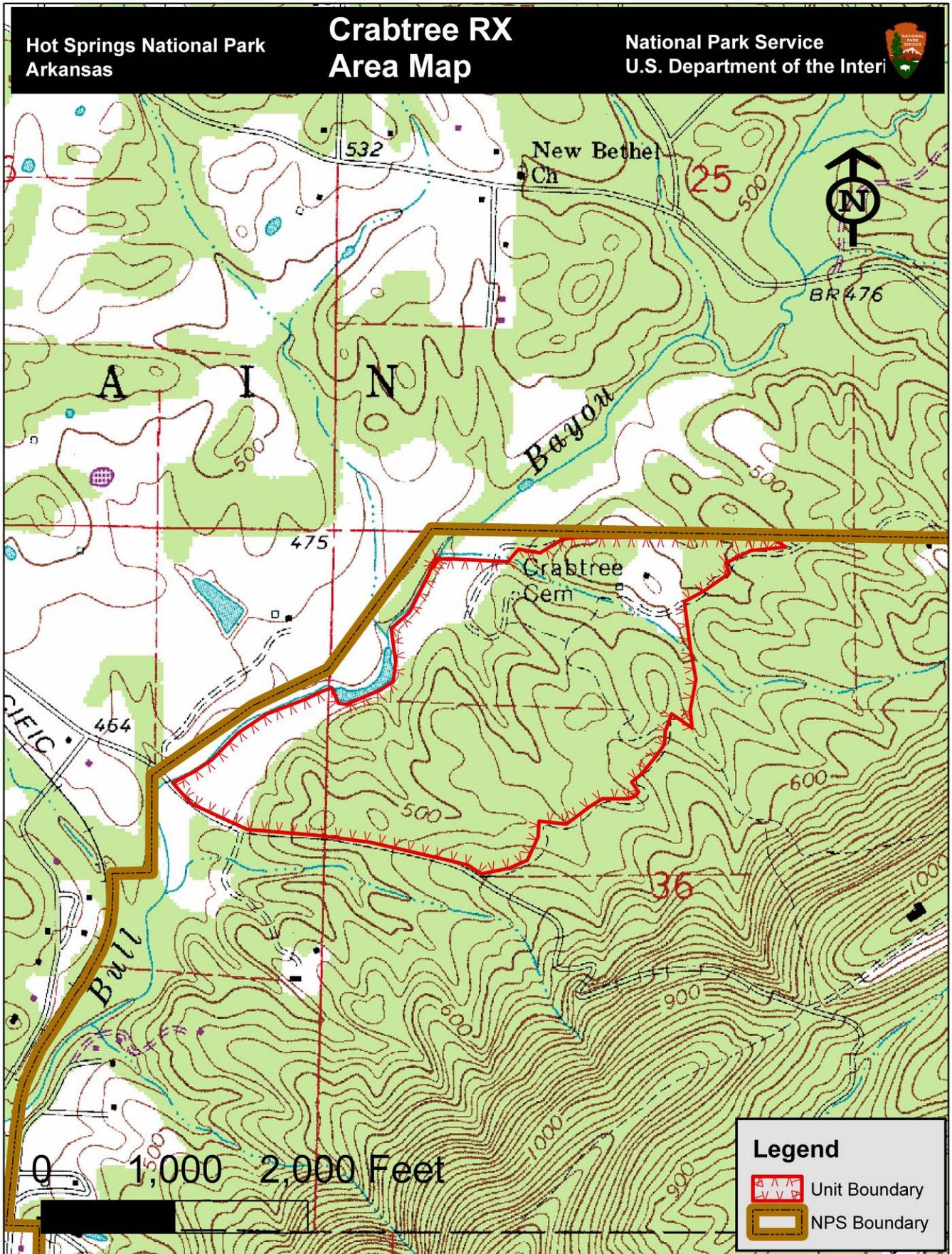
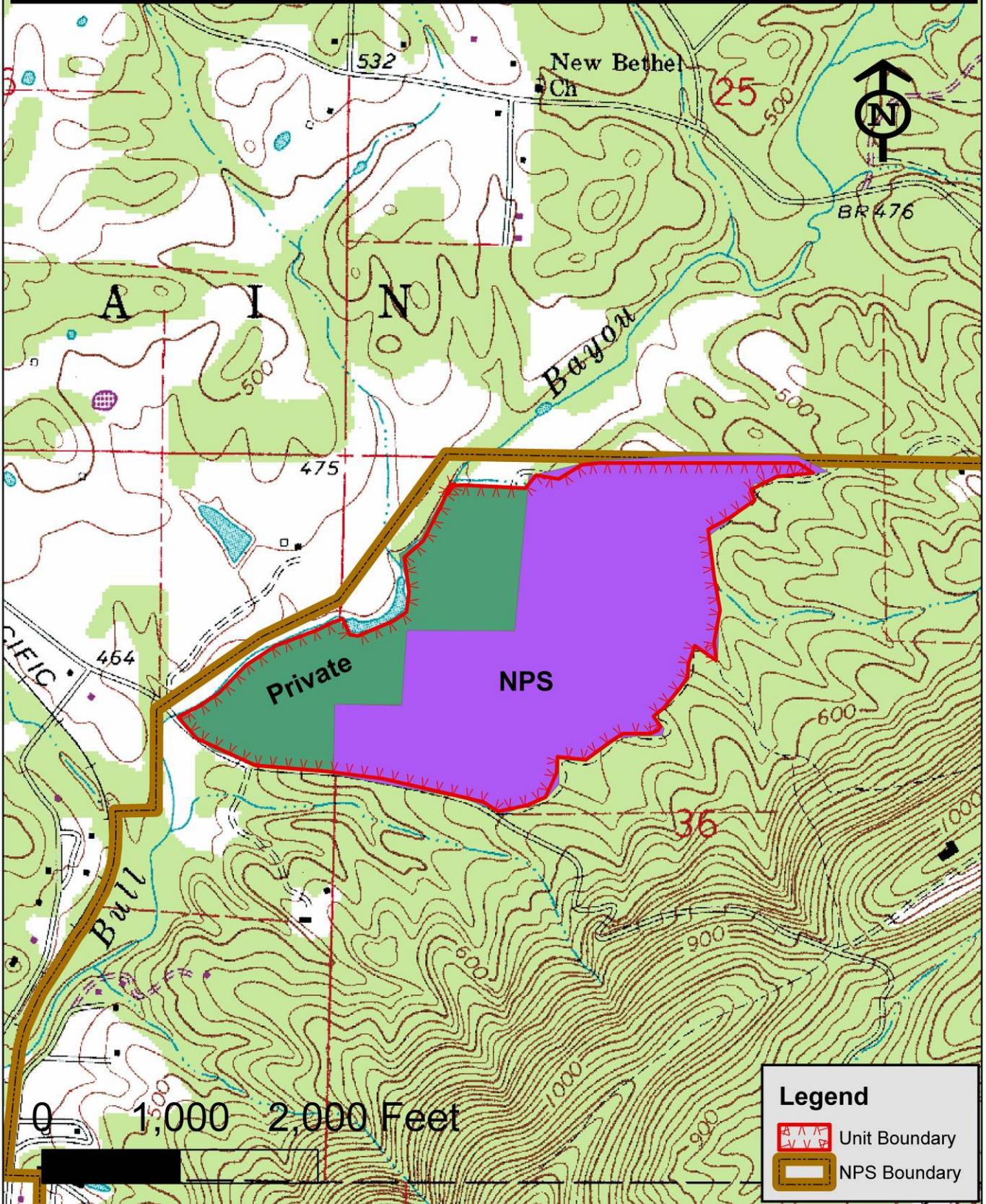


