

# Burn Plan for Prescribed Burning

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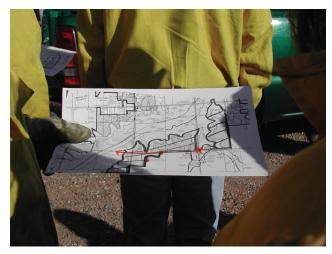
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A burn plan helps to determine the safest and easiest way to complete tasks before, during and after a prescribed burn. The most important reason for having a burn plan is to thoroughly think about each action before striking the match. The burn plan will help determine where the burn should be conducted, what type of management is required before burning, how to conduct the burn, when to burn and what should be done after the burn.

A burn plan is a written prescription for the prescribed fire including critical elements such as the weather conditions under which the burn will be conducted, number of personnel and duties of each, and the type, amount and placement of equipment needed to safely conduct the burn. All of this information allows the fireboss to consider all actions prior to the burn, reducing many problems and complications. A burn plan also helps the fireboss consider any social impacts of the burn such as: smoke management concerns, traffic patterns or problems, how to contact neighbors and fire departments, along with other public safety issues. In rural areas many of these issues may not be of concern, but in areas associated with urban sprawl, it can be a major problem. Finally, a wellwritten burn plan can help reduce liability risk, which is a major concern for most people conducting prescribed burns. A burn plan can be used to show the amount of diligence and care used in planning and conducting the burn if some type of liability issue occurs.

No burn plan is perfect and no two are alike because they are as different as the burn units for which they are written. Each burn plan may require different information or planning, with some requiring more information about a specific topic than others. A burn plan should be written to meet local needs and be adapted to the region. The more experience a person has preparing plans, the easier it will become to write good ones. When preparing a burn plan, it is important not to limit implementation by being too specific with details or prescriptions. For example using weather conditions with a range that is too narrow and cannot be followed for the duration of the Oklahoma Cooperative Extension Fact Sheets are also available on our website at: http://osufacts.okstate.edu



burn is not a prescription for success. Be sure to include all necessary information, but do not clutter a plan with pointless information that could cause confusion, or prevent the execution of a burn, and potentially increase liability.

The following instructions on completing a burn plan and the sample burn plan contained in this publication will assist anyone interested in conducting a prescribed burn. This burn plan provides information appropriate for most situations.

**Information:** Provide basic information about the unit and landowner/manger conducting the burn.

**Description of Area to be Burned:** Include pasture name, legal description and dominant vegetation type in the burn unit.

**Vegetation Present:** Describe the main vegetation/fuels present. *Example - Tallgrasses, scatted shrubs with cedars <6 ft tall in the upland and solid stands of cedar >15 ft tall along the creek.* 

**Directions from Nearest Town:** Provide directions to the burn unit. This may be needed in case of an accident or escaped fire. In emergency situations, people often forget things as simple as providing directions to the burn unit. Also, someone not familiar with the area can provide directions from the burn plan to emergency responders.

**Objectives:** Explain what the burn will accomplish. Objectives can be singular or multiple, along with being broad or very specific. *Examples – Forage production for livestock, wildlife habitat management, cedar control, brush suppression, improve forage quality, hardwood reduction, fuel reduction and wildfire suppression.* 

**Notification:** List the names of fire departments, adjoining landowners, and others that need to be notified prior to conducting the burn. This allows the planner to have all phone numbers in one place for quick reference. It also provides a place for the planner to enter the date, time and person notified, which can be helpful if problems arise or for verification of notification.

**Pre-Burn Preparations:** Describe what should be done before conducting burn.

Management Needed Prior to Burn: Describe management required to prepare for the burn in order to meet objectives. These practices could include grazing management, mechanical treatments to make the burn safer or more effective, or the protection of specific areas or items.

**Firebreak Types and Location Around the Burn Unit:** Describe the type of firebreaks used and the location of each around the burn unit. Firebreaks can be disked, dozed, roads, cultivated fields or natural breaks like creeks. *Example- Firebreaks on the west and north side of the burn unit are disked strips 15 feet in width and the east and south firebreaks are comprised of a two-track pasture road.* 

For more information about firebreaks see Extension Fact Sheet NREM-2890, *Firebreaks for Prescribed Burning*. (http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-8542/NREM-2890web.pdf)

**Fuel Conditions:** Record the amount and continuity of fine fuel (herbaceous vegetation) desired for the burn and actual amount in the burn unit on the day of the burn.

