direction. One constant in timber management is change. The investment is growing and continuously changing, as should the plan.

A couple of items that should be considered yearly: 1) maintain fire lanes. 2) Maintain boundary lines 3) execute prescribed fires when feasible in appropriate areas. 4) Beaver watch/eradication. 5) Road maintenance/upkeep.

This management plan is simply a general guide and beginning in our hopefully long relationship and team effort to push your timberland into a sustainable and enjoyable long-term project. As variables on the ground change, so should this plan evolve.

Soil Map—[illegible]ulkner County, Arkansas
-Faulkner County, AR)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other

Special Line Features
- Gully
- Short Steep Slope
- Other

Political Features
- Cities

Water Features
- Oceans
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

MAP INFORMATION

Map Scale: 1:20,000 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 15N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Faulkner County, Arkansas
Survey Area Data: Version 10, Jan 27, 2010

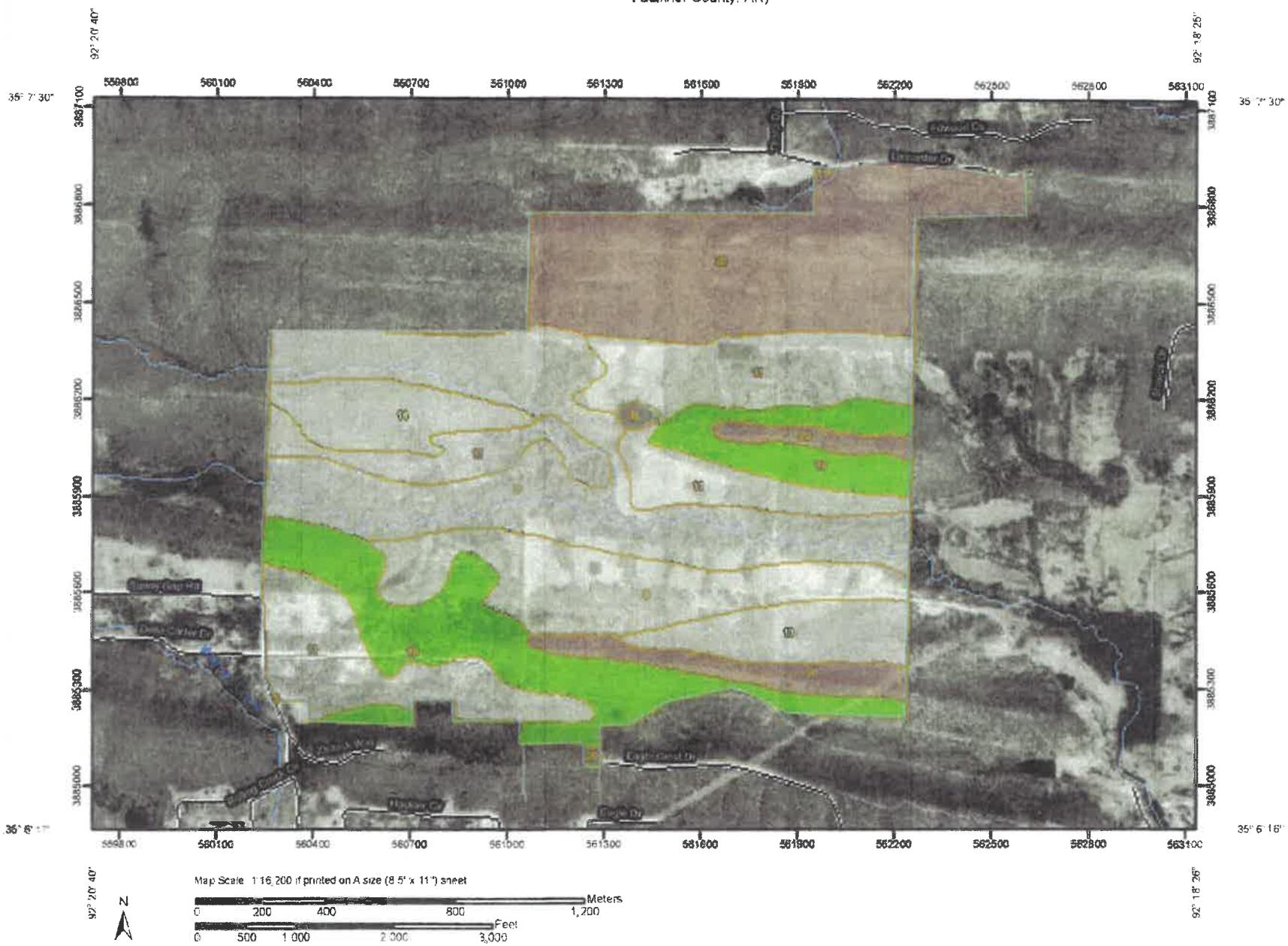
Date(s) aerial images were photographed: 1990

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Faulkner County, Arkansas (AR045)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
8	Leadvale silt loam, 1 to 3 percent slopes	145.3	20.1%
9	Leadvale silt loam, 3 to 8 percent slopes	72.5	10.0%
11	Linker fine sandy loam, 3 to 8 percent slopes	157.9	21.9%
13	Linker-Mountainburg association, 8 to 12 percent slopes	32.1	4.5%
14	Linker-Mountainburg association, 12 to 40 percent slopes	30.7	4.3%
19	Mountainburg very stony fine sandy loam, 8 to 12 percent slopes	113.5	15.7%
20	Mountainburg very stony fine sandy loam, 12 to 40 percent slopes	167.3	23.2%
35	Water	2.1	0.3%
Totals for Area of Interest		721.5	100.0%

All Ecological Sites — [illegible]geland—Faulkner County, Arkansas
Faulkner County, AR)



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Units

Soil Ratings

R118XY007AR — SANDSTONE RIDGE

R118XY013AR — SANDSTONE LEDGE

Not rated or not available

Political Features

Cities

Water Features

Oceans

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

MAP INFORMATION

Map Scale: 1:16,200 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 15N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Faulkner County, Arkansas
Survey Area Data: Version 10, Jan 27, 2010