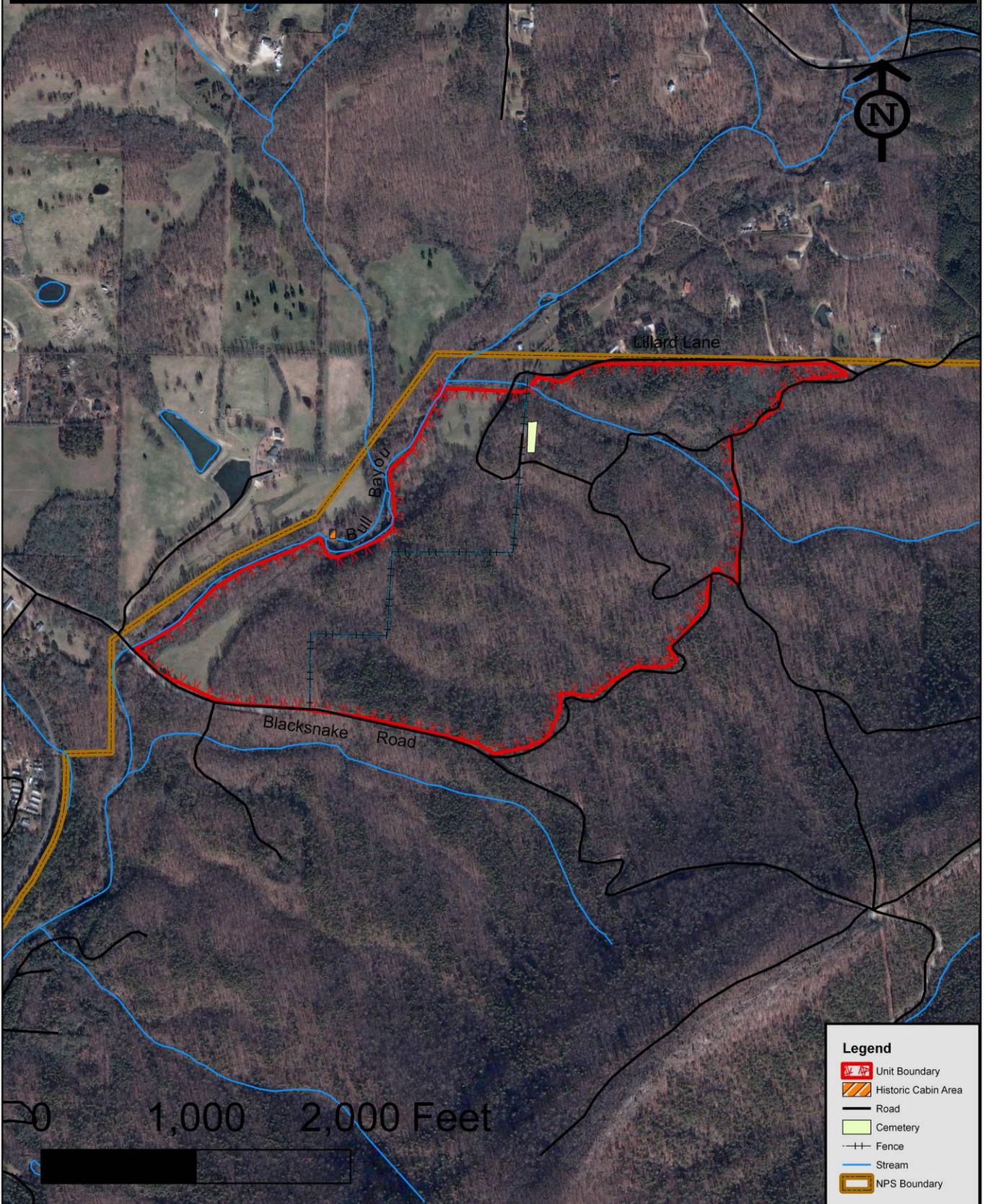
APPENDIX A: Project Maps



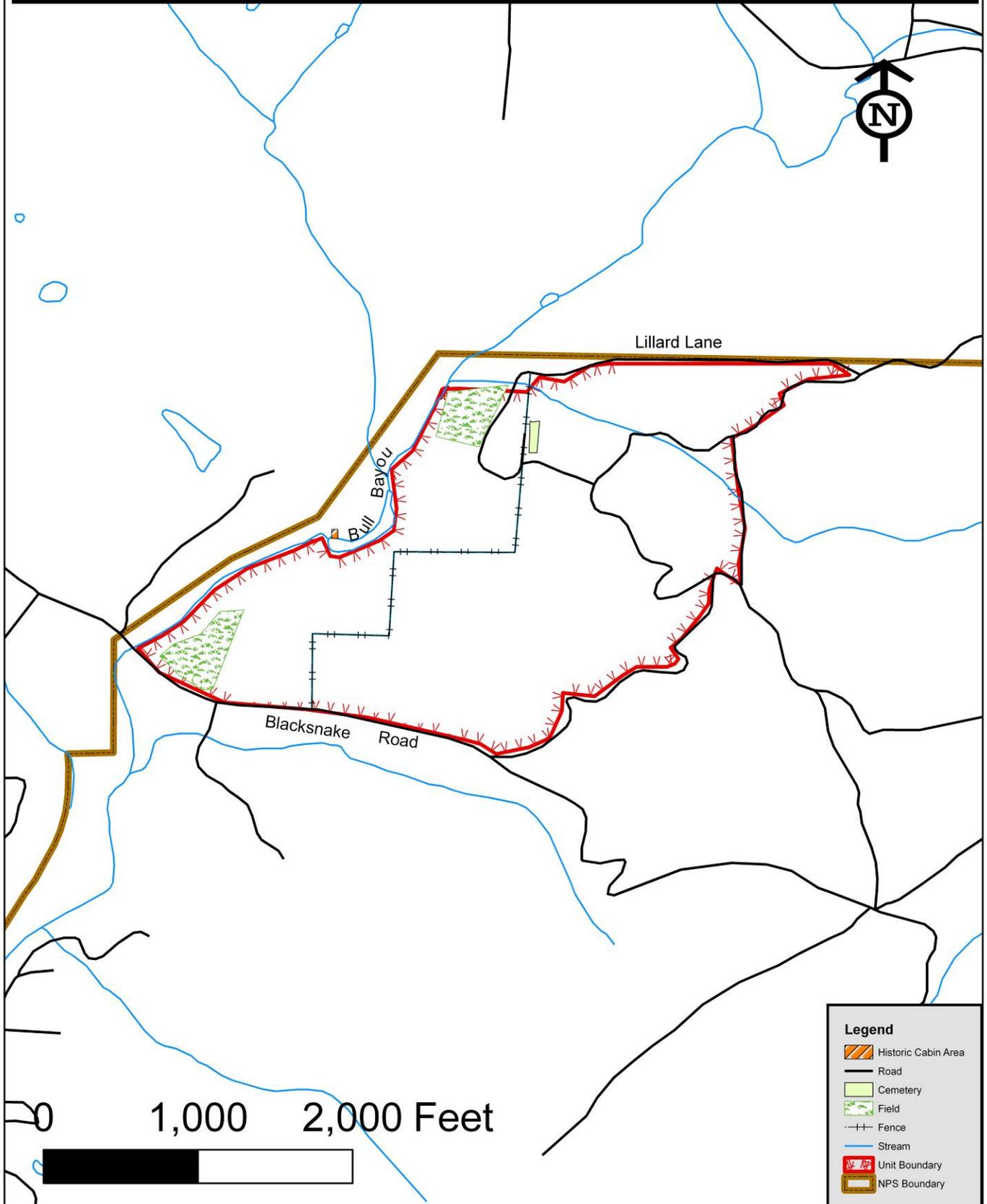
Crabtree RX Ownership



Crabtree RX DOQQ



Crabtree RX Features



**Appendix B
Technical Reviewer Checklist**

PRESCRIBED FIRE PLAN ELEMENTS:	S /U	COMMENTS
1. Signature page		
2. GO/NO-GO Checklists		
3. Complexity Analysis Summary		
4. Description of the Prescribed Fire Area		
5. Goals and Objectives		
6. Funding		
7. Prescription		
8. Scheduling		
9. Pre-burn Considerations		
10. Briefing		
11. Organization and Equipment		
12. Communication		
13. Public and Personnel Safety, Medical		
14. Test Fire		
15. Ignition Plan		
16. Holding Plan		
17. Contingency Plan		
18. Wildfire Conversion		
19. Smoke Management and Air Quality		
20. Monitoring		
21. Post-burn Activities		
Appendix A: Maps		
Appendix C: Complexity Analysis		
Appendix D: JHA		
Appendix E: Fire Prediction Modeling Runs		
Other		

S = Satisfactory U = Unsatisfactory

Recommended for Approval: X

Not Recommended for Approval:

Technical Reviewer

Qualification and currency (Y/N)

Date

X Approval is recommended subject to the completion of all requirements listed in the comments section, or on the Prescribed Fire Plan.

Appendix C: Complexity Analysis

Prescribed Fire Complexity Rating System Guide Worksheet

Project Name Crabtree Number _____

Complexity elements:

1. Potential for Escape

Risk	Rationale
Preliminary Rating: <i>Low Moderate High</i>	East fireline is a wooded two-track park road with hardwood fuels in concentration outside the burn perimeter.
Final Rating: <i>Low Moderate High</i>	Access to project area and surrounding fuels is excellent. Wide fuel breaks exist on north, west, and south sides of unit; holding forces may easily access east side of unit from north and south. No drought indicated.
Potential Consequences	Rationale
Preliminary Rating: <i>Low Moderate High</i>	The fire could burn onto private lands other than those held by the cooperating landowner. Some residential structures adjacent to unit on private lands. Some social or political concerns from an escape could be expected.
Final Rating: <i>Low Moderate High</i>	No change.
Technical Difficulty	Rationale
Preliminary Rating: <i>Low Moderate High</i>	A Single Resource Boss will be used for all holding operations. The burn units and allowable areas are easily accessible to the holding resources.
Final Rating: <i>Low Moderate High</i>	No change.

2. The Number and Dependency of Activities

Risk	Rationale
Preliminary Rating: Low Moderate High	Activities are generally independent or only loosely dependant on other activities.
Final Rating: Low Moderate High	No change.
Potential Consequences	Rationale
Preliminary Rating: Low Moderate High	Coordination issues do not result in an increased risk of escape, threaten the completion of the project, failure to meet project objectives, or create a safety hazard.
Final Rating: Low Moderate High	No change.
Technical Difficulty	Rationale
Preliminary Rating: Low Moderate High	Coordination issues do not result in an increased risk of escape, threaten the completion of the project, failure to meet objectives, or create a safety issue.
Final Rating: Low Moderate High	No Change.

3. Off-Site Values

Risk	Rationale
Preliminary Rating: Low Moderate High	Some limited areas of high value (scattered residents) are located adjacent or near the project area.
Final Rating: Low Moderate High	Residential areas are highly accessible by fire engine and are relatively easy to defend.

Potential Consequences	Rationale
Preliminary Rating: <i>Low Moderate High</i>	A few private residences exist along Lillard Lane.