**Fine Fuel Amounts:** Determined by visual estimation or by clipping and weighing samples.

Fuel Continuity: Describes the amount of coverage or distribution of fuels. This is important for fire spread. Many times there may be adequate fuel amounts, but fuel continuity will not allow the fire to spread or carry across the burn unit.

Prescribed Weather Conditions: Define the weather conditions needed to safely and effectively conduct the burn.

**Desired Range:** Describes ideal weather conditions for the burn.

Maximum Range: Upper and lower weather conditions allowable for the burn. These ranges allow flexibility in order to account for daily weather variation. *Example- Relative humidity desired range 40 percent to 60 percent, maximum range 20 percent to 80 percent.* 

For more information about weather conditions for prescribed burning, see Extension Fact Sheet NREM-2878, *Fire Prescriptions for Maintenance and Restoration of Native Plant Communities.* 

#### (http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-2704/NREM-2878web.pdf)

Smoke Management Considerations: Identify and list smoke sensitive areas around the burn unit and with what wind direction and dispersion conditions will be needed to reduce smoke impacts. Example- Due to road on west side of burn unit and homes to the south of burn unit, a west or southwest wind is needed to reduce smoke impacts. Attach a smoke dispersion forecast map to the burn plan. Smoke sensitive areas can be roads, communities, airports and houses.

Other Smoke Management Considerations: Category day can be determined from the National Weather Service Fire Weather websites Go to <u>www.weather.gov</u>, select your region from map, then select fire weather).

**Dispersion Condition:** Information can be found at sites like OK-Fire (<u>http://okfire.mesonet.org/public/?cat=smoke</u>) or Kansas Flint Hills Smoke Management (<u>http://www.ksfire.org</u>). For more information about smoke management see Extension circular E-1008, *Smoke Management for Prescribed Burning*. (<u>http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-5672/E-1008%20Smoke%20Management.pdf</u>)

**Pre-Burn Checklist:** This allows the planner to determine if there are potential problems within or around the burn unit and what could be done to reduce or eliminate them. *Example* – *Brush piles are present along firebreaks and will be pushed a minimum of 300 feet inside the burn unit.* 

**Observed Weather:** On the day of the burn, record onsite weather conditions before, during and after the burn.

**Equipment:** List equipment that is needed or might be needed to conduct the burn. It also provides area for recording what was actually on the burn.

**Crew Members:** List the number of people needed to safely conduct the burn. On the day of the burn, record names of the people comprising the burn crew.

**Ignition Plan:** Describe the ignition sequence(s) required to ignite the burn safely. This forces the planner to consider in what sequence the burn crew(s) will move around the burn unit igniting the fire and potential problems or hazardous areas that should be addressed. Describe each sequence in writing and draw them on a map of the burn unit. See sample plan on how to write ignition plan and draw an ignition plan map.

**Go-No Go Check List:** List items needed and tasks to be done prior to conducting the burn. The fireboss should review this list prior to conducting the burn to make sure everything is in order.

**Escaped Fire Plan:** This is a step-by-step action plan describing what should be done if the fire escapes and the proper procedures for controlling an escaped fire.

Signature Box: Signed and dated by the preparer when the plan is finished

Prescribed Burn Notification Form: In Oklahoma, this form should be completed and attached to the burn plan. Doing so may limit liability in the event of an escaped fire. A copy of this form should also be filed with the nearest rural volunteer fire department and if in the forestry protection area, a copy must be provided to the local Forestry Services Division office or representative. This portion of the electronic fire plan version will automatically be filled in with information from the fire plan. The only blank that will need to be filled in is the date of previous burn. For more information see Forestry Services Division publication *"Notification Requirements and Considerations for Safe and Lawful Prescribed Burning in Oklahoma."* (http://www.forestry.ok.gov/Websites/forestry/Images/Burn%20within%20the%20law,%202009%20Update.pdf).

The following sample prescribed burn plan is to show how the burn plan is filled out, along with examples of smoke management, written and mapped ignition plans.