Date(s) aerial images were photographed: 1990

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

All Ecological Sites — Rangeland

Faulkner County, Arkansas				
Map unit symbol	Component name (percent)	Ecological site	Acres in AOI	Percent of AOI
8	Leadvale (85%)		145.3	20.1%
	Amy (5%)			
	Aquults (5%)			
	Taft (5%)			
9	Leadvale (95%)		72.5	10.0%
	Aquults (5%)			
11	Linker (100%)		157.9	21.9%
13	Linker (50%)		32.1	4.5%
	Mountainburg (40%)	R118XY013AR — SANDSTONE LEDGE		
	Enders (10%)			
14	Linker (45%)		30.7	4.3%
	Mountainburg (40%)	R118XY007AR — SANDSTONE RIDGE		
	Enders (10%)			
	Rock outcrop (5%)			
19	Mountainburg (100%)	R118XY013AR — SANDSTONE LEDGE	113.5	15.7%
20	Mountainburg (100%)	R118XY007AR — SANDSTONE RIDGE	167.3	23.2%
35	Water (100%)		2.1	0.3%
Totals for Area of Interest			721.5	100.0%

Forestland Productivity

This table can help forestland owners or managers plan the use of soils for wood crops. It shows the potential productivity of the soils for wood crops.

Potential productivity of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forestland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to manage are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Reference:
United States Department of Agriculture, Natural Resources Conservation Service, National forestry manual.

Report—Forestland Productivity

Forestland Productivity– Faulkner County, Arkansas				
Map unit symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site Index	Volume of wood fiber	
			Cu ft/ac	
8—Leadvale silt loam, 1 to 3 percent slopes				
Leadvale	Loblolly pine	80	114	Loblolly pine, Shortleaf pine
	Shortleaf pine	70	0	
	White oak	70	0	
9—Leadvale silt loam, 3 to 8 percent slopes				
Leadvale	Loblolly pine	80	114	Loblolly pine, Shortleaf pine
	Shortleaf pine	70	0	
	White oak	70	0	

Forestland Productivity– Faulkner County, Arkansas				
Map unit symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site Index	Volume of wood fiber	
			Cu ft/ac	
11—Linker fine sandy loam, 3 to 8 percent slopes				
Linker	Eastern redcedar	40	0	Eastern redcedar, Loblolly pine, Shortleaf pine
	Loblolly pine	—	0	
	Shortleaf pine	65	86	
	Southern red oak	50	0	
	White oak	50	0	
13—Linker-Mountainburg association, 8 to 12 percent slopes				
Linker	Eastern redcedar	40	0	Eastern redcedar, Loblolly pine, Shortleaf pine
	Loblolly pine	—	0	
	Shortleaf pine	65	86	
	Southern red oak	50	0	
	White oak	50	0	
Mountainburg	Eastern redcedar	30	0	Eastern redcedar, Loblolly pine, Shortleaf pine
	Loblolly pine	—	0	
	Shortleaf pine	53	72	
14—Linker-Mountainburg association, 12 to 40 percent slopes				
Linker	Eastern redcedar	40	0	Eastern redcedar, Loblolly pine, Shortleaf pine
	Loblolly pine	—	0	
	Shortleaf pine	65	86	
	Southern red oak	50	0	
	White oak	50	0	
Mountainburg	Eastern redcedar	30	0	Eastern redcedar, Loblolly pine, Shortleaf pine
	Loblolly pine	—	0	
	Shortleaf pine	53	72	
19—Mountainburg very stony fine sandy loam, 8 to 12 percent slopes				
Mountainburg	Blackjack oak	—	0	Eastern redcedar, Loblolly pine, Shortleaf pine
	Eastern redcedar	30	0	
	Post oak	—	0	
	Shortleaf pine	53	72	

Forestland Productivity– Faulkner County, Arkansas				
Map unit symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site Index	Volume of wood fiber	
			Cu ft/ac	
20—Mountainburg very stony fine sandy loam, 12 to 40 percent slopes				
Mountainburg	Blackjack oak	—	0	Eastern redcedar, Loblolly pine, Shortleaf pine
	Eastern redcedar	30	0	
	Post oak	—	0	
	Shortleaf pine	53	72	
35—Water				
Water	—	—	—	—

Data Source Information

Soil Survey Area: Faulkner County, Arkansas
Survey Area Data: Version 10, Jan 27, 2010

Map Unit Description (Brief, Generated)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description (Brief, Generated)

Faulkner County, Arkansas

Map Unit: 8—Leadvale silt loam, 1 to 3 percent slopes

Component: Leadvale (85%)

The Leadvale component makes up 85 percent of the map unit. Slopes are 1 to 3 percent. This component is on valleys. The parent material consists of loamy colluvium derived from shale and siltstone. Depth to a root restrictive layer, fragipan, is 18 to 34 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during January, February, March, April. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: Amy (5%)

Generated brief soil descriptions are created for major components. The Amy soil is a minor component.

Component: Aquults (5%)

Generated brief soil descriptions are created for major components. The Aquults soil is a minor component.

Component: Taft (5%)

Generated brief soil descriptions are created for major components. The Taft soil is a minor component.

Map Unit: 9—Leadvale silt loam, 3 to 8 percent slopes

Component: Leadvale (95%)

The Leadvale component makes up 95 percent of the map unit. Slopes are 3 to 8 percent. This component is on valleys. The parent material consists of loamy colluvium derived from shale and siltstone. Depth to a root restrictive layer, fragipan, is 18 to 34 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during January, February, March, April. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Component: Aquults (5%)

Generated brief soil descriptions are created for major components. The Aquults soil is a minor component.

