

## MINUTES OF THE SENATE NATURAL RESOURCES COMMITTEE

The meeting was called to order by Chairwoman Carolyn McGinn at 8:20 a.m. on March 4, 2010, in Room 144-S of the Capitol.

All members were present.

## Committee staff present:

Corey Carnahan, Kansas Legislative Research Department  
Raney Gilliland, Kansas Legislative Research Department  
Kristen Kellems, Revisor of Statutes  
Stanley Rasmussen, U.S. Army, Senate Fellow  
Grace Greene, Committee Assistant

## Conferees appearing before the Committee:

Dr. Clinton Owensby, Kansas State University  
Gary Naughton, retired Kansas State Forester, K-State Research and Extension  
Steve Swaffar, Director of Natural Resources, Kansas Farm Bureau  
Mike Beam, Senior Vice President, Kansas Livestock Association  
Dale Goter, City of Wichita  
John Mitchell, Director Division of Environment, Kansas Department of Health and Environment  
Gordon Stull, Haynesville Surface and Mineral Owners Association, Pratt County Counselor  
Dwight Adams, Pratt County Commissioner  
Dorothy Trinkle, President, Haynesville Surface and Mineral Owners Association  
Dennis Huff, surface and mineral owner

## Others attending:

See attached list.

Raney Gilliland, Legislative Research Department, briefed the Committee on **SCR 1623 - Urging the Congress to exempt the Flint Hills tallgrass prairie from any United States EPA smoke management plan.**

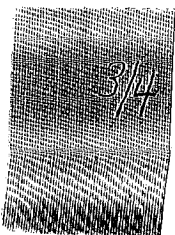
Dr. Clinton Owensby, Kansas State University (Attachment 1) addressed the Committee as a proponent of the resolution. Dr. Owensby discussed the impacts of the timing of burns and the regularity of the burns. Dr. Owensby addressed the importance of burning at the appropriate time; including effects on soil, quality of the pastures, controlling species growth, and total steer gain, specifically that early spring burning does not increase productivity for the animals.

Dr. Owensby stated that the regularity of burning is also an important factor to consider. Dr. Owensby stated that increase in productivity from burning is only realized in the year that burning takes place. Thus, timing and regularity of burning has important economic impacts, as well. Dr. Owensby stated that it is important to burn consecutively for several consecutive years to control species growth and to maintain the tallgrass prairie.

Gary Naughton, retired Kansas State Forester, K-State Research and Extension (Attachment 2) addressed the Committee as a proponent of the resolution. Mr. Naughton discussed the history of Flint Hills burning to maintain the prairie ecosystem for wildlife habitat, aesthetic appeal, financial productivity of livestock operations, and the overall economic contribution to the State of Kansas.

Steve Swaffar, Director of Natural Resources, Kansas Farm Bureau (KFB) (Attachment 3) addressed the Committee as a proponent of the resolution. Mr. Swaffar stated that KFB supports the concept contained within the resolution as an alternative or addition to a smoke management plan. Mr Swaffar stated that KFB will work to educate its members on those issues and to devise a practical and manageable smoke mitigation plan.

Mike Beam, Senior Vice President, Kansas Livestock Association (KLA) (Attachment 4) addressed the Committee as a proponent of the resolution. *Mr. Beam stated that burning needs to be done on a continual*



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Minutes of the Senate Natural Resources Committee at 8:20 a.m. on March 4, 2010, in Room 144-S of the Capitol.

basis. Mr. Beam discussed ecological concerns of reduced burning, economic impacts of burning and KLA's plan for a smoke management plan. Mr. Beam stated that KLA prepared recommended amendments to the resolution, included with the testimony.

Dale Goter, City of Wichita (Attachment 5) addressed the Committee concerning the resolution. Mr. Goter stated that the City of Wichita was generally supportive of the resolution and acknowledges the importance of periodic prescribed burning; however, the City of Wichita is concerned that the current version of the resolution does not address the ozone issues faced by the Wichita Metropolitan Statistical Area and other urban communities in Kansas. Mr. Goter discussed the importance of developing and implementing a statewide smoke management plan.

John Mitchell, Director Division of Environment, Kansas Department of Health and Environment (KDHE) (Attachment 6) addressed the Committee concerning the resolution. Mr. Mitchell stated that KDHE provided a draft of additional amendments for the resolution, which would require the Environmental Protection Agency (EPA) to exclude air monitoring data from use in determining exceedances and National Ambient Air Quality Standards violations, where the emissions are from prairie burning in the tallgrass prairie in the Flint Hills.

Kristen Kellems, Revisor of Statutes, briefed the Committee on SB 553 - Recovering migrating natural gas.

Ms. Kellems took questions from the Committee.

Gordon Stull, Haynesville Surface and Mineral Owners Association, Pratt County Counselor (Attachment 7) addressed the Committee as a proponent of the bill. Mr. Stull discussed background of the proposed legislation, public safety, rights of capture, and property rights issues. Mr. Stull stated he would like the Committee to give the landowners a fighting chance in the venues to stand up for their property rights, and also help the county not lose tax money generated from the companies.

Dwight Adams, Pratt County Commissioner (Attachment 8) addressed the Committee as a proponent of the bill. Mr. Adams stated that the County Commission needed to balance the following issues: potential loss of over \$1 million in ad valorem property taxes collected each year from the wells in the area, the potential loss of jobs from Northern Natural Gas Company, and the interests of the landowners who may see a drop in the value of their land. Mr. Adams stated that Pratt County aims for the problem to be resolved to protect the property owners while also protecting employees of Northern Natural Gas Company.

Dorothy Trinkle, President, Haynesville Surface and Mineral Owners Association (Attachment 9) addressed the Committee as a proponent of the bill. Ms. Trinkle stated that the bill was introduced to protect surface and mineral owner's rights. Ms. Trinkle stated that only one of the thirty five well owners have received a check from the mineral royalties in the past five months.

Dennis Huff, surface and mineral owner (Attachment 10) addressed the Committee as a proponent of the bill. Mr. Huff stated concerns that his land will lose value and the loss of rights to develop the farm as they desire. Mr. Huff stated that he does not earn royalties from the minerals; however, he would lose the ability to mortgage the minerals or sell the land for the proper value without passage of the bill.

Mr. Stull, Mr. Huff, and Ms. Trinkle took questions from the Committee.

The following provided written testimony:

Chris Cardinal, Legislative Coordinator, Kansas Sierra Club (Attachment 11)

Kansas Gas Service, (Attachment 12)

Ruth Urban, (Attachment 13)

Clint McGuire, (Attachment 14)

Kermit Brown, (Attachment 15)

Sonja Staab, (Attachment 16)

Erick Nordling, Southwest Kansas Royalty Owners Association (Attachment 17)

Jeffrey L. Carmichael, Morris, Laing, Evens, Brock & Kennedy Chartered on behalf of KIOGA (Attachment 18)

CONTINUATION SHEET

Minutes of the Senate Natural Resources Committee at 8:20 a.m. on March 4, 2010, in Room 144-S of the Capitol.

Diana Pratt, (Attachment 19)  
Atmos Energy, (Attachment 20)

The next meeting is scheduled for March 10, 2010.

The meeting was adjourned at 9:30 a.m.

# SENATE NATURAL RESOURCES COMMITTEE

## Guest Roster

March 4, 2010  
(Date)

John Peterza	Capital Structure,
Jed Blaves	S W Gas Storage P W Eastern
Karen Benson	Panhandle Energy
Tom James	Southern Star
Benny H. Briffle	Southern Star
Paul Jones	" "
John W. Linegar	Perreger + Smith
Rex Buchanan	Ks. Geological Survey
Katie Howard	Ks Dept. of Agriculture
LARRY BERG	MIDWEST ENERGY
Dennis Huff	Farmer
Donna Huff	"
Allie Devine	Ks. Livestock Association
Dwight Adams	Pratt Co. Comm
D. J. McMurry	PRATT CO. APPRAISER
Jerry McArthur	Southern Star
Leo Haynos	KCC
Wes Ashton	Black Hills Energy
STEVE JOHNSON	ONEOK
Tom Swallow	KCC
Doug Collins	KCC
Jim BARTLING	ATMOS ENERGY
Doug Wareham	KBA
John Denby	Ks Livst. Ass'n

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# SENATE NATURAL RESOURCES COMMITTEE