## PRESCRIBED BURNING PLAN

Information			
Landowner/Lessee In	nformation	S. Marthall	
Name: OSU Research Range		Pho	one: 405.744.5442
Address: 4922 S Coyle Road		Cou	unty: Payne
City: Stillwater			Zip: 74074
Description of Area t	o be Burned		
Pasture Name/Numb	er: Section 17		
Vegetation Present: Tallgrass prairie, s	cattered oaks and brus	sh, few large cedars	Acres: 160
Legal Description:	Section: SW/4 17	Township: 18N	Range: 1E
Directions from near	est town:		
8 miles W of Stillwa	ater on Hwy 51 to Coyl	e Rd, then 4.5 miles s	south, turn east into unit
			- Mar 2011
Range of Projected E	Burn Dates: 10 Jan-15 M	lay 2014 Actual B	urn Date: 10 April 2019

as, Contact	Contact Location		Phone Number n/a	
Phone Number		Date	Date, Time and Person Notified	
372.0497		10 Bori	1.8:10Am FRANK	
466.3741		10 April	1,8:12 Am BradA	
Phone	Number	Date	, Time and Person Notified	
555.5555		9400	17.30pm J.Smith	
777.7777		9101	18:0500 Mrs. Done	
888.8888		10%	il 7:45Am P.Pete	
Phone	Number	Date	, Time and Person Notified	
	372.0497 466.3741 Phone 555.5555 777.7777 888.8888	n/a           Phone Number           372.0497           466.3741           Phone Number           555.5555           777.7777	n/a           Phone Number         Date           372.0497         /0 / 0 / 0 / 0 / 0 / 0 / 0 / 0 / 0 / 0	

### **Pre-Burn Preparations**

 Describe management needed prior to burn in order to successfully accomplish burn and meet objectives. (Grazing management, freguard preparation, burning of bush piles; etc.)

Continue grazing with proper stocking rate. Cut down and drag large cedars (>6 ft tall) within 300 ft of North and East sides of burn unit to reduce spotfire potential.

Firebreak Types and Location Around Burn Unit

North and East side-mow 20 ft wide path where possible, inside fence just after grass goes dormant. Then disk a 10' wide firebreak in the mowed path, leaving as much mowed area inside the burn unit to reduce fire intensity when igniting. South and West sides-use existing county roads

<b>Fuel Conditions</b>		1					
Desired Actual (day				tual (day of bur	of burn)		
Fine Fuel Amount		Light [	Moderate	Heavy	Light	Moderate	Heavy
Fuel Continuity	1	Good [	Fair	Poor	Good [	Fair	Poor

Prescribed Weather Conditions					
Prescription	Desired Range	Maximum Range			
Temperature (F)	50-80	35-90			
Relative Humidity (%)	40-60	30-80			
Wind Direction	west or southwest				
Wind Speed (mph)	4-15	4-15			

Sensitive	Areas Identified	Direction from B	urn Area	Distance to Area	
neighbors houses r		north	1	00 yards to .2	5 miles
		west	r	next to unit	
Stillwater		northeast		0 miles	
highway 51		north		4.5 miles	
Other Smoke Mana	gement Considerations				
Category Day	Preferred Category Day	3 or greater	Actual Catego (day of burn)	ory Day	4
Dispersion Conditions	Preferred Dispersion Conditions	moderately good or greater	Actual Disper Conditions (d		Good

1111

	Present in burn unit	If Present Action Needed / Recommended	Accomplished
Brush Piles			φ.
Pens/Barns	$\checkmark$	metal corrals in NW corner should not be a problem	X
Oil/Gas/Pipelines/ Utility Structures			
Fences	$\checkmark$	will burn through fences on South and West sides not a problem	DA I
Homes/Cabins			
Windmills/Watering Facilities			
Feeding Facilities/Hay Storage			
Equipment/Vehicles			
Wildlife Habitat Areas			
phone junction box	$\checkmark$	lesated at 5W corner of burn unit, weedeat around junction box to remove fuel and wet it down prior to burning	$\square$

Burn Site Observed We	eather Conditions		ANTER STREET	Real France
Observation Time	9:05 Am	9:45 Am	10:30A~	11:154~
Temperature	51	55	59	64
Relative Humidity	62%	51%	45%	40%
Wind Direction	SW	WSW	SW	<n sn<="" td=""></n>
Wind Speed	6-8	8-9	8-9	9-10