Final Rating: <i>Low Moderate High</i>	Frequent patrols are planned along roads in residential areas. If any spot fires occur, resources will be able to quickly suppress them. Access to residences is good.
Technical Difficulty	Rationale
Preliminary Rating: <i>Low Moderate High</i>	Protection of off-site values will require standard management practices.
Final Rating: <i>Low Moderate High</i>	No change.

4. On-Site Values

Risk	Rationale
Preliminary Rating: <i>Low Moderate High</i>	<p>There is a private cemetery within the park boundary inside the burn perimeter.</p> <p>There is a fence line that follows the NPS boundary inside the burn perimeter.</p>
Final Rating: <i>Low Moderate High</i>	<p>Access to the cemetery is very good and fireline or wetline will be used to exclude the fire from the cemetery.</p> <p>Access to the fence line is available by ATV trail. Fuels along the fence will be reduced prior to firing. A backing fire will be used to establish good black along the fence. The fence will be patrolled immediately following ignition of the backing fire.</p>
Potential Consequences	Rationale
Preliminary Rating: <i>Low Moderate High</i>	Implementation issues will not damage any potential or existing resources.
Final Rating: <i>Low Moderate High</i>	No change.
Technical Difficulty	Rationale

Preliminary Rating: Low Moderate High	Standard operating procedures will be required to protect any on site values.
Final Rating: Low Moderate High	No change.

5. Fire Behavior

Risk	Rationale
Preliminary Rating: Low Moderate High	Fuels vary moderately within the unit, both in loading and arrangement. Medium loadings with some high concentrations are present. Variable terrain features may significantly affect fire behavior and present moderate ignition and control problems.
Final Rating: Low Moderate High	No change.
Potential Consequences	Rationale
Preliminary Rating: Low Moderate High	Fire behavior outside of the primary unit boundary would be about the same as that experienced within the unit. This is true primarily to the east, where fuel loading and arrangement are similar to what exists inside the unit. Topography to the east initially is not complex and not steep, but becomes steep within ¼ mile. Holders should be able to quickly contain any spots to the east before the terrain changes.
Final Rating: Low Moderate High	No change.
Technical Difficulty	Rationale
Preliminary Rating: Low Moderate High	Standard fire safety precautions will be adequate to protect both holding and ignition resources. The number and size of spot fires or slopovers should not require additional suppression resources. Direct attack tactics will be sufficient to deal with all spot fires and slopovers.
Final Rating: Low Moderate High	No change

6. Management Organization

Risk	Rationale
Preliminary Rating: <i>Low Moderate High</i>	May require staffing of a majority of the prescribed fire positions with qualified personnel. Two levels of supervision are needed (i.e. Burn Boss, Ignition Specialist and/or Holding Specialist plus lighters and holders).
Final Rating: <i>Low Moderate High</i>	No change
Potential Consequences	Rationale
Preliminary Rating: <i>Low Moderate High</i>	Problems related to supervision or communication may cause failure to meet some objectives, an increased chance of escaped fire, or violation of safety standards.
Final Rating: <i>Low Moderate High</i>	All personnel will receive a thorough briefing prior to ignition.
Technical Difficulty	Rationale
Preliminary Rating: <i>Low Moderate High</i>	The staff at Buffalo National River will be able to provide the necessary expertise to fill all the critical positions outlined in the burn plan. The staff filling these roles are very familiar with the unit.
Final Rating: <i>Low Moderate High</i>	No change