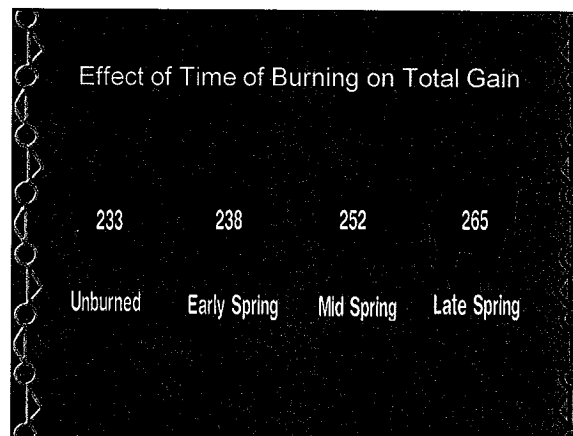
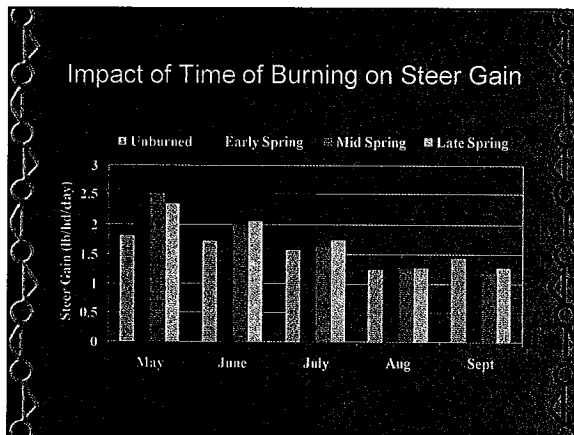
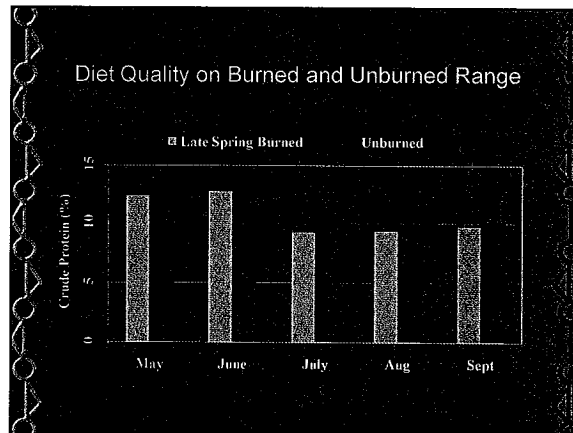
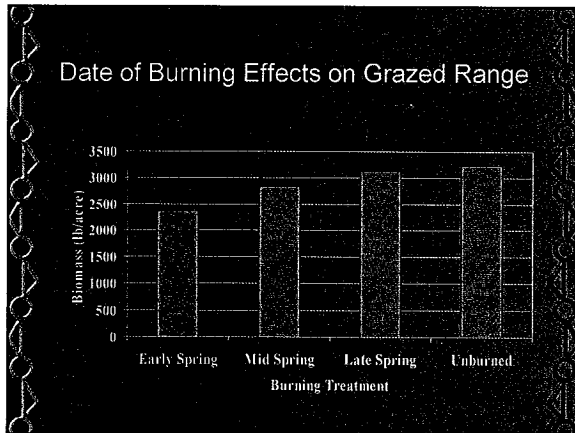
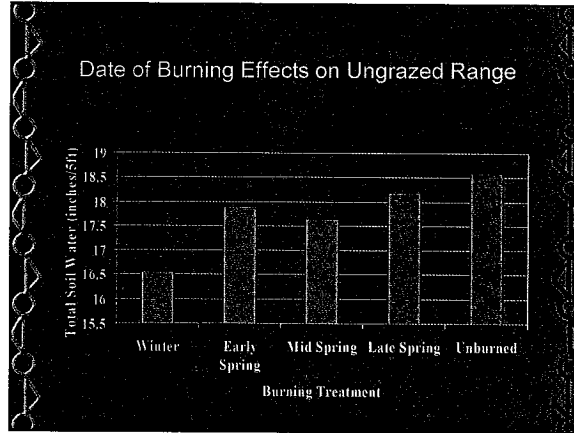
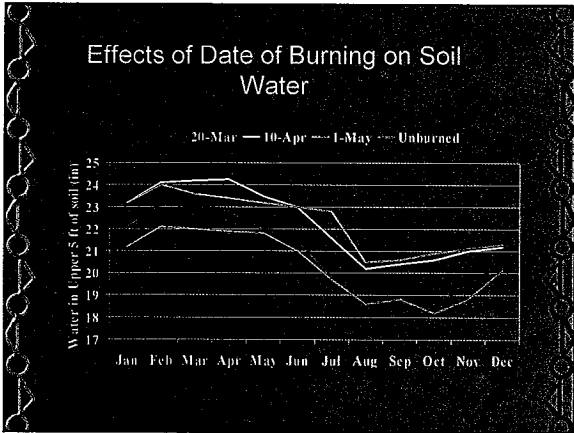
## Guest Roster

March 4, 2010

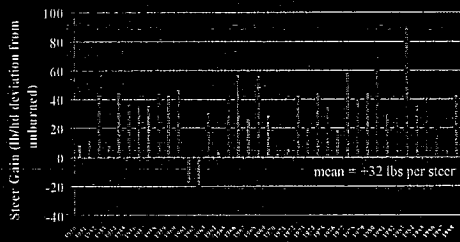
(Date)

TOM DAY	KCC
DOUG LOUIS	KCC
DAN FREDMUND	KCC
Gary Anderson	Siema Club
Verathy Trumble	Haysville S+MO
Don Trumble	" "
Ruth Meyer Urban	" "
Ed Cross	KIOGA
Mick Urban	Kansas Gas Serv
Sean Miller	CAPITAL STRATEGIES
Tom Conley	GPA
Steel Swatter	KFB
Chris Cardant	KS Siem Club
Levi Henry	Sandstone Group LLC
Aroney Carlin	Rep. 66th
John McShell	KDHE
Doug Swain	Haysville Surface & Mineral Business
<del>XXXXXXXXXX</del>	
Mark Hewitt	North Natl Gas Corp
Tom Mote	" "
Jim Talcott	" "
Randal Brush	William M Cobb & Assoc. Inc
Michael T. Loeffler	NORTHERN NATURAL GAS CO.
JUSTIN GILPIN	KS Association of Wheat Growers
Lee Stanton	Northen Natural Gas Co
Bill Brady	NAG

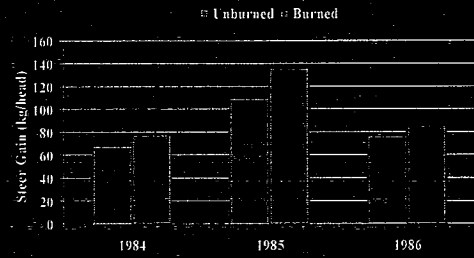
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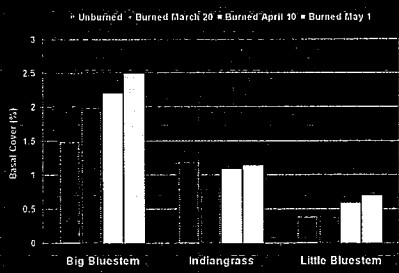
### Steer Gains - Late Spring Burned minus Unburned