Equipment	Desired on burn	Number Available at Burn	Comments/Other Considerations
Drip Torch/Ignition Device	$\checkmark$	4	
Matches\Lighter	$\checkmark$		
Shovel			
Rake	$\checkmark$	2	
Backpack pump	$\checkmark$	1	
Flapper/Swatter	$\checkmark$	1	
Chainsaw			
Leaf Blower	$\checkmark$	1	
Pumper Units/Sprayers	$\checkmark$	2	will have 1 200 gallon unit and 1 300 gallon unit mounted on trucks
ATV Sprayers			
ATV/4-Wheelers			
Utility Vehicle (UTV)	$\checkmark$	2	these have 55 gallon sprayers on them
Torch Fuel	$\checkmark$	5 gallon	
Pump Fuel	$\checkmark$	2 gallon	
2-Cycle Fuel	$\checkmark$	1 gallon	
Weather Instrument/Kit	$\checkmark$	1	
Two-Way Radios	$\checkmark$	6	If not enough radios for entire crew, radios will be spread out along fireline to facilitate communication
Cell Phone	$\checkmark$	1	
Drinking water	$\checkmark$	5 gallon	
Fence Pliers/Bolt Cutters		4	should have 1 pair in each vehicle/UTV
Road Signs	$\checkmark$	2	place on Coyle Road N and S of unit
Stop/Go Signs	$\checkmark$	2	have in case issue arises that we need to control traffic on Coyle Road
NOAA Radio			
	H		

Crew Members					
Crew Members Present					
T. Bidwell					
D Schsta					
K. Stevens					
J. Wein					
D. Elmore					
Stanspir					
A Gourlex					
. /					

### **Ignition Plan**

Draw and write ignition plan and add as attachment to fire plan

Go-No Go Check List If answer to any is NO, do not burn until corrected					
Firebreaks prepared	Yes No	Adequate crew available	Yes No		
Neighbors contacted	Yes No	Smoke management goals within prescription	Yes No		
Fire departments contacted	Yes No	Crew briefed on plan and safety hazards	Yes No		
Weather conditions within prescription	Yes X No	Can burn objectives be met	Yes No		
Equipment ready	Yes No	All hazards in unit identified	Yes No		

Alfachment

### **Escaped Fire Plan**

- 1. If fire escapes all ignition stops until escape is contained, unless needed to control the fire
- Use standard fire suppression methods to control escaped fire
   If fire cannot be contained by standard methods other tactics will be used (i.e. backfires)
- 4. If other methods do not work or are not practical fire boss or designated person will call for assistance

This Prescribed Burn blan was prepared by:	
Name: DW WEIP	Date: 15 Dec 2013

The prescribed burn described below is to be conducted according to the information provided here and the Oklahoma forestry code (title 2, sections 16-28 and 16-28.2 of the state statutes). File the original copy of the notification plan with the local rural fire department, and keep a copy for your records. Inside the designated forest protection area in eastern Oklahoma (refer to list of forestry offices), also provide a copy to the forestry division representative.

#### Prescribed Burning Notification Plan

Name: OSU	Research	Range
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Address: 4922 S Coyle Road

County: Payne

74074

OK

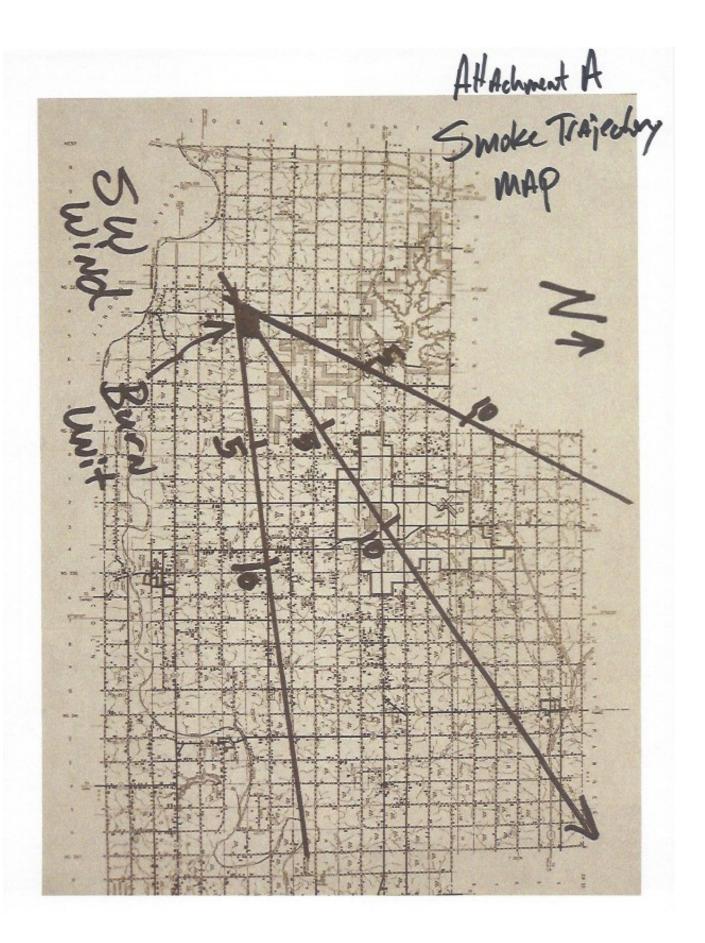
Telephone: 405.744.5442

City, State, Zip Code: Stillwater

Ranch Name (if any):