Map Unit: 11—Linker fine sandy loam, 3 to 8 percent slopes

Component: Linker (100%)

The Linker component makes up 100 percent of the map unit. Slopes are 3 to 8 percent. This component is on hills, mountains. The parent material consists of loamy residuum weathered from sandstone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: 13—Linker-Mountainburg association, 8 to 12 percent slopes

Component: Linker (50%)

The Linker component makes up 50 percent of the map unit. Slopes are 8 to 12 percent. This component is on mountains, hills. The parent material consists of loamy residuum weathered from sandstone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Component: Mountainburg (40%)

The Mountainburg component makes up 40 percent of the map unit. Slopes are 8 to 12 percent. This component is on benches, ledges, mountains. The parent material consists of loamy residuum weathered from sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 12 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R118XY013AR Sandstone Ledge ecological site. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Component: Enders (10%)

Generated brief soil descriptions are created for major components. The Enders soil is a minor component.

Map Unit: 14—Linker-Mountainburg association, 12 to 40 percent slopes

Component: Linker (45%)

The Linker component makes up 45 percent of the map unit. Slopes are 12 to 40 percent. This component is on hillsides, mountains. The parent material consists of loamy residuum weathered from sandstone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Component: Mountainburg (40%)

The Mountainburg component makes up 40 percent of the map unit. Slopes are 12 to 40 percent. This component is on benches, ledges, mountains. The parent material consists of loamy residuum weathered from sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 12 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R118XY007AR Sandstone Ridge ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

Component: Enders (10%)

Generated brief soil descriptions are created for major components. The Enders soil is a minor component.

Component: Rock outcrop (5%)

Generated brief soil descriptions are created for major components. The Rock outcrop soil is a minor component.

Map Unit: 19—Mountainburg very stony fine sandy loam, 8 to 12 percent slopes

Component: Mountainburg (100%)

The Mountainburg component makes up 100 percent of the map unit. Slopes are 8 to 12 percent. This component is on hills. The parent material consists of loamy residuum weathered from sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 12 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R118XY013AR Sandstone Ledge ecological site. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.

Map Unit: 20—Mountainburg very stony fine sandy loam, 12 to 40 percent slopes

Component: Mountainburg (100%)

The Mountainburg component makes up 100 percent of the map unit. Slopes are 12 to 40 percent. This component is on hills, benches, hills. The parent material consists of loamy residuum weathered from sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 12 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R118XY007AR Sandstone Ridge ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

Map Unit: 35—Water

Component: Water (100%)

Generated brief soil descriptions are created for major soil components. The Water is a miscellaneous area.

Data Source Information

Soil Survey Area: Faulkner County, Arkansas
Survey Area Data: Version 10, Jan 27, 2010

Table 1. General cruise information and standards for tract

Date of cruise.....:	7/29/2011
Tract land area.....:	740.0
Cruise method .....:	Point sampling
BAF .....:	10.000
Plot radius factor(PRF):	2.750
Reproduction plot size.:	0.010000
Number of repro plots..:	0
Repro plot radius.....:	11.78
Form class measurement.:	Insidebark bark
Number of sample points:	136
Confidence interval % .:	95
Cruisers.....:	Foust
Tract location.....:	Faulkner Co., AR
Tract owner.....:	
Other tract information:	

Table 2. Per unit land area volume and reproduction executive summary.
Tract.....:
Species group: Pine

Row	Cruise Variable	Product				
		Pulpwood	CSorTie	Peeler	Sawlog	Total
1	NumberOfTrees.:	0.4	0.0	0.0	0.1	0.5
2	BasalArea.....:	0.1	0.0	0.0	0.1	0.1
3	Quadratic.dbh.:	6.00	0.00	0.00	10.00	7.28
.	Arithmetic dbh:	6.00	0.00	0.00	10.00	7.06
6	PulpWood(Tons):	0.0	0.0	0.0	0.0	0.0
10	SawWood(Tons).:	0.0	0.0	0.0	0.1	0.1
17	Total(Tons)...:	0.0	0.0	0.0	0.1	0.1
19	Pulpwood..$$$.:	0.4	0.0	0.0	0.0	0.4
20	SolidWood.$$$.:	0.0	0.0	0.0	1.1	1.1
21	Total.....$$$.:	0.4	0.0	0.0	1.1	1.5

Table 3. Total tract volume executive summary.
Tract.....:
Species group: Pine

Row	Cruise Variable	Product				
		Pulpwood	CSorTie	Peeler	Sawlog	Total
1	NumberOfTrees.:	277	0	0	100	377
2	BasalArea.....:	54	0	0	54	109
5	PulpWood(Tons):	35	0	0	0	35
9	SawWood(Tons).:	0	0	0	37	37
16	Total(Tons)...:	35	0	0	37	72
18	Pulpwood..$$$.:	277	0	0	0	277
19	Solidwood.$$$.:	0	0	0	814	814
20	Total.....$$$.:	277	0	0	814	1091

Table 4. Per unit land area volume and reproduction executive summary.
Tract.....:
Species group: Red Oak

Row	Cruise Variable	Product				
		Pulpwood	CSorTie	Peeler	Sawlog	Total
1	NumberOfTrees.:	9.6	0.0	0.0	2.7	12.3
2	BasalArea.....:	3.3	0.0	0.0	4.4	7.7
3	Quadratic.dbh.:	7.97	0.00	0.00	17.22	10.74
.	Arithmetic dbh:	7.70	0.00	0.00	17.01	9.77
6	PulpWood(Tons):	2.0	0.0	0.0	0.0	2.0
10	SawWood(Tons).:	0.0	0.0	0.0	2.1	2.1
17	Total(Tons)...:	2.0	0.0	0.0	2.1	4.1
19	Pulpwood..$$$.:	16.0	0.0	0.0	0.0	16.0
20	SolidWood.$$$.:	0.0	0.0	0.0	51.2	51.2
21	Total.....$$$.:	16.0	0.0	0.0	51.2	67.2

Table 5. Total tract volume executive summary.
Tract.....:
Species group: Red Oak