7. Public and Political Interest

Risk	Rationale
Preliminary Rating: <i>Low Moderate High</i>	The prescribed fire is visible to some portions of the public and/or moderate in size. There has been some public or political concern about the project or the program. There is some media interest in the project.
Final Rating: <i>Low Moderate High</i>	No change
Potential Consequences	Rationale
Preliminary Rating: <i>Low Moderate High</i>	Unexpected or adverse events would attract some public, political, or media attention and may delay implementation of other projects. News releases and local news briefings would be required.
Final Rating: <i>Low Moderate High</i>	No change.
Technical Difficulty	Rationale
Preliminary Rating: <i>Low Moderate High</i>	May require special media releases or field trips. Some specific members of the public or political entities may need to be notified directly. May require closure of a public road for a portion of the day.
Final Rating: <i>Low Moderate High</i>	No change

8. Fire Treatment Objectives

Risk	Rationale
Preliminary Rating: <i>Low Moderate High</i>	Objectives are modest for a first entry into the unit. Fuels objectives are easily achieved. Resource objectives are somewhat easily achieved. The necessary fire behavior is easily created, managed, and monitored.
Final Rating: <i>Low Moderate High</i>	No change
Potential Consequences	Rationale

Preliminary Rating: Low Moderate High	No other activities are absolutely dependent on the implementation of this project. Failure to meet objectives would not adversely impact resources in a manner that they would not recover.
Final Rating: Low Moderate High	No change.
Technical Difficulty	Rationale
Preliminary Rating: Low Moderate High	Measures to achieve the objectives are easy to complete and there are few or no restrictions on techniques.
Final Rating: Low Moderate High	No change

9. Constraints

Risk	Rationale
Preliminary Rating: Low Moderate High	No constraints related to access, water sources, or firelines. Constraints related to equipment and aircraft are considered routine and easily managed with available resources.
Final Rating: Low Moderate High	No change
Potential Consequences	Rationale
Preliminary Rating: Low Moderate High	No limits on implementation. Tactics and other activities will not be restrained beyond the normal operational guidelines of the HOSP FMP.
Final Rating: Low Moderate High	No change
Technical Difficulty	Rationale
Preliminary Rating: Low Moderate High	Existing constraints will not increase significantly with complexity of the project.
Final Rating: Low Moderate High	No change

10. Safety

Risk	Rationale
Preliminary Rating: <i>Low Moderate High</i>	Detailed briefings are needed to raise safety consciousness of all involved. Most safety hazards have been mitigated, but some remain that require special caution. There could be adverse impacts to public health and safety, probably related to lingering smoke after the burn. At least one activity can be characterized as low frequency/high risk.
Final Rating: <i>Low Moderate High</i>	No change.
Potential Consequences	Rationale
Preliminary Rating: <i>Low Moderate High</i>	Moderate potential exists for more serious accidents/injuries to firefighters. Topography along the interior fence line is somewhat complex and requires extra caution for ignitors and holders.
Final Rating: <i>Low Moderate High</i>	No change.
Technical Difficulty	Rationale
Preliminary Rating: <i>Low Moderate High</i>	Most safety concerns can be easily mitigated but some remain that require extra caution during project operations. Special emphasis is needed for some elements of LCES. The project briefing will include a safety briefing with special issues or emphasis areas. Limited mitigation to protect public health and safety are needed.
Final Rating: <i>Low Moderate High</i>	No change. However, full LCES will be implemented to improve safety.

11. Ignition Procedures/Methods

Risk	Rationale
Preliminary Rating: <i>Low Moderate High</i>	Firing sequence and timing are critical to protect on-site values. Portions of the project area are not readily visible to the Ignition Specialist and Burn Boss.
Final Rating: <i>Low Moderate High</i>	All ignitors, holders, and essential personnel will have hand held radios for the purpose of close coordination during the ignition phase.

Potential Consequences	Rationale
Preliminary Rating: <i>Low Moderate High</i>	Firing methods and procedures must be coordinated to provide for adequate safety, meet project objectives, and reduce the risk of an unexpected or adverse event. Opportunities for remedial actions or corrections are available in the event of problems.
Final Rating: <i>Low Moderate High</i>	No change.
Technical Difficulty	Rationale
Preliminary Rating: <i>Low Moderate High</i>	The need for special firing techniques or patterns has been identified. Firing procedures are somewhat complex in at least some portions of the project area and the ignition team may be broken into two or more squads. Use of two different types of ignition devices is planned. The ignition pattern requires direct control of the lighters by a FIRB to achieve project objectives and manage safety concerns.
Final Rating: <i>Low Moderate High</i>	No change

12. Interagency Coordination

Risk	Rationale
Preliminary Rating: <i>Low Moderate High</i>	This project involves private land and coordination with the landowner.
Final Rating: <i>Low Moderate High</i>	Landowner has been briefed and allowed an opportunity to voice concerns on the project. Landowner is amenable to the project.
Potential Consequences	Rationale
Preliminary Rating: <i>Low Moderate High</i>	Project can be completed as planned.
Final Rating: <i>Low Moderate High</i>	No change.
Technical Difficulty	Rationale
Preliminary Rating: <i>Low Moderate High</i>	Project requires use of one Memorandum of Understanding (Appendix I). Landowner has read MOU and been allowed an opportunity to comment.
Final Rating: <i>Low Moderate High</i>	No change.

13. Project Logistics

Risk	Rationale
Preliminary Rating: <i>Low Moderate High</i>	Project requires minimal logistical support with no specific logistic function assigned. No special equipment communication needs have been identified.
Final Rating: <i>Low Moderate High</i>	No change.
Potential Consequences	Rationale
Preliminary Rating: <i>Low Moderate High</i>	Problems related to logistics will not increase the risk of escape, affect the completion of the project or create a safety concern.

Final Rating: Low Moderate High	No change.
Technical Difficulty	Rationale
Preliminary Rating: Low Moderate High	There are no special logistical support issues.
Final Rating: Low Moderate High	No change.

14. Smoke Management

Risk	Rationale
Preliminary Rating: Low Moderate High	Smoke concerns are moderate and some concerns require special mitigation. The project will produce smoke visible to the public over 2-3 days. Smoke exposures or amounts may cause some health or safety concerns over a short period of time.
Final Rating: Low Moderate High	No change.
Potential Consequences	Rationale
Preliminary Rating: Low Moderate High	Vistas, roads, and some residences may experience short-term decreases in visibility. A few health related complaints may occur. Minor smoke intrusions may occur into smoke sensitive areas, but below levels that trigger regulatory concern. Project personnel may be exposed to dense smoke for short periods of time.
Final Rating: Low Moderate High	No change.
Technical Difficulty	Rationale
Preliminary Rating: Low Moderate High	Some considerations are needed in the prescription OR ignition portions of the plan. Burn window opportunities are reduced by the required weather/dispersion conditions. Normal coordination with air quality officials is required. Specific smoke monitoring may be required to determine smoke plume heights and directions. Rotating project personnel out of dense smoke is necessary but easy to accomplish.
Final Rating: Low Moderate High	No change.