Description of area to be burne	<sup>d:</sup> SW/4 17	18N	1E
Approximate acres to be burne	<sup>d:</sup> 160		
Written description of location:	8 miles W of 9 south, turn ea		Hwy 51 to Coyle Rd, then 4.5 miles
Projected time frame: 10 Jan-15 May 2014			
Date of previous burn: March 2	012		
Objectives to be accomplished Control eastern redcedar, impr			

Contact information:			
Rural Fire Department Name Stillwater FD	Location	Phone No. 372.0497	
Coyle VFD		466.3741	
Forestry Division Office (for p n/a n/a Adjoining landowners:	protection areas):		
J. Smith	555.5555		
F. Jones	777.7777		
P. Pete	888.8888		



#### Attachment B

With a southwest wind ignition will start in the northeast corner at point A (see attachment C). Crew will be divided into two groups, crew 1 (east) and crew 2 (west). Equipment will be divided between both groups with 1 UTV and the 200 gallon pumper going with Crew 1 since that firebreak is rough and harder to traverse. The 300 gallon pumper and other UTV will go along the north line. Ignition will consist of strip heaffires using a minimum of 2 torches starting at Point A with Crew 1 going south along the east line stopping at Point B and Crew 2 going west along the north line stopping at Point C. A blackened area of 300 ft wide minimum will need to be established before either Crew can proceed. The UTV's will patrol their respective lines, while the pumpers will be positioned in problem areas and moved as needed. Once adequate black is established one torch from each crew will begin igniting the headfire and meet at Point D. While the headfire is being ignited equipment and crew will continue to monitor the east and north lines. Equipment will be moved to the west and south lines as needed. Crew 2 should take extra caution along the west side due to traffic on Coyle Road.



## PRESCRIBED BURNING PLAN

Information				
Landowner/Lessee In	Iformation			
Name:			Phone:	
Address:			County:	
City:		Sta	ate:	Zip:
Description of Area to	o be Burned			
Pasture Name/Numbe	er:			
Vegetation Present:				Acres:
Legal Description:	Section:	Township:		Range:
Directions from near	est town:	-		
Range of Projected B	urn Dates:		Actual Burn D	ate:
Objectives to be Acce	omplished			

Notification				
When burning within Forest Protection Area Oklahoma Dept. of Ag. Forestry Services:	s, Contact	Locatio	n	Phone Number
Fire Departments Pho		one Number	Date	, Time and Person Notified
Adjoining Landowners	Pho	one Number	Date	, Time and Person Notified
				,
Others, as Needed (Sheriff, OHP, DEQ, Utility Companies, Oil and Gas Leases)		one Number	Date	, Time and Person Notified

Pre-Burn Preparations
- Describe management needed prior to burn in order to successfully accomplish burn and meet objectives. (Grazing management, fireguard preparation, burning of bush piles; etc.)

Firebreak Types and Location Around Burn Unit

Fuel Conditions						
	Desired Actual (day of burn)					
Fine Fuel Amount	Light Moderate Heavy	Light Moderate Heavy				
Fuel Continuity	Good Fair Poor	Good Fair Poor				

Prescribed Weather Conditions						
Prescription	Desired Range	Maximum Range				
Temperature (F)						
Relative Humidity (%)						
Wind Direction						
Wind Speed (mph)						

Smoke Management Considerations							
Sensitive.	Areas Identified	Direction from Bu	rn Area	Distance to Ar	ea		
Other Smoke Manaç	gement Considerations						
Category Day	Preferred Category Day		Actual Categ (day of burn)				
Dispersion	Preferred Dispersion	Actual Dispersion					
Conditions Conditions				day of burn)			
Attach Smoke Scree	ening Map or Smoke Dispers	ion Forecast to plan	as needed				