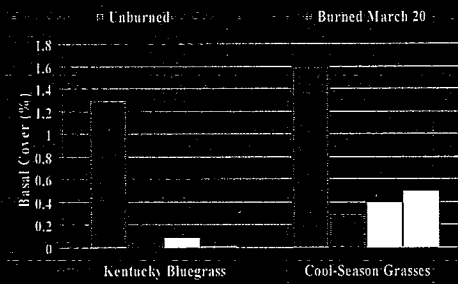
### Effect of Burning on Steer Gain



### Effects of Date of Burning on Basal Cover



### Fire Effects on Cool-Season Grasses

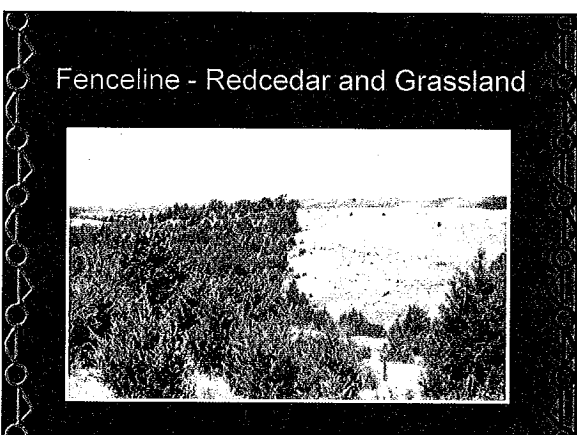
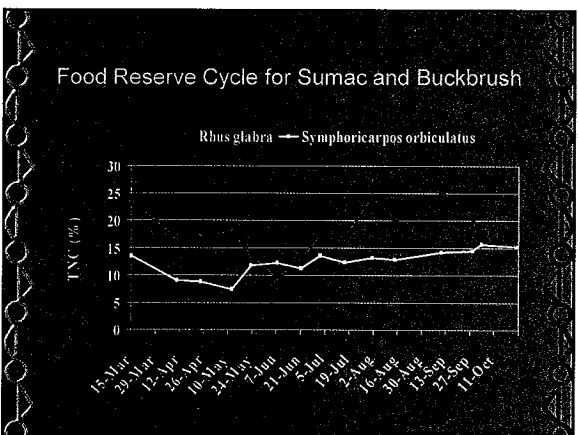
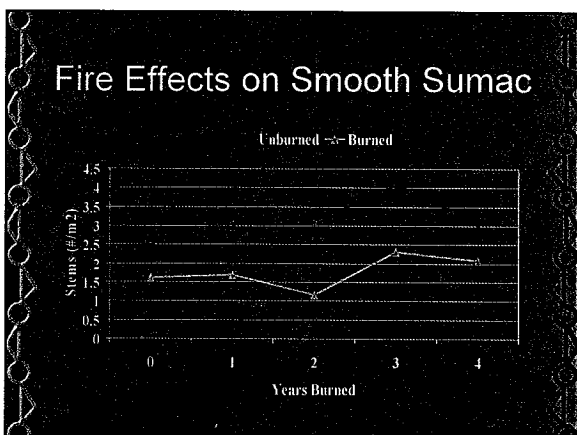
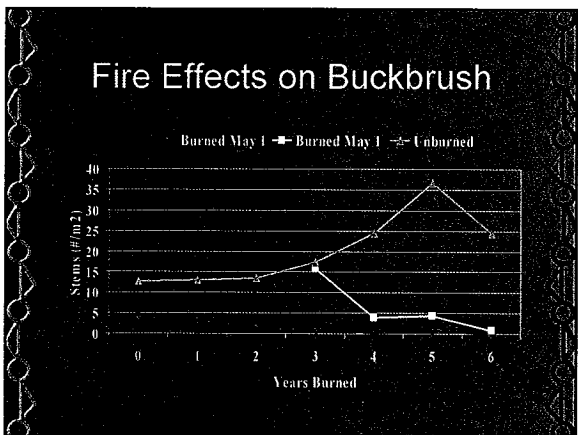
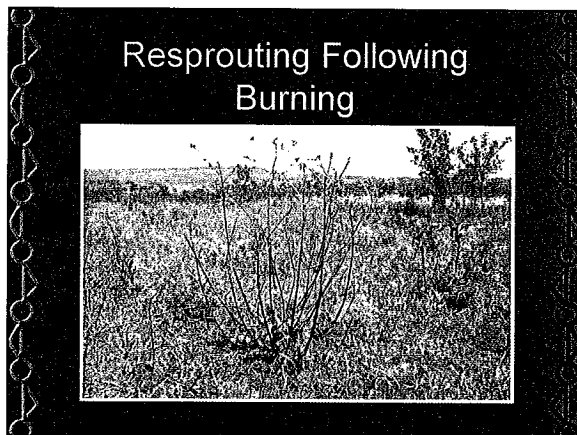
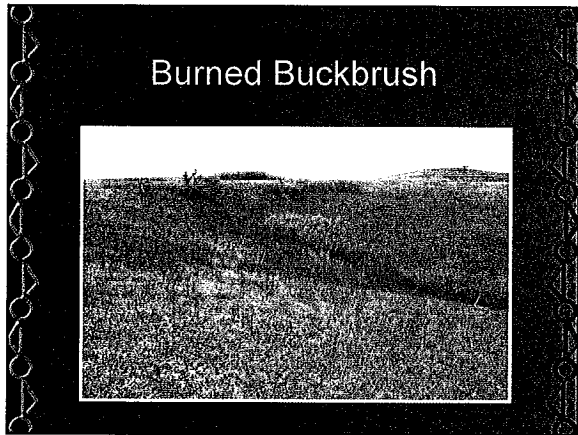


### Fenceline Between Burned and Unburned

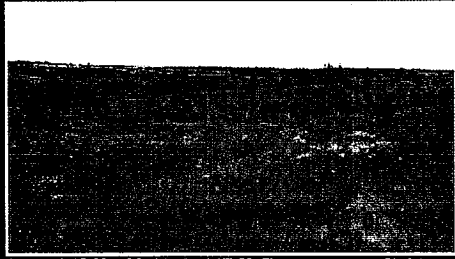


### Partial Burning of Dogwood

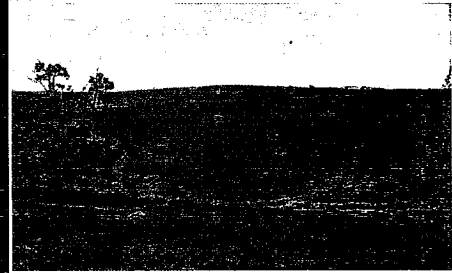




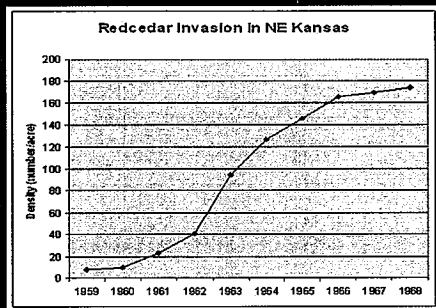
### Redcedar Kill from Fire



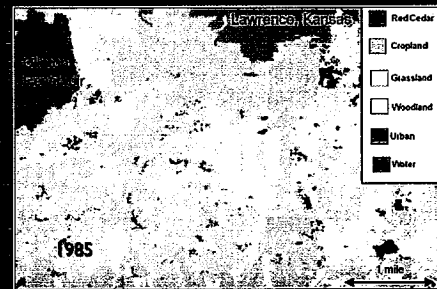
### Fire Kill of Small Redcedars



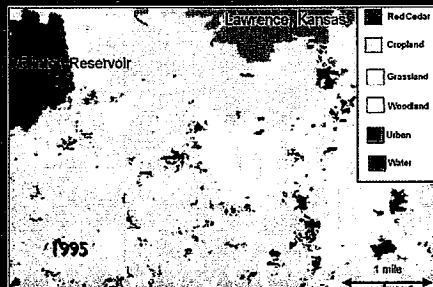
### Redcedar Invasion Rate



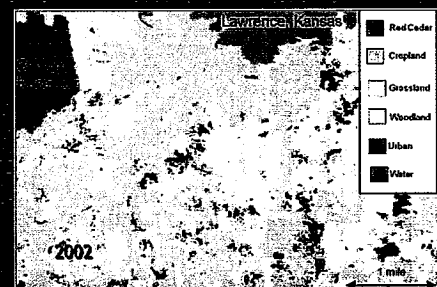
### Redcedar Satellite Image



### Redcedar Satellite Image



### Redcedar Satellite Image



The **Flint Hills Region** is an irregular ecosystem of about 4 1/2 million acres lying roughly between US 75 on the east and US 81 highway on the west. Parts and pieces of this ecosystem are found in at least 14 counties of Kansas and one county of Oklahoma. During my lifetime, I have seen this area gradually and surely degraded from tallgrass prairie to other uses as it is encroached upon by scrubby trees and brush. Part of this loss of prairie grass is due to weather conditions that prevent periodic burning to maintain grass vigor and destroy invading woody plants. Another part of the loss is due to land use conflicts and 'nuisance' claims created by a couple of generations new neighbors. In my view, the Flint Hills will continue to shrink away.

Since the Territory of Kansas was opened for settlement in 1854, farmers and ranchers have seen the need for the Tallgrass Prairie Flint Hills to be periodically burned in order to maintain the health of the grasses and to prevent the encroachment of trees and brush.

This practice is not only important for critical wildlife habitat, the natural aesthetic appeal of the region, and the financial productivity of livestock operations, but it is also of substantial economic importance to the State of Kansas.

The ancient practice of the Native Tribes, burning off the grass in early spring, not only encouraged the migration of the native bison into the tender new grass, but was seen by our early settlers as beneficial to the perpetuation of this prairie ecosystem.

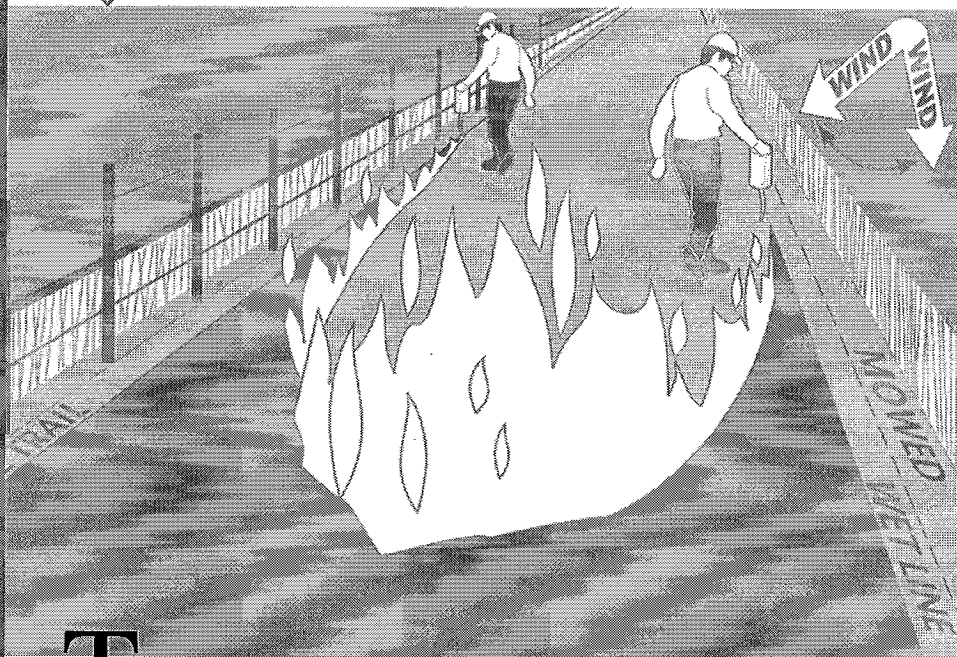
We don't know precisely when this system developed, but a good estimate is that it progressed northward after the end of the last glacial period - about 12,000 years ago - as the climate gradually warmed. Specifically, this ecological niche is found on soils formed from cherty limestone of the Permian Period, more than 225 million years ago (before the appearance of dinosaurs) and almost 150 million years before the formation of the Rocky Mountains.