COMPLEXITY RATING SUMMARY

RISK	OVERALL RATING	<u>Moderate</u>
POTENTIAL CONSEQUENCES	OVERALL RATING	<u>Moderate</u>
TECHNICAL DIFFICULTY	OVERALL RATING	<u>Moderate</u>
SUMMARY COMPLEXITY RATING		<u>Moderate</u>

RATIONALE: This project rates a moderate complexity due to the higher than average degree of coordination and communications needed to safely conduct the ignition operations. This higher level of coordination and communication is driven by the presence of multiple aspects, a cemetery, and a fence line through the center of the unit that must be protected. While the risk of escaped fire in the direction of private lands is considered low, the consequences range from moderate to high in the highly unlikely event of a high intensity fire reaching either the Sunset Trail to the southeast or the 3 residences closest to the project area on Lillard Lane. Risk to park visitors should be minimal because this area of the park is not used extensively. However, a portion of Blacksnake Road may need to be closed for part of the day to reduce the exposure of fire personnel to traffic, and to protect public vehicle operators from low visibility caused by smoke. Both the safety risk and the escaped fire risk are mitigated by moderate fuel loadings, generally low intensity prescribed fire behavior, and defensible fireline with good access surrounding the unit.

Complexity rating was prepared using the *Prescribed Fire Complexity rating guide*, January 2004 (PMIS424, NFES 2474).

Prepared by: /s/ Dwight Newman RXB2 Date: 10/26/07

Appendix D - Job Hazard Analysis

U.S. Department of Interior National Park Service	1. WORK PROJECT/ACTIVITY Prescribed Burning	2. LOCATION State of Arkansas	3. UNIT AR Group NPS Units
JOB HAZARD ANALYSIS (JHA) Prescribed Burning	4. NAME OF ANALYST Jim Mattingly	5. JOB TITLE Arkansas Park Group FMO	6. DATE PREPARED 11/15/2002
7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls * PPE	
* Prescribed burning * * * * * * * * * * *	Vehicle travel to project Public Traffic Wildlife Road Conditions Vehicle at Project Site Environmental: Weather Night driving Public in Project area Smoke ATV operation Firing equipment	Be aware of commercial vehicle traffic, drive with lights on, drive defensively, use seat belts. Allow extra time, use seat belts, drive defensively, keep alert. Allow extra time, know and watch for used wildlife crossings, stay alert. Clear road of objects (rocks, logs, low hanging limbs, etc). Use chains when needed, have traction tires during hazardous seasons: winter, spring and fall. Do not put vehicle in a hazardous situation, drive at speeds that will allow you to stop in ½ your sight distance. All equipment secured in pickup beds prior to transport. Park safe distance off traveled road, turn off lights, leave keys in ignition, roll up windows, chock block wheels and properly store personal gear and/or project equipment in parked vehicles Heat exposure: wear protective clothing, drink plenty of water, rest and pace yourself. High Winds: Wear hard hats, eye protection, be alert to obstacles around you, watch for flying debris. Cold: Recommend brush jacket for fireline duty during cold periods. Snake bites: Be aware of hazardous situations, know first aid, carry first aid equipment, be alert. Bee Stings: Be aware of the hazardous situations, carry bee sting kit, know who is allergic and know first aid. Poison plants: Wear proper clothing, carry first aid kit and know how to use it, know what to do if contaminated, have soap and water available. Ticks: Spray cuffs with insecticide or secure loose openings in cloths. Document bites. Use drivers who have not worked all day or all night if possible, if not rotate often. Wear seat belts, avoid driving alone if possible DOUBLE UP. Be alert. Post prescribed burning signs on all access routes to burn area. Do newspaper releases prior to burning season, explaining the program and giving location of areas planned for burning. Workers need to limit their exposure to smoke, rotate people in and out of smokey areas. Prior to start of project, all workers will be informed of the health hazard associated with smoke inhalation. Records of any accidents, person's name and number of hours worked will be kept as per managing competing and unwanted vegetation environmental impact statement. Follow established guidelines for ATV use, including the use of DOT-approved helmet, gloves, leather boots. Secure all loose items and equipment with bungi cords or P-cord. Ensure that no fuel leakage occurs from transported equipment. No smoking while operating an ATV Ensure all agency and DOT standards for the transport of HAZMAT are followed. Wear PPE during use. Ensure proper fuel mix ratios. Refuel devices away from flame sources.	

Appendix E. Fire Modeling Outputs

FIRE MODELING OUTPUTS: Fuel Model 1 (Adjacent Fuel Type)

MODULES: Surface, Size

Description

FM1, 5% slope run

FUEL/VEGETATION

Fuel Model 1 _____

FUEL MOISTURE

1-h Moisture	%	<u>5, 7, 9, 11, 13</u>
10-h Moisture	%	_____
100-h Moisture	%	<u>1</u>
Live Herbaceous Moisture	%	_____
Live Woody Moisture	%	_____

WEATHER

Midflame Wind Speed	mi/h	<u>1, 3, 5, 7, 9</u>
Direction of Wind Vector (from upslope)	deg	<u>0</u>

TERRAIN

Slope Steepness % 5

TIME

Elapsed Time h 1

OUTPUT VARIABLES

Rate of Spread (maximum) (ch/h)

Fireline Intensity (Btu/ft/s)

Flame Length (ft)

Heat Per Unit Area (Btu/sqft)

Spotting Distance (miles)

=====

RATE OF SPREAD, CH/H (V4.4)

=====

1-HR MOIS (%)	MIDFLAME WIND, MI/H				
	1.0	3.0	5.0	7.0	9.0
5.0	8.	38.	100.	195.	297.*
7.0	7.	34.	89.	174.	242.*
9.0	6.	27.	70.	136.*	136.*
11.0	3.	12.	13.*	13.*	13.*
13.0	0.	0.	0.	0.	0.

* MEANS YOU HIT THE WIND LIMIT.

=====

HEAT PER UNIT AREA, BTU/SQFT (V4.4)

=====

1-HR MOIS (%)	MIDFLAME WIND, MI/H				
	1.0	3.0	5.0	7.0	9.0
5.0	92.	92.	92.	92.	92.
7.0	88.	88.	88.	88.	88.
9.0	75.	75.	75.	75.	75.
11.0	35.	35.	35.	35.	35.
13.0	0.	0.	0.	0.	0.

=====

FIRELINE INTENSITY, BTU/FT/S (V4.4)

=====

1-HR MOIS (%)	MIDFLAME WIND, MI/H				
	1.0	3.0	5.0	7.0	9.0
5.0	14.	64.	169.	331.	504.*
7.0	12.	55.	144.	282.	392.*
9.0	8.	36.	96.	186.*	186.*
11.0	2.	7.	9.*	9.*	9.*
13.0	0.	0.	0.	0.	0.

* MEANS YOU HIT THE WIND LIMIT.