Row	Cruise Variable	Product				
		Pulpwood	CSorTie	Peeler	Sawlog	Total
1	NumberOfTrees.:	7070	0	0	2018	9088
2	BasalArea.....:	2449	0	0	3265	5713
5	PulpWood(Tons):	1477	0	0	0	1477
9	SawWood(Tons).:	0	0	0	1579	1579
16	Total(Tons)...:	1477	0	0	1579	3056
18	Pulpwood..$$$.:	11813	0	0	0	11813
19	Solidwood.$$$.:	0	0	0	37896	37896
20	Total.....$$$.:	11813	0	0	37896	49709

Table 6. Per unit land area volume and reproduction executive summary.
Tract.....:
Species group: Shortleaf Pine

Row	Cruise Variable	Product				
		Pulpwood	CSorTie	Peeler	Sawlog	Total
1	NumberOfTrees.:	3.3	0.0	0.0	2.0	5.3
2	BasalArea.....:	1.0	0.0	0.0	1.9	2.9
3	Quadratic.dbh.:	7.59	0.00	0.00	13.12	10.08
.	Arithmetic dbh:	7.54	0.00	0.00	12.77	9.55
6	PulpWood(Tons):	0.7	0.0	0.0	0.0	0.7
10	SawWood(Tons).:	0.0	0.0	0.0	1.5	1.5
17	Total(Tons)...:	0.7	0.0	0.0	1.5	2.1
19	Pulpwood..$$$.:	5.2	0.0	0.0	0.0	5.2
20	SolidWood.$$$.:	0.0	0.0	0.0	32.4	32.4
21	Total.....$$$.:	5.2	0.0	0.0	32.4	37.6

Table 7. Total tract volume executive summary.
Tract.....:
Species group: Shortleaf Pine

Row	Cruise Variable	Product				
		Pulpwood	CSorTie	Peeler	Sawlog	Total
1	NumberOfTrees.:	2425	0	0	1506	3931
2	BasalArea.....:	762	0	0	1415	2176
5	PulpWood(Tons):	486	0	0	0	486
9	SawWood(Tons).:	0	0	0	1088	1088
16	Total(Tons)...:	486	0	0	1088	1574
18	Pulpwood..$$$.:	3884	0	0	0	3884
19	Solidwood.$$$.:	0	0	0	23945	23945
20	Total.....$$$.:	3884	0	0	23945	27829

Table 8. Per unit land area volume and reproduction executive summary.
Tract.....:
Species group: Misc. Hardwood

		Product				
Row	Cruise Variable	Pulpwood	CSorTie	Peeler	Sawlog	Total
1	NumberOfTrees.:	20.8	0.0	0.0	1.1	21.9
2	BasalArea.....:	7.6	0.0	0.0	1.5	9.1
3	Quadratic.dbh.:	8.18	0.00	0.00	15.92	8.74
.	Arithmetic dbh:	7.95	0.00	0.00	15.87	8.36
6	PulpWood(Tons):	4.6	0.0	0.0	0.0	4.6
10	SawWood(Tons).:	0.0	0.0	0.0	0.8	0.8
17	Total(Tons)...:	4.6	0.0	0.0	0.8	5.4
19	Pulpwood..$$$.:	36.7	0.0	0.0	0.0	36.7
20	SolidWood.$$$.:	0.0	0.0	0.0	16.9	16.9
21	Total.....$$$.:	36.7	0.0	0.0	16.9	53.5

Table 9. Total tract volume executive summary.
Tract.....:
Species group: Misc. Hardwood

		Product				
Row	Cruise Variable	Pulpwood	CSorTie	Peeler	Sawlog	Total
1	NumberOfTrees.:	15366	0	0	826	16192
2	BasalArea.....:	5604	0	0	1143	6747
5	PulpWood(Tons):	3391	0	0	0	3391
9	SawWood(Tons).:	0	0	0	595	595
16	Total(Tons)...:	3391	0	0	595	3986
18	Pulpwood..$$$.:	27127	0	0	0	27127
19	Solidwood.$$$.:	0	0	0	12487	12487
20	Total.....$$$.:	27127	0	0	12487	39614

Table 10. Per unit land area volume and reproduction executive summary.
Tract.....:
Species group: White Oak

Row	Cruise Variable	Product				
		Pulpwood	CSorTie	Peeler	Sawlog	Total
1	NumberOfTrees.:	64.0	0.0	0.0	3.3	67.3
2	BasalArea.....:	21.1	0.0	0.0	5.1	26.2
3	Quadratic.dbh.:	7.78	0.00	0.00	16.79	8.45
.	Arithmetic dbh:	7.58	0.00	0.00	16.60	8.02
6	PulpWood(Tons):	12.8	0.0	0.0	0.0	12.8
10	SawWood(Tons).:	0.0	0.0	0.0	2.2	2.2
17	Total(Tons)...:	12.8	0.0	0.0	2.2	15.0
19	Pulpwood..$$$.:	102.4	0.0	0.0	0.0	102.4
20	SolidWood.$$$.:	0.0	0.0	0.0	55.3	55.3
21	Total.....$$$.:	102.4	0.0	0.0	55.3	157.7

Table 11. Total tract volume executive summary.
Tract.....:
Species group: White Oak

Row	Cruise Variable	Product				
		Pulpwood	CSorTie	Peeler	Sawlog	Total
1	NumberOfTrees.:	47325	0	0	2443	49768
2	BasalArea.....:	15616	0	0	3754	19371
5	PulpWood(Tons):	9469	0	0	0	9469
9	SawWood(Tons).:	0	0	0	1638	1638
16	Total(Tons)...:	9469	0	0	1638	11107
18	Pulpwood..$$$.:	75751	0	0	0	75751
19	Solidwood.$$$.:	0	0	0	40952	40952
20	Total.....$$$.:	75751	0	0	40952	116704