The season for prescribed burning in the Flint Hills is specifically timed to correspond to the spring season, local weather conditions, and the growth stage of the grasses and invading woody plants. At the southern extreme of the region, the average burning period begins during the first week of April. At the northern end of the region, the burning season usually begins 20 to 25 days later. Farmers and ranchers know that burning too early will not deter the invasion of woody plants, and that burning too late will cause uneven results which can adversely affect the recovery of the grasses. The best 'indicator' is when the redbud trees are in flower locally.

The average Flint Hills pasture could sustain annual burning (at the right time) but the unpredictability of local weather conditions means that the average pasture will burn only twice in five years. I have been a **forester** for over 50 years. But that does not mean '**tree-hugger**', and I am very disturbed by the invasion of scrawny, brushy trees that will produce nothing of value on the Kansas Flint Hills.



# Prescribed Burning Planning and Conducting



**T**he role of fire has come full circle in managing the grasslands of the Great Plains. Wildfires occurred naturally before the settlers arrived. As settlements grew and the rangeland was plowed and fenced, the wildfires became smaller and less frequent. Over the years, some ranchers and researchers have continued to work with fire. Research and experience have shown that when properly applied, fire can benefit not only the grassland but also the animals that graze it.

With the benefits fire can provide also come dangers. Many dangers can be minimized by careful planning weeks or months in advance. A plan for burning should outline weather conditions, manpower, equipment, and other needs as well as how to conduct the burn.

Paul D. Ohlenbusch  
Extension Specialist  
Range and Pasture Management

Cooperatively developed by  
Kansas State University Agricultural  
Experiment Station and Cooperative  
Extension Service,  
Natural Resource  
Conservation Service-USDA, and  
Kansas Department of Wildlife and  
Parks

## Planning the Burn

Planning the burn involves determining what to burn and why, how, when, precautions to take, and conditions for a successful burn. The burn then can be carried out quickly when conditions are right.

### Area Inventory

Using an aerial photo or map of the area to be burned, draw in all features such as fences, buildings, powerlines, water sources, roads, and gates. This should include access routes to all parts of the area and to neighbor's property. Note features on the boundary of the planned burn area that will affect how to conduct the fire. These include steep slopes, impassable areas, fields, streams, rock ledges, livestock trails, roads, nearby buildings, and others. Next, mark areas that can be developed for fire-breaks, either burned or cleared; areas to be protected such as buildings and windbreaks; and areas which can best serve for setting the headfire.

Once this inventory is complete, it is possible to make decisions considering the other important factors.

### Weather Conditions

Weather has an overriding effect on a prescribed burn. Wind direction and speed, frontal passages, precipitation, relative humidity, and temperature affect how the fire will behave and how it should be conducted.

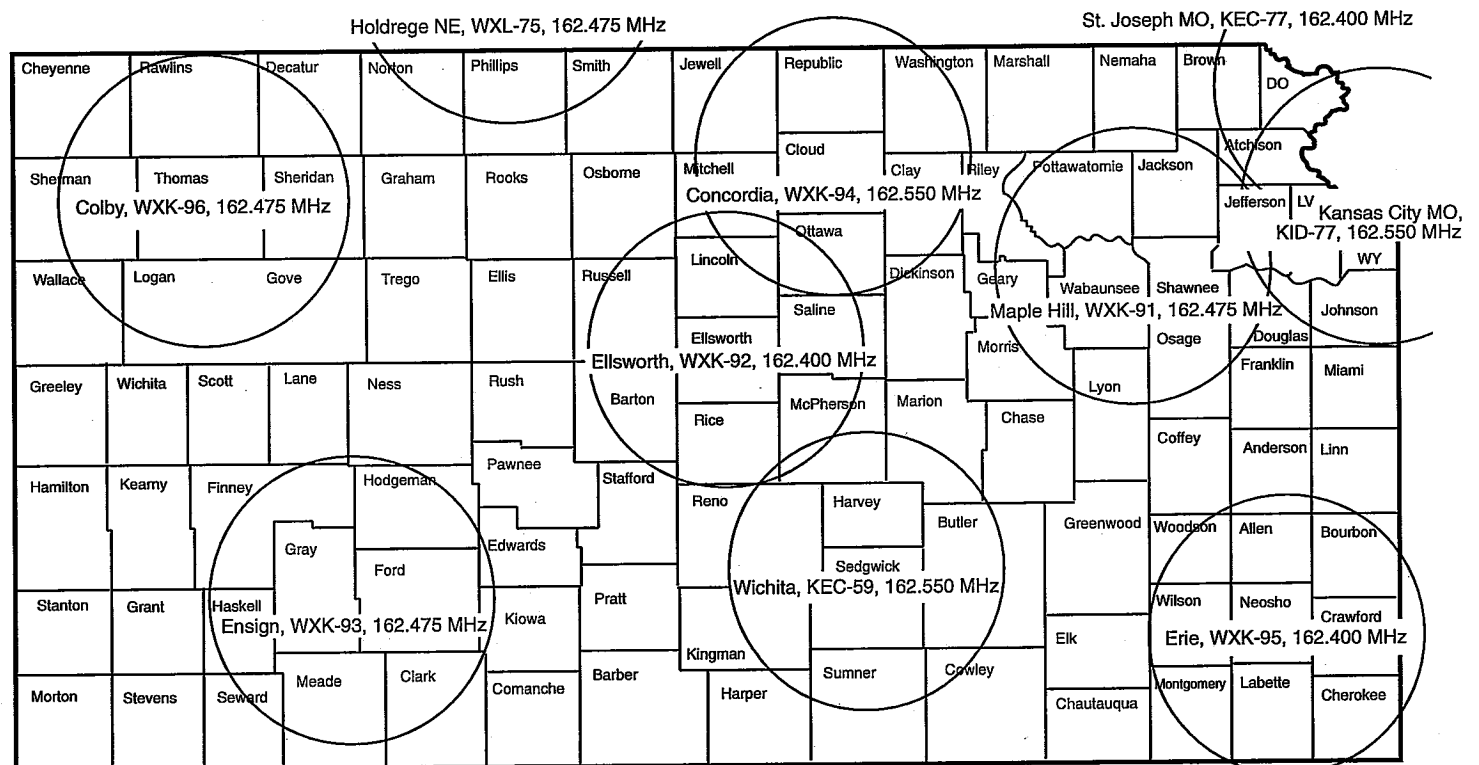
Consider wind direction and speed when evaluating the wind needed for a good burn. A wind speed of 5-15 mph is an ideal range for late spring burning. It is adequate to

allow the headfire to move across the soil surface fast enough to remove excess litter and accumulated growth. Physical features of the burn area determine the best wind direction. In general, choose a direction with the least hazards downwind. Consider natural barriers such as streams, rock ledges, fields, tree lines, and little used roads including pasture trails as ideal locations for fireguards. Locations with major hazards -nearby buildings, roads, highways, power lines and towns—as areas for the fire to move away from.

The Weather Bureau issues 24- and 48-hour forecasts, including temperature, wind direction and speed, anticipated wind changes, precipitation chances, and relative humidity. Weather information can be obtained from local radio stations, TV news reports, or the National Oceanographic and Atmospheric Administration (NOAA) Weather Radio.

Local radio stations and TV news should be used for obtaining 3- to 5-day outlooks to establish the exact burn date. Their reliability for accurate 24-hour forecasts varies greatly.

The Rangeland Fire Danger Index is a part of all weather forecasts during periods of dry weather. Five factors important to the ignition and spread of fire are used in computing the index. They are temperature, humidity, wind speed, cloud cover, and percent of green. Five categories are defined: low, moderate, high, very high, and extreme. The levels have the following meaning for prescribed burning:



**Figure 1.** Locations of the broadcast towers for NOAA Weather Radio stations in Kansas. The circle around each location represents the approximate boundary of the major reception area. Each station can be received outside the designated area if receiver is on higher ground.



**Low.** Virtually impossible for a fire to occur; precipitation or high humidity will prevent the ignition and/or spread of fire.

**Moderate.** Best conditions for a prescribed burn. Weather parameters are within acceptable and legal limits.

**High.** Marginal conditions for a prescribed burn. Wind speed or humidity will be beyond acceptable limits, reducing the chances of controlling the fire.

**Very High or Extreme.** DO NOT BURN! When these forecasts are issued, atmospheric conditions are such that a fire will move extremely fast and be large and hot. Control of fires using normal fire-fighting tactics will be extremely difficult if not impossible. Avoid burning under these conditions.

The best source of weather information is NOAA Weather Radio. Weather Radio is a 24-hour broadcast of the current weather conditions and forecasts. These broadcasts are received on special radios at three different frequencies (Figure 1). Weather radios are available from many sources.

As the time of burning approaches, listen to forecasts several times a day, especially late afternoon and evening forecasts. Make judgments on the basis of the forecasts and modify the plan according to existing conditions.

### Regulations and Safety

A safe burn involves planning, skill, and experience as well as knowing safety requirements and state regulations. To ensure that legal requirements are met, be aware of state regulations listed below. See "Prescribed Burning Safety," L-565, for safety measures. It is available from county Extension, Soil Conservation Service, or Wildlife and Parks offices.

### Manpower and Equipment

Once the plans for firebreak placement and headfire lighting are complete, estimate manpower and equipment needs. Neighbors often work together to burn so that everyone has as much help and equipment as possible. A minimum crew should be four people: one to light the fire, one to drive the sprayer, one to handle the sprayer hose, and one to follow up and make sure all fires are under control. By pooling labor, equipment, and experience, a larger and better equipped crew can burn an area faster and safer. Examine and repair all equipment before the burn to ensure workability.