FM1, 5% slope run

=====

FLAME LENGTH, FT (V4.4)

=====

1-HR MOIS (%)	MIDFLAME WIND, MI/H				
	1.0	3.0	5.0	7.0	9.0
5.0	1.5	3.0	4.8	6.5	7.9*
7.0	1.4	2.8	4.4	6.0	7.0*
9.0	1.2	2.4	3.7	5.0*	5.0*
11.0	.6	1.1	1.2*	1.2*	1.2*
13.0	.0	.0	.0	.0	.0

* MEANS YOU HIT THE WIND LIMIT.

FM1, 5% slope run

=====

MAXIMUM SPOTTING DISTANCE, MI (V4.4)

=====

1-HR MOIS (%)	I	MIDFLAME WIND, MI/H				
		1.0	3.0	5.0	7.0	9.0
5.0	I	.0	.1	.2	.3	.4
7.0	I	.0	.1	.2	.3	.4
9.0	I	.0	.1	.2	.3	.3
11.0	I	.0	.1	.1	.1	.1
13.0	I	.0	.0	.0	.0	.0

Maximum Probability of Ignition: 70%

FIRE MODELING OUTPUTS (Fuel Model 9: Used in Holding Worksheet calculations)

Modules: Surface, Size	Description: BUFF Standard FM9, 30% slope run
Fuel Model	9
Fuel Moisture	
1-h Moisture	% 5, 7, 9, 11
10-h Moisture	% 8
100-h Moisture	% 12
Live Herbaceous Moisture	%
Live Woody Moisture	%
Weather	
Midflame Wind Speed	mi/h 1, 3, 5, 7, 9
Direction of Wind Vector (from upslope)	deg 0
Terrain	
Slope Steepness	% 30
Fire	
Fire Size at Report	ac .1
Suppression	
Suppression Tactic	Rear
Line Construction Offset	ch .1
Resource Name	j
Resource Line Production Rate	ch/h 63
Resource Arrival Time	h .1
Resource Duration	h 1

Run Options

Calculations are only for the direction of maximum spread.

Fireline intensity, flame length, and spread distance are always for the direction of the spread calculations.

Wind and spread directions are degrees clockwise from upslope.

Wind direction is the direction the wind is pushing the fire.

Outputs

Rate of Spread (maximum) (ch/h)
Heat per Unit Area (Btu/ft²)
Fireline Intensity (Btu/ft/s)
Flame Length (ft)
Direction of Maximum Spread (from upslope) (deg)
Maximum Wind Exceeded?
Time from Report (h)
Contain Status
Contained Area (ac)
Fireline Constructed (ch)

BUFF FM9

Rate of Spread (maximum) (ch/h)

1-h Moisture %	Midflame Wind Speed mi/h				
	1.0	3.0	5.0	7.0	9.0
5	2.8	5.8	10.9	17.6	26.0
7	2.3	4.9	9.2	15.0	22.0
9	2.1	4.4	8.2	13.3	19.5
11	1.9	4.0	7.5	12.1	17.8

Heat per Unit Area (Btu/ft²)

1-h Moisture %	Midflame Wind Speed mi/h				
	1.0	3.0	5.0	7.0	9.0
5	390	390	390	390	390
7	355	355	355	355	355
9	335	335	335	335	335
11	326	326	326	326	326

Flame Length (ft)

1-h Moisture %	Midflame Wind Speed mi/h				
	1.0	3.0	5.0	7.0	9.0
5	1.8	2.5	3.3	4.2	5.0
7	1.6	2.2	3.0	3.7	4.4
9	1.5	2.0	2.7	3.4	4.1
11	1.4	1.9	2.6	3.2	3.9

Direction of Maximum Spread (from upslope) (deg)

1-h Moisture %	Midflame Wind Speed mi/h				
	1.0	3.0	5.0	7.0	9.0
5	0	0	0	0	0
7	0	0	0	0	0
9	0	0	0	0	0
11	0	0	0	0	0

Maximum Wind Exceeded?

1-h Moisture %	Midflame Wind Speed mi/h				
	1.0	3.0	5.0	7.0	9.0
5	No	No	No	No	No
7	No	No	No	No	No
9	No	No	No	No	No
11	No	No	No	No	No

Time from Report (h)

1-h Moisture %	Midflame Wind Speed mi/h				
	1.0	3.0	5.0	7.0	9.0
5	0.2	0.2	0.3	0.4	1.1
7	0.2	0.2	0.2	0.3	0.6
9	0.2	0.2	0.2	0.3	0.5
11	0.2	0.2	0.2	0.3	0.4

Contain Status

1-h Moisture %	Midflame Wind Speed mi/h			
	1.0	3.0	5.0	9.0
	5	Contained	Contained	Contained
7	Contained	Contained	Contained	Contained
9	Contained	Contained	Contained	Contained
11	Contained	Contained	Contained	Contained

Contained Area (ac)

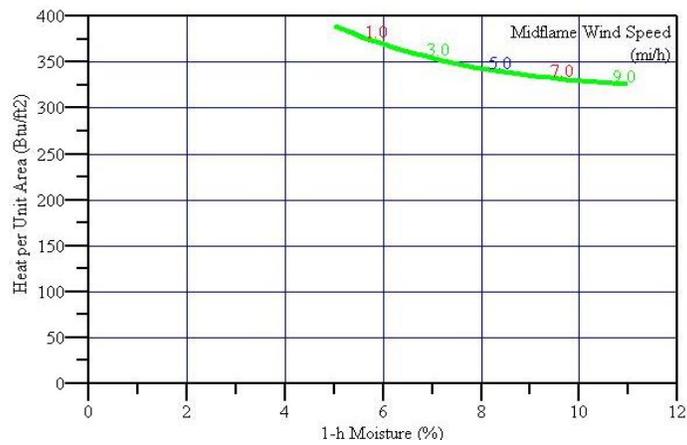
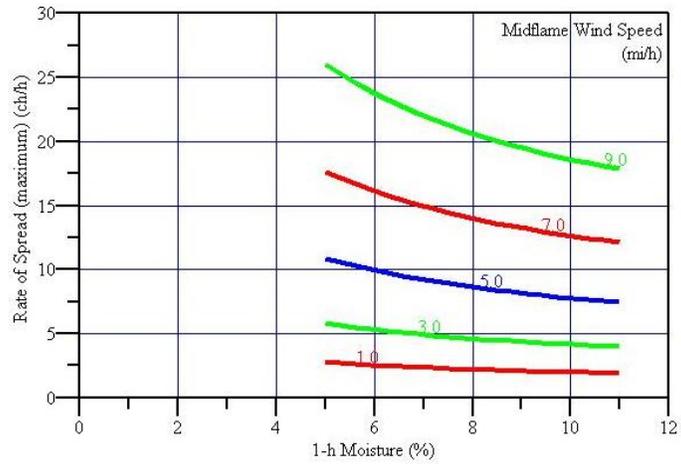
1-h Moisture %	Midflame Wind Speed mi/h				
	1.0	3.0	5.0	7.0	9.0
	5	0.2	0.4	0.7	1.7
7	0.2	0.3	0.5	1.1	3.3
9	0.2	0.3	0.5	0.9	2.1
11	0.2	0.3	0.4	0.7	1.6