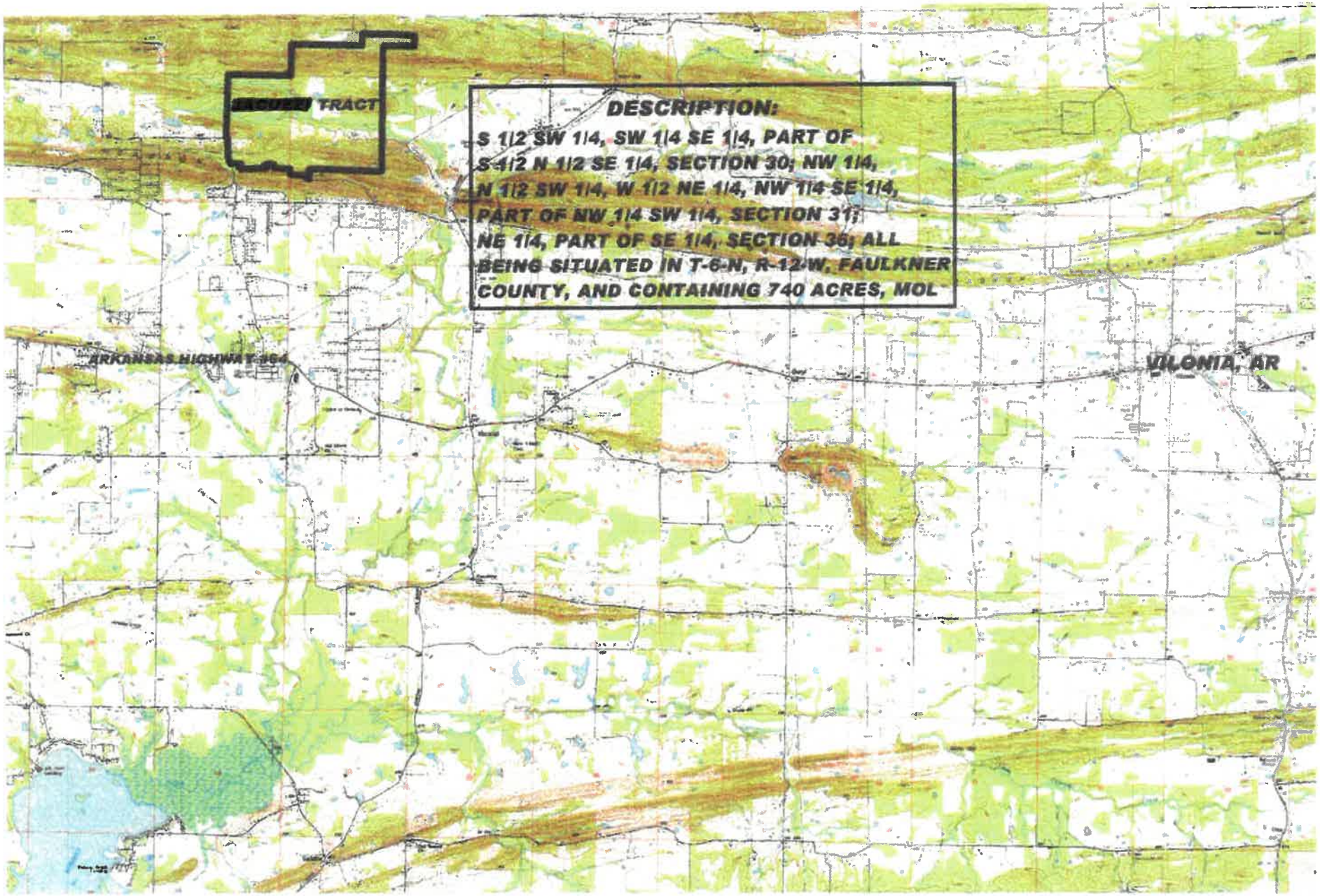
Table 12. Per unit land area volume and reproduction executive summary.
Tract.....:
Species group: Cedar

		Product				
Row	Cruise Variable	Pulpwood	CSorTie	Peeler	Sawlog	Total
1	NumberOfTrees.:	6.5	0.0	0.0	0.0	6.5
2	BasalArea.....:	2.1	0.0	0.0	0.0	2.1
3	Quadratic.dbh.:	7.64	0.00	0.00	0.00	7.64
.	Arithmetic dbh:	7.50	0.00	0.00	0.00	7.50
6	PulpWood(Tons):	0.9	0.0	0.0	0.0	0.9
10	SawWood(Tons).:	0.0	0.0	0.0	0.0	0.0
17	Total(Tons)...:	0.9	0.0	0.0	0.0	0.9
19	Pulpwood..$$$.:	17.0	0.0	0.0	0.0	17.0
20	SolidWood.$$$.:	0.0	0.0	0.0	0.0	0.0
21	Total.....$$$.:	17.0	0.0	0.0	0.0	17.0

Table 13. Total tract volume executive summary.
Tract.....:
Species group: Cedar

		Product				
Row	Cruise Variable	Pulpwood	CSorTie	Peeler	Sawlog	Total
1	NumberOfTrees.:	4790	0	0	0	4790
2	BasalArea.....:	1524	0	0	0	1524
5	PulpWood(Tons):	629	0	0	0	629
9	SawWood(Tons).:	0	0	0	0	0
16	Total(Tons)...:	629	0	0	0	629
18	Pulpwood..$$$.:	12585	0	0	0	12585
19	Solidwood.$$$.:	0	0	0	0	0
20	Total.....$$$.:	12585	0	0	0	12585

FIGURE 1


TRACT
DESCRIPTION:
S 1/2 SW 1/4, SW 1/4 SE 1/4, PART OF S 1/2 N 1/2 SE 1/4, SECTION 30; NW 1/4, N 1/2 SW 1/4, W 1/2 NE 1/4, NW 1/4 SE 1/4, PART OF NW 1/4 SW 1/4, SECTION 31; NE 1/4, PART OF SE 1/4, SECTION 36; ALL BEING SITUATED IN T-6-N, R-12-W, FAULKNER COUNTY, AND CONTAINING 740 ACRES, MOL
ARKANSAS HIGHWAY 364
VILONIA, AR