### Notification

State regulations require that the local fire department be notified before burning. Also, check with local authorities to determine if other requirements are needed before burning. For both safety and legal reasons, certain groups should be notified before a burn to prevent unnecessary concern and danger. Notifying neighbors, the fire department and law enforcement officials is part of the prescribed burning process. Such notification can prevent misunderstandings, unnecessary fire calls and poor public relations. The procedure discussed here has been developed based on state regulations, experience and common sense

**Neighbors.** Notifying neighbors of a burn can accomplish several things. It provides opportunities for cooperation in burning, and for sharing labor and equipment if prescribed burning is common in the area. Likewise, it helps in determining attitudes and finding help if prescribed burning is being introduced.

**Fire department.** Working with the fire department is crucial. Contact the fire chief to determine local regulations and how to request emergency help. Determining which neighbors, if any, report all fires also will help avoid problems.

**Law enforcement.** The need to notify local law enforcement personnel varies with the burn location and the hazards. Discuss the location with law enforcement officials to determine what to do.

## The Notification Procedure

Three separate notifications are necessary: 1) the intent to burn; 2) before the burn begins; and 3) after the burn is complete.

### Intent to burn

Well before the actual burn time, prepare a list of all neighbors, the fire department, and law enforcement officials. A suggested form is on the back page of this publication. List and contact any neighbor who has property adjoining or close to the burn area. Inform each of the intent to burn, the approximate date, and precautions taken to protect their property. For future reference, note reactions to initial contact.

Contact the fire department to determine current county burn policy, to develop procedures for obtaining emergency help during the burn, and to review the burn plan.

Contact law enforcement officials to determine the extent of their involvement.

### Before the burn

The morning of the burn, begin notification by contacting each neighbor. The message should be similar to the following:

*"We will begin our prescribed burn about (time). If you see a fire before that time, report it to the fire department. If you see a fire other than ours during our burn, report it to the fire department including the specific location and the fact that it is not our burn."*

At the time the burn begins, notify the fire department with a message similar to the following:

*"We are beginning our burn at (location). All neighbors have been notified and will only report fires other than ours. If we need your assistance, (name) will call and request it at the exact location of the fire."*

Prepare a written statement to request emergency assistance. Wording should be similar to the following:

(Fire department name and number)

*"This is (name). We need the fire department at our prescribed burn at (location). Please come to (exact location of emergency)."*

Do not hang up after delivering the message. Remain on the phone to answer questions for the fire department.

Use a similar procedure for law enforcement if required.

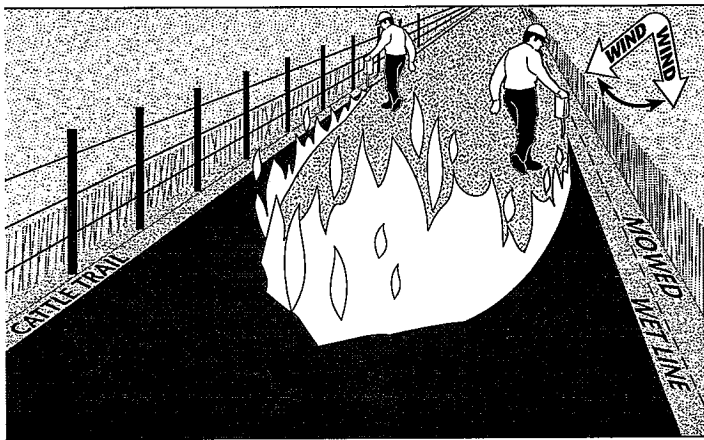
### After the burn

When the prescribed burn is complete, repeat the notifications using the procedure outlined below. After all mop up operations are complete, immediately notify the fire department with a message similar to the following:

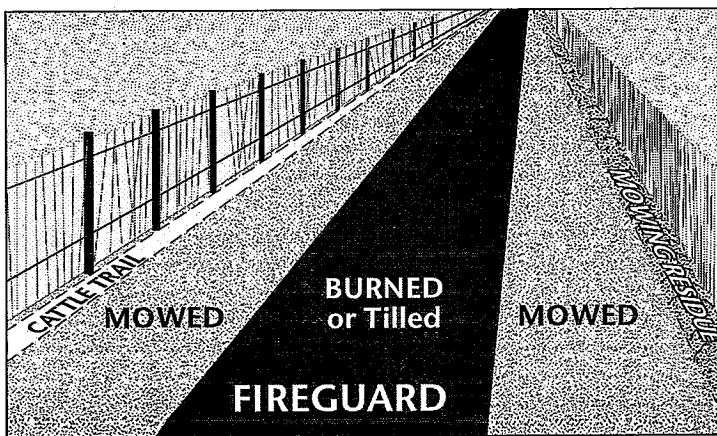
*"This is (name). We have completed our prescribed burn at (location) and will begin notifying our neighbors. If any fires are reported, please respond immediately."*

Immediately notify neighbors, beginning with those closest to the burn area. Use a message similar to the following:

*"We have completed our prescribed burn at (location). If you see a fire, call the fire department immediately. If you believe the fire is a result of our burn, call me after you call the fire department."*



**Figure 2.** Firebreaks are a key part of prescribed burning. Begin by lighting next to a natural barrier (cattle trail) and moving into the wind. Ensure that the resulting headfire does not cross the downwind barrier.



**Figure 3.** When mowing the edges of the burn area, the minimum width mowed must be at least six feet, or twice the height of nearby vegetation, whichever is greater. This is necessary to prevent seed stalks or weed stems from falling across the mowed area, providing an escape route for fire when the area is burned.

If necessary, make a similar call to law enforcement personnel.

The notification process outlined here is designed to protect those conducting the prescribed burn as well as the public. Careful planning and notification will help to maintain good relationships with neighbors and emergency personnel.

## Conducting the Burn

As time for the burn nears, final preparation requires following weather forecasts to set the date of the burn more accurately. Also, determine exactly who will be able to help and what equipment will be available.

Weather forecasts are issued several times daily. Primary concerns for the burn are temperature, relative humidity, wind direction and speed, and predicted changes in each. Be sure to adapt the forecast to local conditions.

### Follow the Plan

On the day of the burn, assemble the crew and review the plan. Each crew member must be familiar with the basic safety requirements, communication methods, equipment uses, and other information. Test equipment before lighting the fire. Begin the burn as planned, including notification, and adjust as needed to maintain fire control.

In general, the burning sequence is divided into two parts: establishing firebreaks, and lighting the headfire.

### Establishing Firebreaks

Firebreaks are necessary to prevent the fire from escaping. They may be burned or cleared. Burned firebreaks are preferable since cleared or tilled firebreaks on sloping areas tend to erode. Both types are effective if properly prepared. Firebreaks should be twice as wide as the tallest adjoining herbaceous material. A minimum width of six feet is required. Firebreaks may be established in advance or at the time of the burn, as needed. If burned in advance, a firebreak must be relit at the time of the burn.

**Burned firebreaks.** Burned firebreaks are established along the perimeter of the area, taking advantage of natural barriers such as livestock trails, heavily grazed areas, pasture roads, rock outcrops, stream beds, and other bare areas. When natural barriers are not available, mowing to reduce vegetation height will aid in establishing the firebreak. Completed firebreaks must be wide enough to prevent the headfire from escaping and limit the possibility of burning embers and other material escaping the area.

Firebreaks are prepared by lighting short lengths of vegetation along a natural barrier or mowed area, moving into the wind on the downwind side of the burn area (Figure 2). This fire is allowed to back away from the barrier. Exercise caution to prevent the fire from crossing the barrier. When both sides of the fire are under control, repeat the process on a new length of vegetation.

When preparing firebreaks in advance, modify the above procedure by putting the backing fire out when it has burned at least 6 feet (Figure 3). Preburned breaks must be relit before starting the headfire.

**Cleared firebreaks.** Cleared firebreaks are bare soil lines prepared mechanically. They should be used only where erosion is not a concern.

### Lighting the headfire

Once firebreaks are in place, the headfire can be started. It must be lit as rapidly as possible for the fire to be effective. Under most conditions, the headfire can be lit up to 30 feet downwind from the perimeter. A follow-up crew can put out the resulting backing fire.