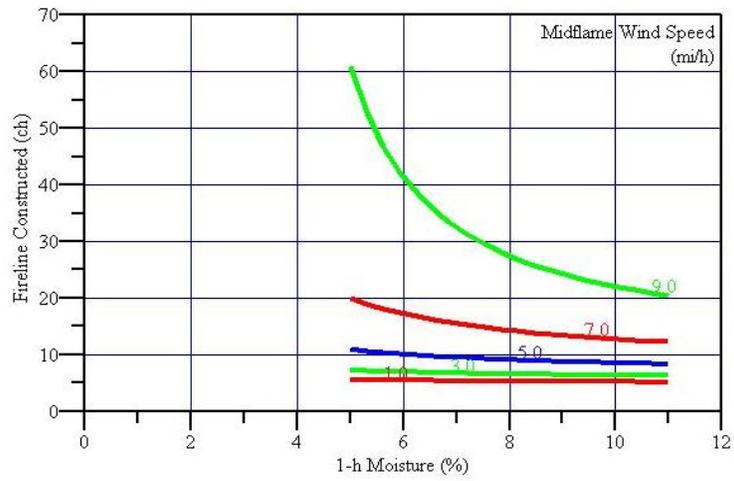
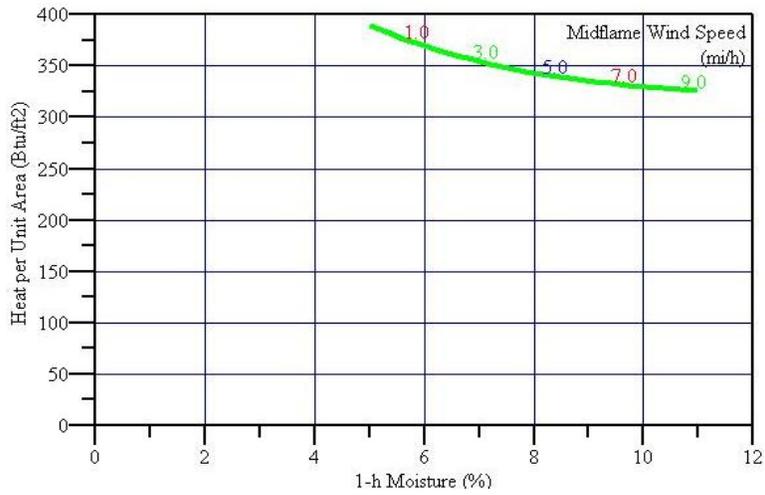
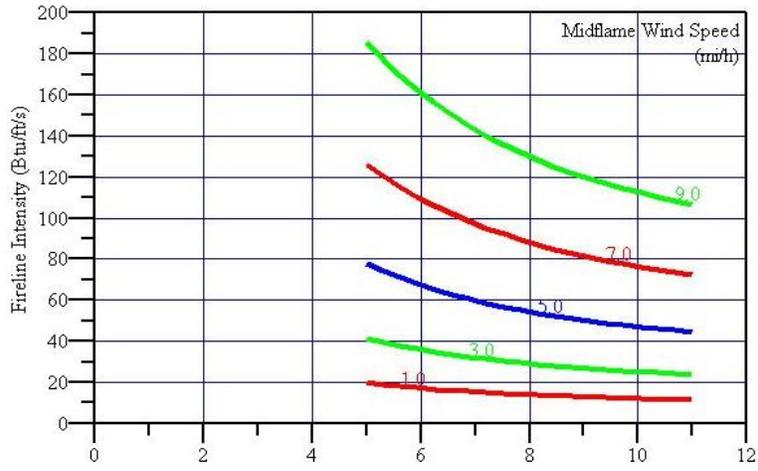
Fireline Constructed (ch)

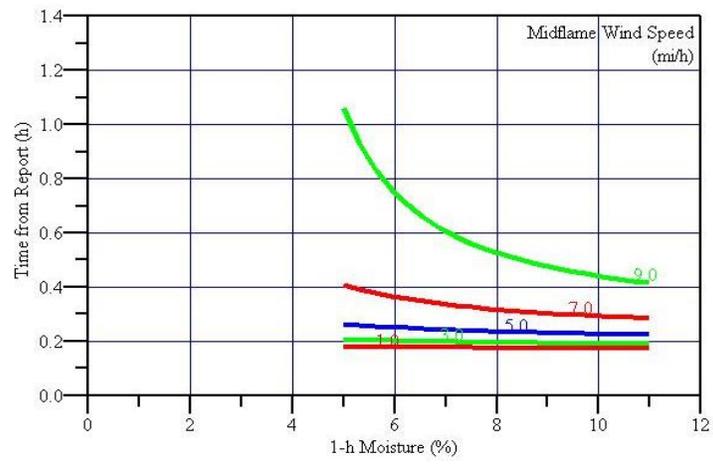
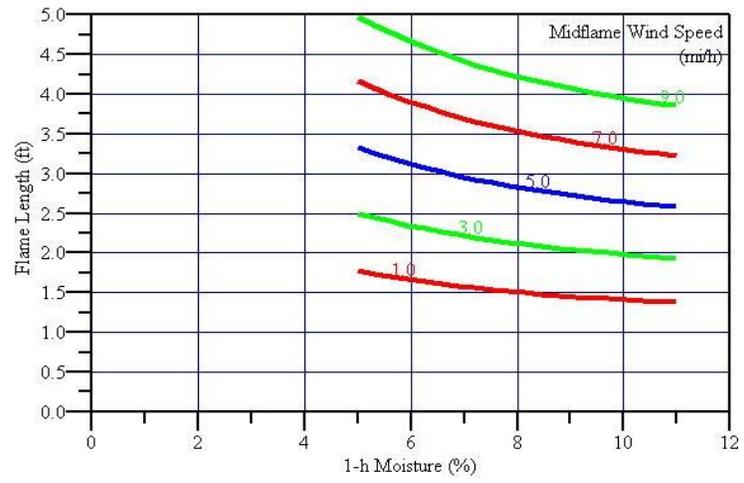
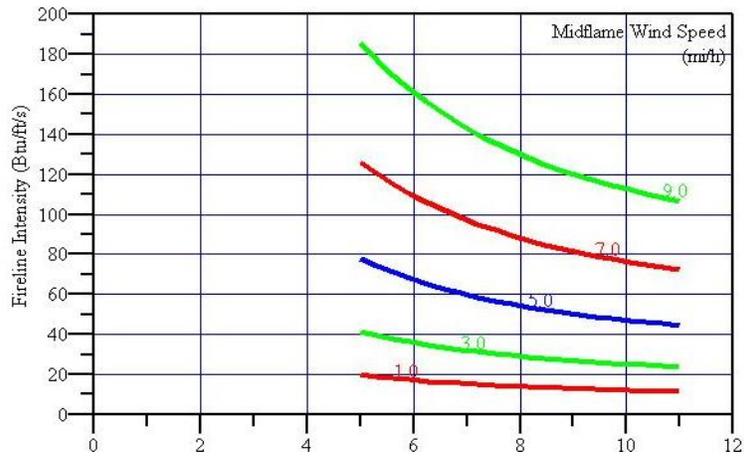
1-h Moisture %	Midflame Wind Speed mi/h				
	1.0	3.0	5.0	7.0	9.0
	5	5.6	7.3	11.0	19.9
7	5.4	6.8	9.6	15.5	32.5
9	5.2	6.4	8.8	13.4	24.2
11	5.2	6.3	8.4	12.2	20.4