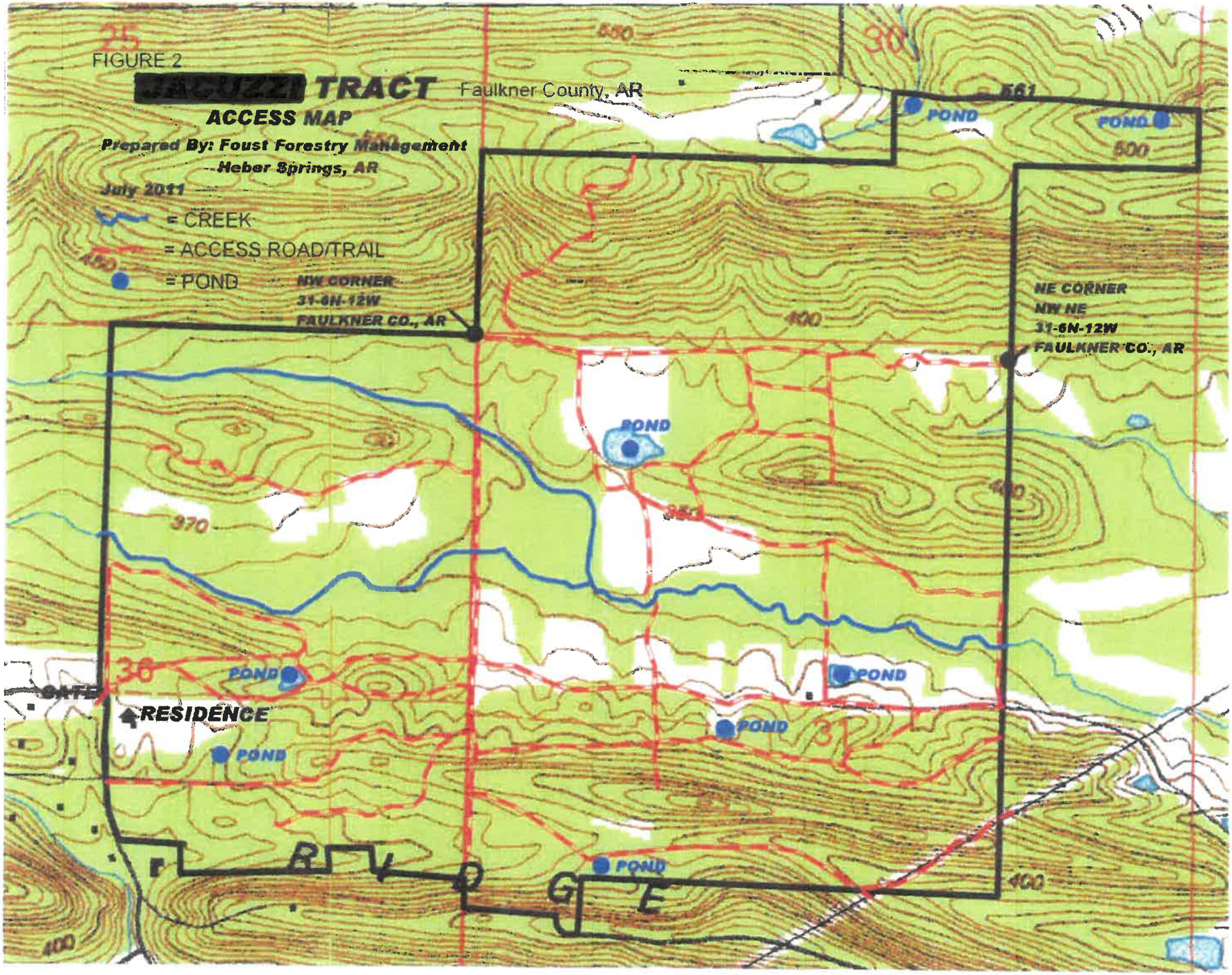


FIGURE 2
[redacted] TRACT
Faulkner County, AR
ACCESS MAP
Prepared By: Foust Forestry Management
Heber Springs, AR
July 2011
= CREEK
= ACCESS ROAD/TRAIL
= POND
NW CORNER
31-6N-12W
FAULKNER CO., AR
NE CORNER
NW NE
31-6N-12W
FAULKNER CO., AR
POND
RESIDENCE
ROAD
GATE
25
30
31
36
550
500
450
400
370