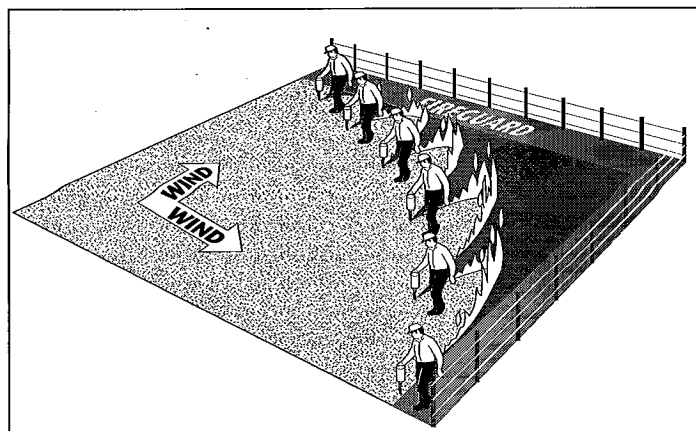
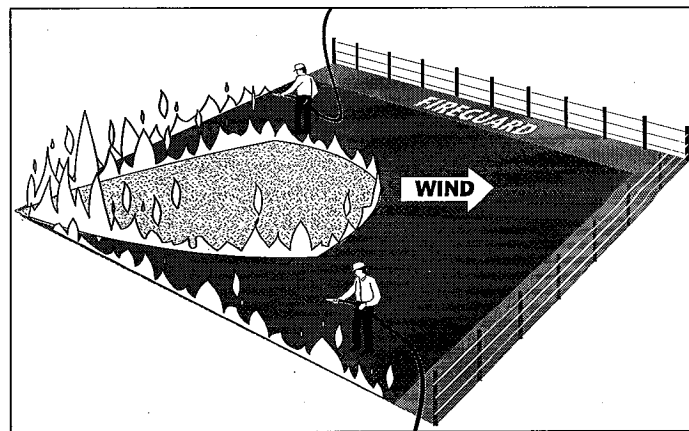
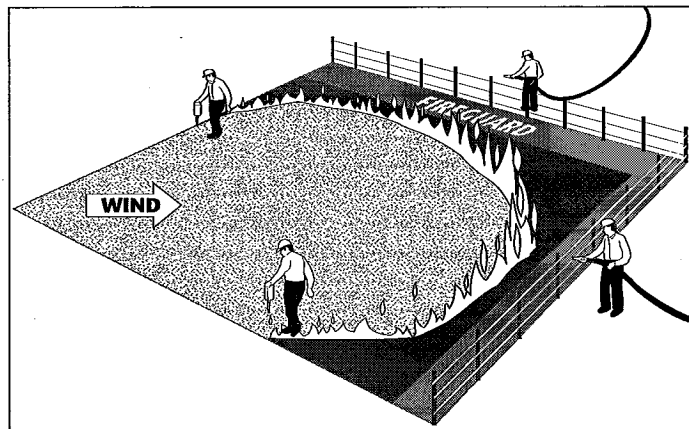
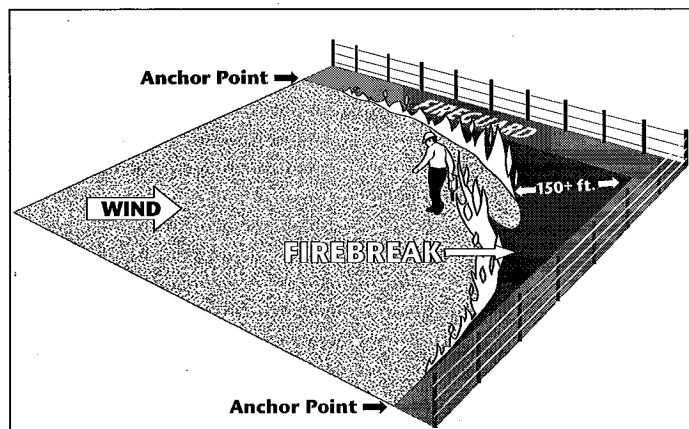
### Firing Techniques

Two firing techniques are available to accomplish the completion of the burn: strip-head fire and ring fire. Each has a specific purpose and specific requirements.

**Strip-head Fire Technique.** The strip-head fire technique (Figure 4) requires setting a line or series of lines of fire upwind from a firebreak so no single line can develop enough heat or convection to escape or cross the firebreak. The width of the strips depends on fuel type, amount, slope, and uniformity. As the distance from the firebreak increases, the width of the strips can be increased. It is most useful to quickly widen firebreaks and burn areas adjacent to hazards (controls size of fire and amount of smoke). Disadvantages are high heat concentration as the lines come together and the necessity of a well developed firebreak.

**Ring Fire Technique.** A ring fire (Figure 5) requires a firebreak downwind that provides adequate width to prevent escape of the fire. On level to gently rolling topography, a minimum 150-foot-wide firebreak is adequate at the point where the headfire will have the longest run. Once the firebreak is secure, the remaining sides of the burn area should be lit as rapidly as possible. The resulting headfire will sweep rapidly across the area. As the headfire builds in heat and size, a draft from the

front draws the backing fire of the firebreak into the headfire. A strong convection column develops in the center of the ring. Once this convection column develops, the fires are drawn rapidly to the middle of the burn area, resulting in a fast, hot burn. Ring fires are the safest since once the ring is closed and the perimeter fires are extinguished, little chance remains for the fire to escape. Ring fires should be used where brush control, weed control and mulch removal are reasons for burning.



**Figure 4.** The strip-head fire technique involves lighting one or more fire lines into or perpendicular to the wind direction. The width of the strips depends on fuel type, amount, slope, and uniformity.

**Figure 5.** The ring fire technique usually is used for prescribed burning. After the firebreaks are established and burning, the upwind sides are lit as rapidly as possible. The fire then creates its own chimney, resulting in a fast, hot burn.

## After the Burn

Once the headfire has burned out, make sure small fires, burning logs, smoldering cow chips, and similar hazards are under control. Also, notify neighbors, fire department, and others. Clean up and repair all equipment.

## Mop Up

Mop up is the process of checking the entire perimeter of the burn area to ensure that all fires or smoldering materials are out or removed to a safe area. This includes cow chips, logs and dead trees, small areas still burning, and fenceposts. Never bury cow chips as they can hold fire a long time. Water does not always extinguish the embers, but detergent mixed with water will help penetrate the cow chips. Burning logs and dead trees can produce embers that are easily carried by wind to unburned areas. Carefully wet down and break apart or move logs from the edge of the burn. Dead trees that are burning should be cut down and treated the same as logs. Relight small areas of slow-burning grass and allow them to burn out rapidly. Check the perimeter at least twice.

## Notification

After the burn and mop up are complete, notify the same list of people and agencies contacted before the burn. This will ensure that help will be summoned immediately if a wildfire or accidental escape occur due to incomplete mop up.

## Clean Equipment

After the burn is complete, clean, repair and store all equipment. This prolongs equipment life and ensures that equipment is ready when needed again.

## State Regulations

### *28-19-645. Open burning prohibited.*

A person shall not cause or permit the open burning of any wastes, structures, vegetation, or any other materials on any premises except as authorized by K.A.R. 28-19-647 and K.A.R. 28-19-648. (Authorized by K.S.A. 1994 Supp. 65-3005; implementing K.S.A. 1994 Supp. 65-3005, K.S.A. 65-3010; effective March 1, 1996.)

### *28-19-646. Responsibility for open burning.*

It shall be prima facie evidence that the person who owns or controls property on which open burning occurs has caused or permitted the open burning. (Authorized by K.S.A. 1994 Supp. 65-3005; implementing K.S.A. 1994 Supp. 65-3005, K.S.A. 65-3010; effective March 1, 1996.)

### *28-19-647. Exceptions to prohibition on open burning.*

- (a) The following open burning operations shall be exempt from the prohibition on the open burning of any materials imposed by K.A.R. 28-19-645:
- (1) open burning carried out on a residential

- premise containing five or less dwelling units and incidental to the normal habitation of the dwelling units, unless prohibited by any local authority with jurisdiction over the premises;
  - (2) open burning for cooking or ceremonial purposes, on public or private lands regularly used for recreational purposes;
  - (3) open burning for the purpose of crop, range, pasture, wildlife or watershed management in accordance with K.A.R. 28-19-648; or
  - (4) open burning approved by the department pursuant to paragraph (b).
- (b) A person may obtain an approval from the department to conduct an open burning operation that is not otherwise exempt from the prohibition imposed by K.A.R. 28-19-645 if it is demonstrated that the open burning is:
- (1) necessary, which in the case of burning for the purpose of disposal of any materials, shall mean that there is no other practical means of disposal;
  - (2) in the public interest; and
  - (3) is not prohibited by any local government or local fire authority.
- (c) Open burning operations for which an approval is required but which are deemed to be necessary and in the public interest include the following:
- (1) the use of safety flares for disposal of flammable gases;
  - (2) fires related to the training of government or industrial personnel in fire fighting procedures;
  - (3) fires set for the removal of dangerous or hazardous liquid materials;
  - (4) open burning of trees and brush from non-agricultural land clearing operations; and
  - (5) open burning of clean wood waste from construction projects carried out at the construction site.
- (d) Each person seeking an approval to conduct an open burning operation pursuant to this regulation shall submit a written request to the department containing the following information:
- (1) the location of the proposed open burning and the name, address and telephone number of the person responsible for the open burning;
  - (2) a description of the open burning including:
    - (A) the estimated amount and nature of material to be burned;
    - (B) the proposed frequency, duration and schedule of the burning;
    - (C) the size of the area to which the burning will be confined;
    - (D) the method of igniting the material;
    - (E) the location of any public roadways within 1,000 feet of the proposed burn;
    - (F) the number of occupied dwellings within 1,000 feet of the proposed burn; and