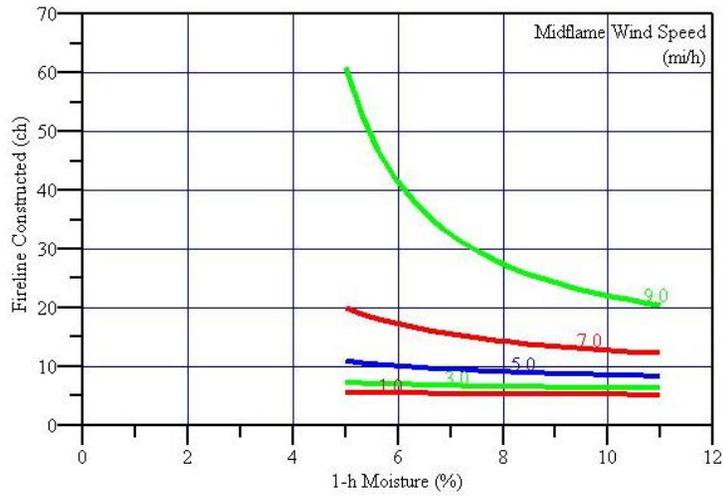
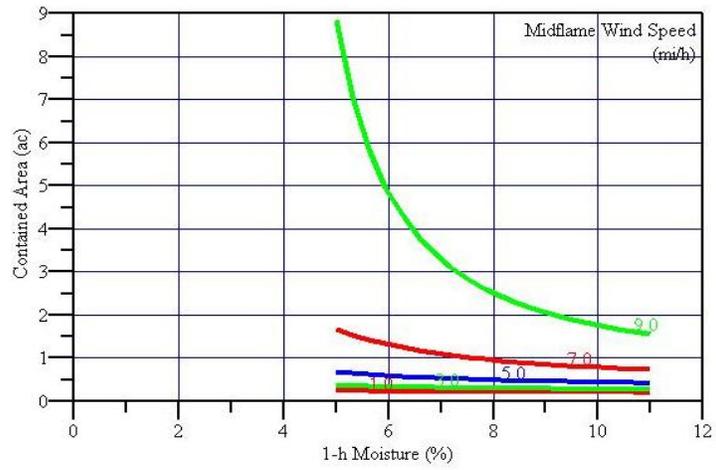
Number of Resources Used

1-h Moisture %	Midflame Wind Speed mi/h				
	1.0	3.0	5.0	7.0	9.0
5	1	1	1	1	1
7	1	1	1	1	1
9	1	1	1	1	1
11	1	1	1	1	1









SPOT-LINKED-TO-DIRECT

1-FIREBRAND SOURCE-----	3-WIND-DRIVEN SURFACE FIRE
2-MEAN COVER HEIGHT, FT --	0.0
3-20-FOOT WINDSPEED, MI/H	2.5 7.5 12.5 17.5 22.5
FROM DIRECT:	
FROM MIDFLAME WIND =	1.0 3.0 5.0 7.0 9.0
& EXPOSED FUEL WAF =	0.4
4-RIDGE/VALLEY ELEVATION	
DIFFERENCE, FT --	0.0
12-FLAME LENGTH, FT -----	OUTPUT FROM DIRECT. RANGE= 1.3 TO 5.0

Appendix F - Adequate Holding Resources Worksheet

Project Name: Crabtree Fuel Models Inside Project Area: n/a
 Prepared By/Date: Dwight Newman Fuel Models Outside Project Area: 9

Note: Suppression forces will only be needed for spot fires outside the project area. Inside predictions are N/A.

Characteristics	Output type	Modeling Predictions Inside Project Area	Modeling Predictions Outside Project Area	Unit of Measure
CRITICAL FIRE INPUTS	1 Hr Fuel Moisture		5	%
	Wind Speed		9	MPH
	Slope		10	%
KEY FIRE BEHAVIOR OUTPUTS	Rate of Spread		25	ch/hr
	Fire line Intensity		177	BTU/ft/sec
	Flame Length		4.9	Feet
	POI		70	%
	Spotting Distance		0.3	Miles
	Scorch Height			Feet
FIRE SIZE	Projection Time			Hours
	Forward Spread			Chains
	Backward Spread			Chains
FIRE CONTAINMENT	Method Of Attack	Rear	Rear	Head/Rear
	Max Escape Target	10	10	Acres
	Max Containment Time	1	1	Hours
	Total Line Building Rate	63	63	Ch/hr

1. Choose worst case total line building rate above that is needed for containment of slop over or spot fire : 63h/hr
2. Estimate potential number of spot fires or slop-overs at one time: 1
3. **TOTAL LINE BUILDING RATE NEEDED (multiply line 1 times line 2)** **63ch/hr**
4. Production Rates: Ease of Access: POOR-FAIR-GOOD-EXCELLENT (circle)
 Fuel Resistance to Control LOW- MODERATE-HIGH-EXTREME (circle)

On Site Organization	Total # Planned On Burn	Total # Available for Spot Fire or Slop Over Control				Spot Fire or Slop Over Line Building Capacity
RXB2	1	0	X	8	ch/hr	0
FIRB	1	0	X	8	ch/hr	0
Hold Spec	1	1	X	8	ch/hr	8
Firing Crew	3	3	X	8	ch/hr	24
Holding)	5	5	X	8	ch/hr	40
FEMO	1	1	X	8	ch/hr	8
Engine (Crew of 2)	2	2	X	25	ch/hr	50
Dozer (Size)			X		ch/hr	
Other Equipment			X		ch/hr	

5. TOTAL SLOP-OVER OR SPOT FIRE LINE BUILDING RATE 130 ch/hr

6. DETERMINATION OF ADEQUATE HOLDING RESOURCES (Line 5 minus Line 3) 67 ch/hr

If number on line 6 is positive then adequate holding forces will be available. If number is negative, more holding resources are needed to control potential spot fires or slopovers. Lack of holding resources will be mitigated by wetting the lined area around the debris piles to prevent slopovers. The debris piles will be fully moped -up prior to end of operation.

Appendix G. Notification Checklist

Who	When ¹	Phone Number and/or e-mail	Responsibility	Date	Contact Type ²
Arkansas Forestry Commission Dispatch	D	501-332-3000/4445	Fire Program Assistant		
AOICC	D	501-321-5231	Fire Program Assistant		
Hot Springs Fire Department	D	501-321-6971	Fire Program Assistant		
Mountain Pine Fire Dept	D	501-767-4841	Fire Program Assistant		
Piney Fire Dept	D	501-767-6836	Fire Program Assistant		
Garland County Sheriff's Office	D	501-622-3660	Fire Program Assistant		
MWRO (Connie Burns)	D	402-221-3476	Fire Program Assistant		
National Weather Service – Little Rock	D	501-834-3955	Burn Boss		
¹ When to Notify	Before (B) : The day prior to burn day. Day of (D) : Prior to ignition on burn day. After (A) : After burn is completed.		² Contact Type	Phone Contact (PC) Phone Message (PM) Direct Contact (DC) E-mail (EM)	

APPENDIX H
REVIEWERS' COMMENTS

Fire Management Officer:

Prescribed Fire Specialist:

Natural Resource Specialist:

Park Superintendent:

Regional Reviewer:

Technical Reviewer:

APPENDIX I – Memorandum of Understanding