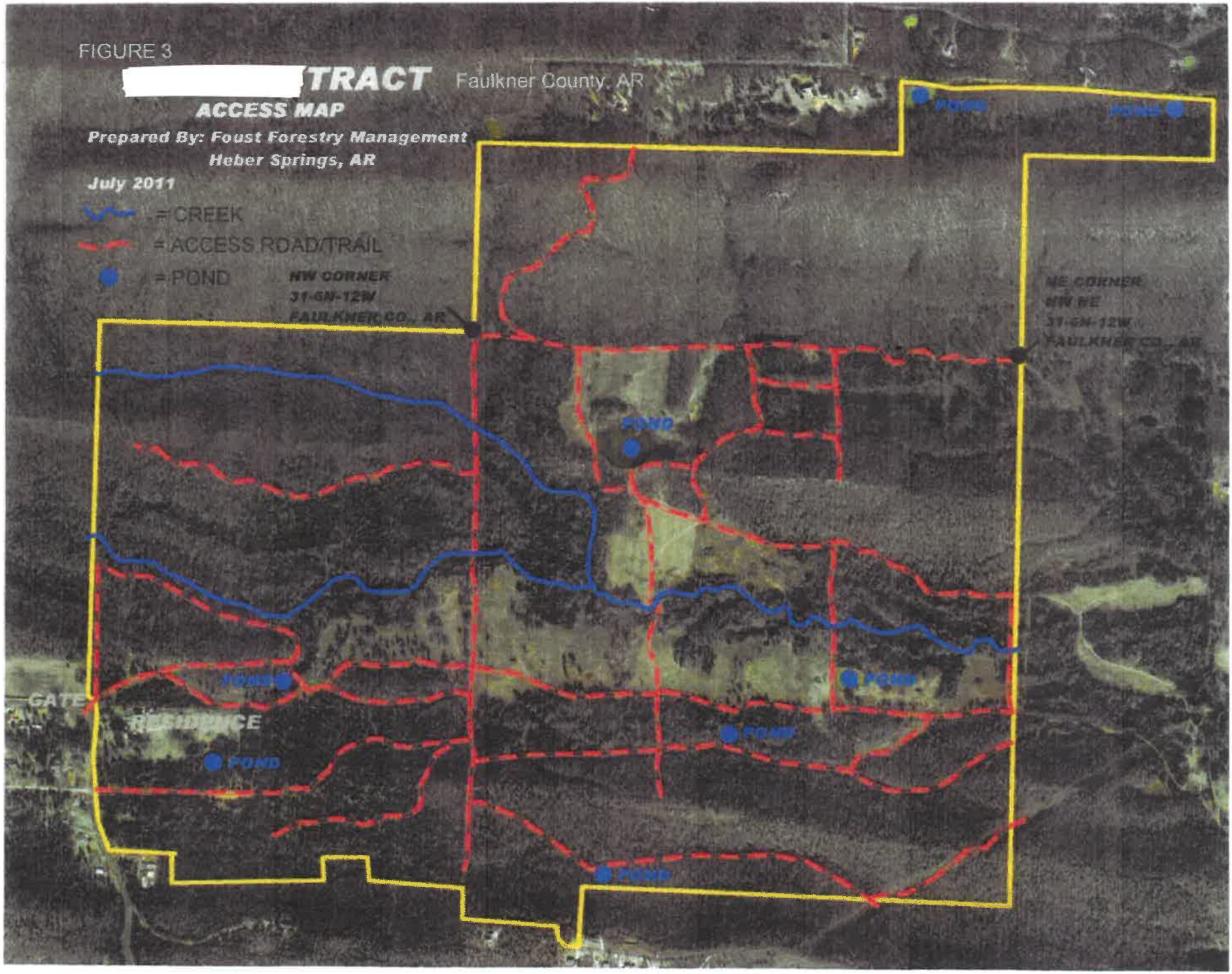
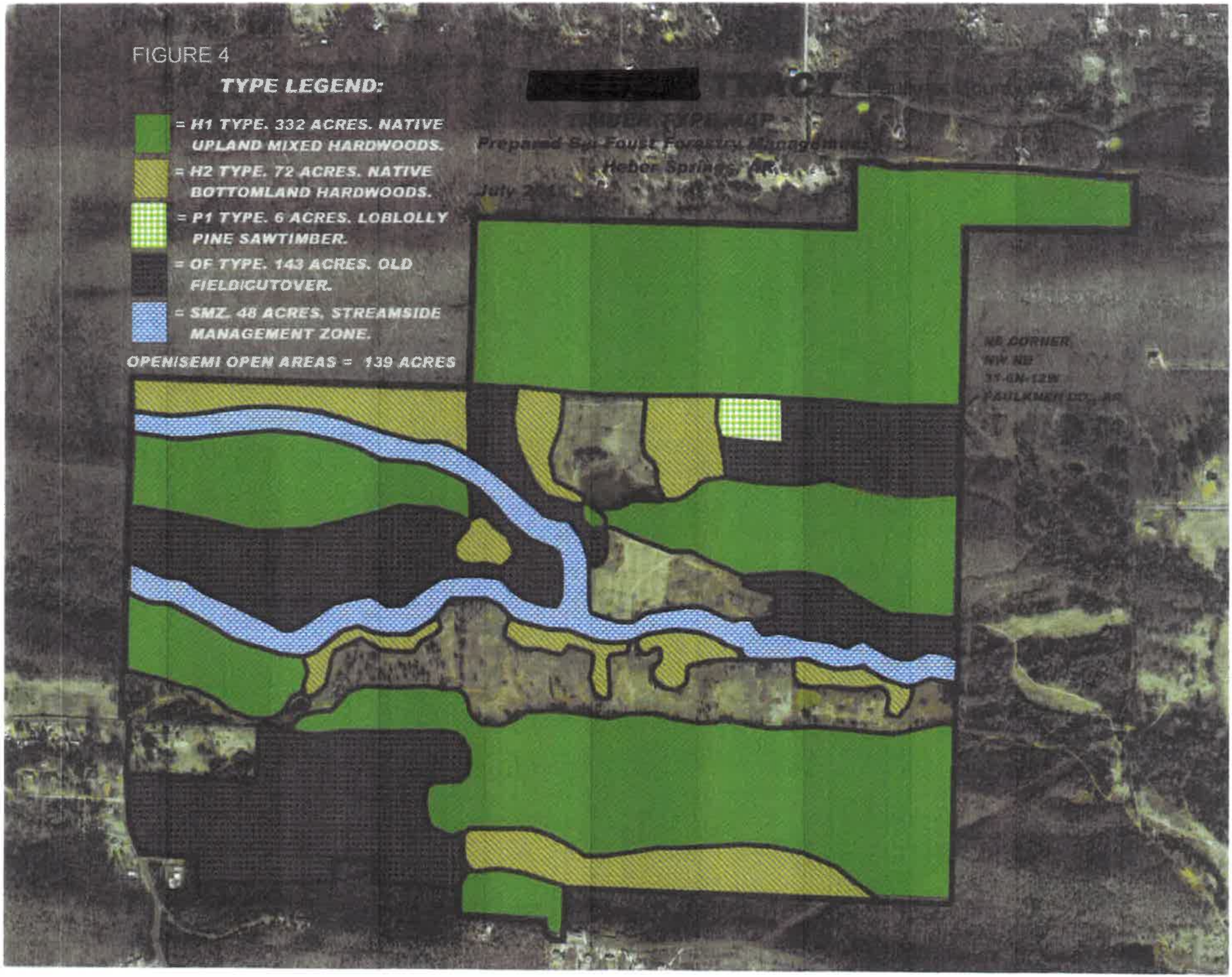