- (G) evidence that the open burning has been approved by appropriate fire control authority having jurisdiction over the area; and
- (3) the reason why the proposed open burning is necessary and in the public interest if the activity is not listed in subsection (c) of this regulation.
- (e) Each open burning operation for which the department issues an approval pursuant to paragraph (b) shall be subject to the following conditions, except as provided in paragraph (f):
- (1) The person conducting the burning shall stockpile the material to be burned, dry it to the extent possible before it is burned, and assure that it is free of matter that will inhibit good combustion.
  - (2) A person shall not burn heavy smoke-producing materials including heavy oils, tires, and tarpaper.
  - (3) A person shall not initiate burning during the nighttime, which for the purposes of this regulation is defined as the period from two hours before sunset until one hour after sunrise. A person shall not add material to a fire after two hours before sunset.
  - (4) A person shall not burn during inclement or foggy conditions or on very cloudy days, which are defined as days with more than 0.7 cloud cover and with a ceiling of less than 2,000 feet.
  - (5) A person shall not burn during periods when surface wind speed is less than 5 mph or more than 15 mph.
  - (6) A person shall not burn within 1,000 feet of any occupied dwelling, unless the occupant of that dwelling has been notified before the burn.
  - (7) A person shall not conduct a burn that creates a traffic or other safety hazard. If burning is to take place within 1,000 feet of a roadway, the person conducting the burn shall notify the highway patrol, sheriff's office, or other appropriate state or local traffic authority before the burning begins. If burning is to take place within one mile of an airport, the person conducting the burn shall notify the airport authority before the burning begins.
  - (8) The person conducting the burn shall insure that the burning is supervised until the fire is extinguished.
  - (9) The department may revoke any approval upon 30 days notice.
  - (10) A person shall conduct an open burning operation under such additional conditions as the department may deem necessary to prevent emissions which:
    - (A) may be injurious to human health, animal or plant life, or property; or
    - (B) may unreasonably interfere with the enjoyment of life or property.

- (f) The department may issue an approval for an open burning operation that does not meet the conditions set forth in subsection (e) upon a clear demonstration that the proposed burning:
- (1) is necessary and in the public interest;
  - (2) can be conducted in a manner that will not result in emissions which:
    - (A) may be injurious to human health, animal or plant life, or property; or
    - (B) may unreasonably interfere with the enjoyment of life or property; and
  - (3) will be conducted in accordance with such conditions as the department deems necessary.
- (Authorized by K.S.A. 1994 Supp. 65-3005; implementing K.S.A. 1994 Supp. 65-3005, K.S.A. 65-3010; effective March 1, 1996.)

**28-19-648. Agricultural open burning.**

- (a) Open burning of vegetation such as grass, woody species, crop residue, and other dry plant growth for the purpose of crop, range, pasture, wildlife or watershed management shall be exempt from the prohibition on the open burning of any materials imposed by K.A.R. 28-19-645, provided that the following conditions are met:
- (1) the person conducting the burn shall notify the local fire control authority with jurisdiction over the area before the burning begins, unless the appropriate local governing body has established a policy that notification is not required;
  - (2) a person shall not conduct a burn that creates a traffic safety hazard. If conditions exist that may result in smoke blowing toward a public roadway, the person conducting the burn shall give adequate notification to the highway patrol, sheriff's office or other appropriate state or local traffic control authorities before burning;
  - (3) a person shall not conduct a burn that creates an airport safety hazard. If smoke may affect visibility at an airport, the person conducting the burn shall give adequate notification to the appropriate airport authorities before burning; and
  - (4) the person conducting the burn shall insure that the burning is supervised until the fire is extinguished.
- (b) Nothing in this regulation shall restrict the authority of local jurisdictions to adopt more restrictive ordinances or resolutions governing agricultural open burning operations.
- (Authorized by K.S.A. 1994 Supp. 65-3005; implementing K.S.A. 1994 Supp. 653005, K.S.A. 65-3010; effective March 1, 1996.)

# Prescribed Burning Notification

Name	Telephone Number	Intent to Burn	Before Burn	After Burn

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**Kansas State University Agricultural Experiment Station and Cooperative Extension Service**

L-664

March 1996

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# Red Flag Warning and Fire Weather Information

Of the contributing factors such as fuels, topography, and regulations to be taken into account before conducting a prescribed burn or taking action on a wildfire one factor is completely beyond our control.

Weather is the most constantly changing and hardest to predict variable in a fire environment. When weather forecasts and weather condition information is not given the consideration it deserves, consequences may include increased loss of property and, in extreme cases, a threat to human life.

Daily weather forecasts on TV, radio, or in the newspaper are good sources of fire-related information. Fire-specific weather information can be found on the Internet. Several helpful Web sites are listed below.

## Kansas Web Sites

### Current Watches, Warnings, and Advisories for Kansas:

[www.nws.noaa.gov/alerts/ks.html](http://www.nws.noaa.gov/alerts/ks.html)

This site will post Red Flag fire weather warnings and watches.

Beginning in October of 2006 the National Weather Service in cooperation with several state and federal fire management agencies began issuing Red Flag warnings. When



the conditions indicate a good chance of extreme fire behavior, a Red Flag weather warning is issued. Red Flag warnings need to be taken just as seriously as any other severe weather warning, and no burning should be conducted on a Red Flag day.

### National Weather Service (NWS) Offices, Phone Numbers, and Fire Weather Pages

Dodge City, Kan.

(620) 225-6514

[www.crh.noaa.gov/ddc/?n=firewx](http://www.crh.noaa.gov/ddc/?n=firewx)

Goodland, Kan.

(785) 899-7119

[www.crh.noaa.gov/gld/?n=/firewx/index.php](http://www.crh.noaa.gov/gld/?n=/firewx/index.php)

Hastings, Neb.

402-462-4287

[www.crh.noaa.gov/gid/?n=firewx](http://www.crh.noaa.gov/gid/?n=firewx)

Topeka, Kan.

(785) 234-259

[www.crh.noaa.gov/top/?n=fire](http://www.crh.noaa.gov/top/?n=fire)

Wichita, Kan.

(316) 942-8483

[www.crh.noaa.gov/ict/?n=firewx](http://www.crh.noaa.gov/ict/?n=firewx)

These offices provide more detailed and localized information on current fire weather conditions for a given area.



**Rangeland Fire Danger Index**  
[www.crh.noaa.gov/product.php?site=TOP&product=RFD&issuedby=TOP](http://www.crh.noaa.gov/product.php?site=TOP&product=RFD&issuedby=TOP)

The system of fire danger rating that will continue to be available as one more source of fire weather information.

**MesoWest**  
[www.met.utah.edu/cgi-bin/droman/mesomap.cgi?state=KS&rawsflag=1](http://www.met.utah.edu/cgi-bin/droman/mesomap.cgi?state=KS&rawsflag=1)

This site has links to several weather observation sites to get current weather observation information such as temperature and relative humidity.

#### **RAWS (Remote Automated Weather Station) Sites**

Cimarron National Grassland  
[raws.wrh.noaa.gov/cgi-bin/roman/meso\\_base.cgi?stn=CGLK1&time=GMT](http://raws.wrh.noaa.gov/cgi-bin/roman/meso_base.cgi?stn=CGLK1&time=GMT)

Quivira National Wildlife Refuge  
[raws.wrh.noaa.gov/cgi-bin/roman/meso\\_base.cgi?stn=QNRK1&time=GMT](http://raws.wrh.noaa.gov/cgi-bin/roman/meso_base.cgi?stn=QNRK1&time=GMT)

Manhattan Airport  
[http://raws.wrh.noaa.gov/cgi-bin/roman/meso\\_base.cgi?stn=KMHK](http://raws.wrh.noaa.gov/cgi-bin/roman/meso_base.cgi?stn=KMHK)

Tallgrass Prairie National Preserve  
[raws.wrh.noaa.gov/cgi-bin/roman/meso\\_base.cgi?stn=TGSK1&time=GMT](http://raws.wrh.noaa.gov/cgi-bin/roman/meso_base.cgi?stn=TGSK1&time=GMT)  
Missouri Dept. of Conservation,  
Clinton, Mo.  
[raws.wrh.noaa.gov/cgi-bin/roman/meso\\_base.cgi?stn=CITM7&time=GMT](http://raws.wrh.noaa.gov/cgi-bin/roman/meso_base.cgi?stn=CITM7&time=GMT)

RAWS stations are Internet linked weather data gathering stations. There are four in Kansas and one just into Missouri. Use the one closest to your location to find detailed current weather observations, graphs, fuel moisture, and 24-hour trend.

#### **National Web Sites**

**U.S. Drought Monitor**  
[www.drought.unl.edu/dm/monitor.html](http://www.drought.unl.edu/dm/monitor.html)

**Palmer Drought Index**  
[www.cpc.ncep.noaa.gov/products/analysis\\_monitoring/regional\\_monitoring/palmer.gif](http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/regional_monitoring/palmer.gif)

These two sites provide long-term, cumulative drought information that can be useful in determining the dryness of fuels in a wildland fire.

**National Fire Weather Page**  
[fire.boi.noaa.gov/](http://fire.boi.noaa.gov/)

This National Weather Service Web site provides information on national conditions and warnings.

**Storm Prediction Center Fire Weather Forecast**  
[www.spc.noaa.gov/products/fire\\_wx/index.html](http://www.spc.noaa.gov/products/fire_wx/index.html)

This National Weather Service Web site provides information on locations the National Weather Service expects to experience extreme fire weather over a given time period.

For more information contact the Kansas Forest Service at (785) 532-3300.

Links to Web sites were current at press time, for an updated list, see our Web site at [www.kansasforests.org](http://www.kansasforests.org)



This publication is made available in cooperation with the USDA Forest Service.