Pre-Burn Checklist						
	Present in burn unit	If Present Action Needed / Recommended	Accomplished			
Brush Piles						
Pens/Barns						
Oil/Gas/Pipelines/ Utility Structures						
Fences						
Homes/Cabins						
Windmills/Watering Facilities						
Feeding Facilities/Hay Storage						
Equipment/Vehicles						
Wildlife Habitat Areas						

<b>Observed Weather</b> For Pre & Post-Burn Weather Monitor Available Weather Sources				r Sources	
Burn Site Observed W	leather Co	nditions			
Observation Time					
Temperature					
Relative Humidity					
Wind Direction					
Wind Speed					
ATTACH COPY OF OK-FIRE PRESCRIPTION PLANNER AND OR WEATHER FORECAST					

Equipment	Desired on burn	Number Available at Burn	Comments/Other Considerations
Drip Torch/Ignition Device			
Matches\Lighter			
Shovel			
Rake			
Backpack pump			
Flapper/Swatter			
Chainsaw			
Leaf Blower			
Pumper Units/Sprayers			
ATV Sprayers			
ATV/4-Wheelers			
Utility Vehicle (UTV)			
Torch Fuel			
Pump Fuel			
2-Cycle Fuel			
Weather Instrument/Kit			
Two-Way Radios			
Cell Phone			
Drinking water			
Fence Pliers/Bolt Cutters			
Road Signs			
Stop/Go Signs			
NOAA Radio			

Crew Members						
Crew Members Present						

### Ignition Plan Draw and write ignition plan and add as attachment to fire plan

Go-No Go Check List If answer to any is NO, do not burn until corrected					
Firebreaks prepared	Yes No	Adequate crew available	Yes No		
Neighbors contacted	Yes No	Smoke management goals within prescription	Yes No		
Fire departments contacted	Yes No	Crew briefed on plan and safety hazards	Yes No		
Weather conditions within prescription	Yes No	Can burn objectives be met	Yes No		
Equipment ready	Yes No	All hazards in unit identified	Yes No		

### **Escaped Fire Plan**

- 1. If fire escapes all ignition stops until escape is contained, unless needed to control the fire
- 2. Use standard fire suppression methods to control escaped fire
- 3. If fire cannot be contained by standard methods other tactics will be used (i.e. backfires)
- 4. If other methods do not work or are not practical fire boss or designated person will call for assistance

This Prescribed Burn plan was prepared by:		
Name:	Date:	

The prescribed burn described below is to be conducted according to the information provided here and the Oklahoma forestry code (title 2, sections 16-28 and 16-28.2 of the state statutes). File the original copy of the notification plan with the local rural fire department, and keep a copy for your records. Inside the designated forest protection area in eastern Oklahoma (refer to list of forestry offices), also provide a copy to the forestry division representative.

#### **Prescribed Burning Notification Plan**

Name:	Telephone:	
Address:	County:	
City, State, Zip Code:		
Ranch Name (if any):		
Description of area to be burned:		
Approximate acres to be burned:		
Written description of location:		
Projected time frame:		
Date of previous burn:		
Objectives to be accomplished through the prescribed burn:		

Contact information:				
Rural Fire Department Name	Location	Phone No.		
Forestry Division Office (for protection areas):				
Adjoining landowners:				

## The Oklahoma Cooperative Extension Service Bringing the University to You!

The Cooperative Extension Service is the largest, most successful informal educational organization in the world. It is a nationwide system funded and guided by a partnership of federal, state, and local governments that delivers information to help people help themselves through the land-grant university system.

Extension carries out programs in the broad categories of agriculture, natural resources and environment; family and consumer sciences; 4-H and other youth; and community resource development. Extension staff members live and work among the people they serve to help stimulate and educate Americans to plan ahead and cope with their problems.

Some characteristics of the Cooperative Extension system are:

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- It is administered by the land-grant university as designated by the state legislature through an Extension director.
- Extension programs are nonpolitical, objective, and research-based information.
- It provides practical, problem-oriented education

for people of all ages. It is designated to take the knowledge of the university to those persons who do not or cannot participate in the formal classroom instruction of the university.

- It utilizes research from university, government, and other sources to help people make their own decisions.
- More than a million volunteers help multiply the impact of the Extension professional staff.
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- It is not a regulatory agency, but it does inform people of regulations and of their options in meeting them.
- Local programs are developed and carried out in full recognition of national problems and goals.
- The Extension staff educates people through personal contacts, meetings, demonstrations, and the mass media.
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