FIGURE 3
[redacted] TRACT
Faulkner County, AR
ACCESS MAP
Prepared By: Foust Forestry Management
Heber Springs, AR
July 2011
= CREEK
= ACCESS ROAD/TRAIL
= POND
NW CORNER
31-6N-12W
FAULKNER CO., AR
NE CORNER
NW NE
31-6N-12W
FAULKNER CO., AR
POND
POND
POND
POND
POND
POND
POND
GATE
RESIDENCE

FIGURE 4


TYPE LEGEND:
= H1 TYPE. 332 ACRES. NATIVE UPLAND MIXED HARDWOODS.
= H2 TYPE. 72 ACRES. NATIVE BOTTOMLAND HARDWOODS.
= P1 TYPE. 6 ACRES. LOBLOLLY PINE SAWTIMBER.
= OF TYPE. 143 ACRES. OLD FIELD/CUTOVER.
= SMZ. 48 ACRES. STREAMSIDE MANAGEMENT ZONE.
OPEN/SEMI OPEN AREAS = 139 ACRES
Prepared for Forest Management
Heber Springs, AR
July 2
NE CORNER
NW NE
31-6N-12W
FAULKNER CO., AR

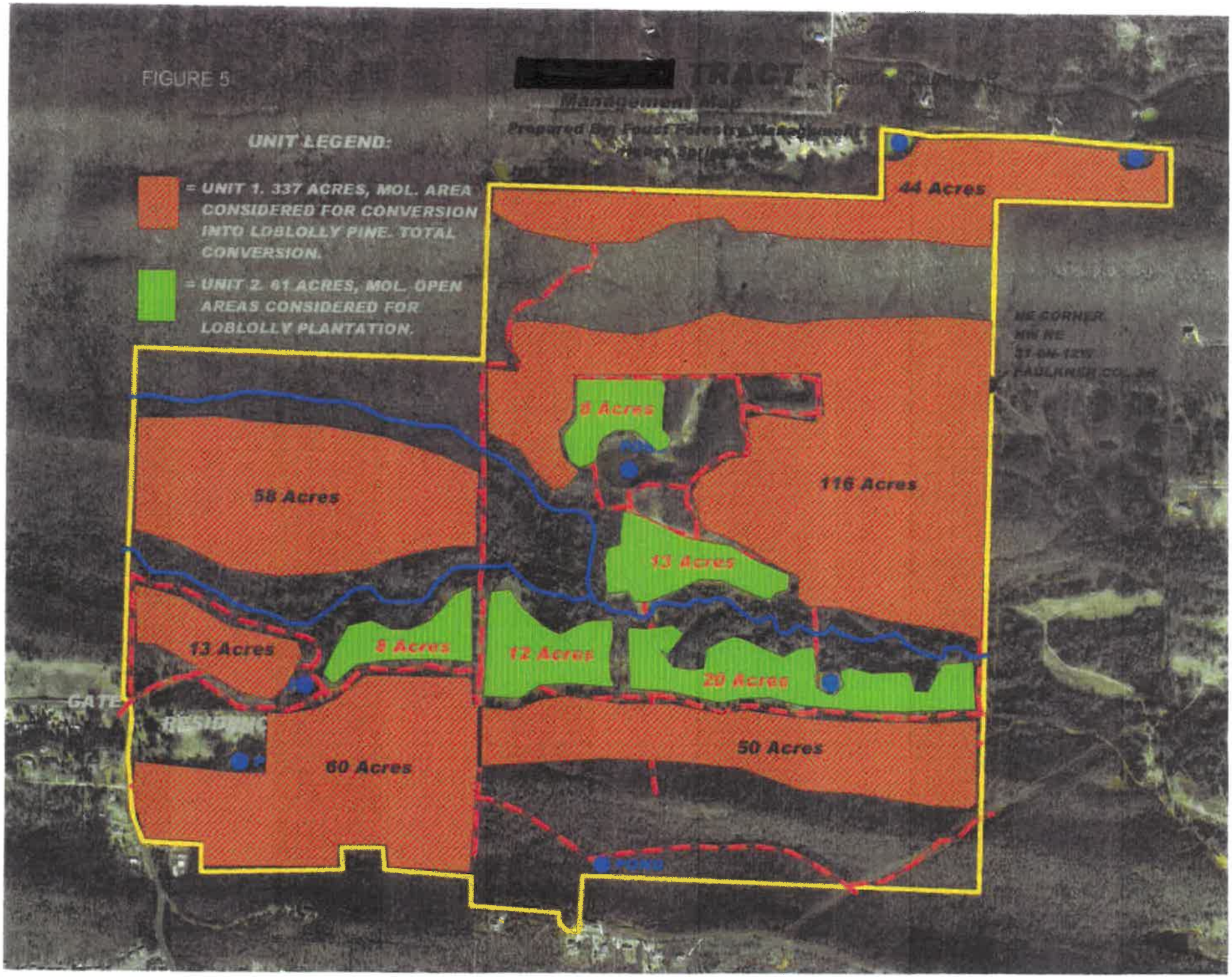


FIGURE 5
[redacted] TRACT
Management Map
UNIT LEGEND:
= UNIT 1. 337 ACRES, MOL. AREA CONSIDERED FOR CONVERSION INTO LOBLOLLY PINE. TOTAL CONVERSION.
= UNIT 2. 61 ACRES, MOL. OPEN AREAS CONSIDERED FOR LOBLOLLY PLANTATION.
44 Acres
8 Acres
116 Acres
58 Acres
13 Acres
13 Acres
8 Acres
12 Acres
20 Acres
50 Acres
60 Acres
GATE
POND