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**Kansas State University Agricultural Experiment Station and Cooperative Extension Service**

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May 2007

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# Kansas Forest Service Fire Management Program

The Kansas Forest Service launched its Cooperative Fire Protection Program in 1962. Since that time, the program has provided assistance in the prevention and suppression of wildland fires. Kansas Forest Service works directly with fire departments to place 46.2 million acres of non-federal rural lands under fire protection through the following program areas.

## Cooperative Agreements

A cooperative agreement between a fire department and the Kansas Forest Service must be completed before a fire department can participate in programs. This document clarifies the responsibilities of both Kansas Forest Service and the fire department and must be signed by a fire department official and the State Forester to be considered active. The agreement is valid for 5 years.

## Federal Excess Property Program

Kansas Forest Service obtains federal excess property, generally military vehicles such as all wheel drive 1¼-, 2½-, and 5-ton trucks and fire equipment, and loans it to fire departments. The property remains under federal ownership. When no longer needed, a fire department returns the equipment

to Kansas Forest Service. If it is no longer useful to the program, it is sold at auction by the federal government.

Before a truck is issued to a fire department, it is inspected by the Fire Equipment Shop. Hard tops, batteries, windows, and seats are installed if necessary. Any other known mechanical defects are also repaired. When issued, the fire department is responsible to equip, house, and maintain the vehicle. It can be used for fire control and support only.

For the past several years, demand for vehicles, especially 4 × 4 trucks, far exceeds the supply. When a fire department requests a vehicle and none is available, the request is placed on a "want list," and is filled when one becomes available.

A physical inventory of all loaned federal excess property is required every 2 years to ensure program guidelines are being followed. Some salvaged parts are available to help fire departments reduce maintenance costs on excess vehicles. In addition, the program has access to new replacement parts at a greatly reduced cost.

## Wildland Fire Training

From the hardwoods of the east, to the grass and sagebrush of the southwest, Kansas has a wide vari-

ety of fuels and topography. Kansas Forest Service fire training cuts across those boundaries and takes a firefighter through all aspects of wildland fire. Participants in each course learn to recognize fuel, weather and topographic conditions, and the early warning signs of extreme fire behavior. The course also deals with water conservation, fire ground safety, and suppression tactics, all with an emphasis on Kansas fuels. Although designed for entry-level firefighters, the course is based on nationally recognized courses and is good for firefighters at any level. The course is available at no charge to any fire department in the state. National Wildfire Coordinating Group wildland firefighter certification and other courses are also available.

## Fire Prevention

A majority of prevention activities center on the Smokey Bear program. Efforts are targeted at elementary-aged children and use a variety of entertaining educational materials. A variety of materials are available including balloons, rulers, pens, pencils, comic books, and coloring sheets. There is no charge for the materials, but availability depends on the supply.

Smokey Bear costumes are available on loan. They can be shipped directly to a location or

picked up at the State Office in Manhattan. Smokey is always a welcome addition at any parade, open house, school visit, or other suitable fire prevention function.

### **Firewise Kansas**

The wildland/urban interface is an area where a set of conditions provides an opportunity for fire to burn from wildland vegetation to the home. As the number of homes built in the interface increases, suppression resources may be overwhelmed. Protecting a home from wildfire *before the fire starts* is a key responsibility of the homeowner. Firewise Kansas provides a source of information for homeowners to improve their home's ability to withstand wildfire without fire department intervention.

### **Master Fire Planning**

Master Fire Planning is another service offered to improve fire protection. When completed, a plan

includes a brief history, equipment inventories for all participating fire departments, a financial survey, a review of personnel records and information about insurance ratings that apply to the fire district. Kansas Forest Service personnel evaluate mutual/automatic aid agreements, communication systems and water availability. Results are as nonjudgmental as possible with the goal of developing a county wide mutual response program for the benefit of all. It is an attempt to use resources to their full potential and give the best return to the citizens of the county in the form of better fire protection at the same cost.

### **Equipment Donation**

Governor Sebelius signed House Bill 2068 into law during the 2003 legislative session that changed Kansas Tort Law to provide liability relief in the donation of fire and EMS equipment. In response, Kansas Forest Service agreed to act as the clearinghouse and created

the Equipment Donation Program. Fire departments may choose to donate used but useful equipment. Kansas Forest Service reconditions the equipment and donates it to other fire departments in the state. Unlike the Federal Excess Property Program, ownership of donated equipment transfers with the donation. Requests for equipment may be submitted to the Kansas Forest Service, and are filled on a first come, first served basis.

### **Cost Share Programs**

Kansas Forest Service administers two federal cost share programs designed to help rural fire departments purchase firefighting equipment. The USDA Forest Service provides funding for the Volunteer Fire Assistance Program while the U.S. Fish & Wildlife Service provides funding for the Rural Fire Assistance Program. Grants are evaluated and distributed based on need and must be matched by fire departments.

### **Contact Information**

*For more information about the Fire Management Program, call the Kansas Forest Service State Office at 785-532-3300 or view our Web site at [www.kansasforests.org](http://www.kansasforests.org).*

**C. Ross Hauck**  
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[www.kansasforests.org](http://www.kansasforests.org)



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**Kansas Farm Bureau**  
**POLICY STATEMENT**

**Senate Natural Resources Committee**  
**Senate Concurrent Resolution 1623**

**March 4, 2010**  
**Submitted by:**  
**Steve M. Swaffar**  
**Director of Natural Resources**

---

Chairperson McGinn and members of the committee, thank you for this opportunity to provide testimony on Senate Concurrent Resolution 1623, exempting the Flint Hills from a smoke management plan. I am Steve Swaffar, Director of Natural Resources for the Kansas Farm Bureau. KFB stands in support of SCR 1623.

Earlier this session you heard about the ozone regulatory situations created in Wichita and Kansas City from burning activities in the Flint Hills. Clearly this resolution is designed to alleviate the regulatory burden created by those violations. I also want to remind the Committee that the economy of the Flint Hills is based around the tallgrass prairie. Agriculture is number one contributor to that economy, but tourism and recreation in the Flint Hills region also contribute significantly to the local and state economy. It is fire that maintains this ecosystem and helps drive these industries found in the region. Without fire as a maintenance tool, the region and the State stand to lose income from multiple industries, unique habitat and environmental benefits provided by the prairie.

KFB supports the concept contained within SCR 1623 as an alternative/addition to a smoke management plan. Such an exemption could provide the assurance to our members that burning will be a management tool available to them without jeopardy. We certainly understand the health issues associated with pollutants produced from range burning and will work to educate our rancher members to help alleviate as many of these concerns as possible.

Our support for SCR 1623 does not in any way diminish our commitment to work with KDHE, EPA, municipalities and our members to devise a practical, manageable solutions for smoke mitigation. We will continue with those discussions and efforts. However, we recognize there are likely to be circumstances in the future that may put burning of the Flint Hills in conflict with

federal Clean Air Act standards. We only want to ensure that our members can continue with this vital activity.

Thank you for this opportunity to provide testimony. I would be happy to answer any questions you may have at the appropriate time.

*Kansas Farm Bureau represents grassroots agriculture. Established in 1919, this non-profit advocacy organization supports farm families who earn their living in a changing industry.*



*Since 1894*

## TESTIMONY

To: Senate Committee on Natural Resources  
Senator Carolyn McGinn, Chair

From: Mike Beam, Sr. Vice President

Date: March 4, 2010

Subj: **Testimony in support of SCR 1623, a resolution pertaining to EPA's regulation of prescribed burning in the Flint Hills.**

*The Kansas Livestock Association (KLA), formed in 1894, is a trade association representing over 5,000 members on legislative and regulatory issues. KLA members are involved in many aspects of the livestock industry, including seed stock, cow-calf and stocker production, cattle feeding, dairy production, grazing land management and diversified farming operations.*

The history of the Kansas Livestock Association reveals the organization was created by Flint Hills' ranchers over 115 years ago. Today, KLA has a strong membership base in the Flint Hills who are focused on regulatory actions that may curtail or hamper their ability to use prescribed burning as a necessary tool for ecological and economic purposes.

Previous conferees before this committee have briefed you on the necessity of Kansas adopting a "smoke management plan" to qualify prescribed burning as an "exceptional event", thus allowing municipalities and industries to exclude spikes in their ozone levels caused by burning in the Flint Hills, for meeting air quality attainment thresholds.

A smoke management plan that creates a regulatory process for the timing, frequency, and ultimate approval of prescribed burning will result in significant consequences for Flint Hills' ranchers and landowners.

SENATE NATURAL RESOURCES  
3-4-10

There are many factors that currently determine when burning occurs.

- When neighbors are ready to burn.
- When labor (neighbors) is available.
- When weather conditions are right for a safe burn.

Another obstacle is the local government protocols and available resources to manage/authorize burning. I'd suggest that many of our Flint Hills' local officials do not have the resources to intensively manage who gets to burn when and how much they may burn on a daily basis.

### **Ecological concerns of reduced burning**

In recent years several wildlife biologists have noted the grassland wildlife habitat losses when fire is suppressed. A NASA funded research project of Kansas State University and the University of Kansas (see attached) has documented that eastern redcedar has increased in acreage in Kansas by 210% from 1981 to 1994. The increased invasion of this plant species is "linked strongly" to the lack of fire.

There is far less woody plant encroachment in the larger intact areas of the Flint Hills, due to frequent prescribed burning. Research by Kansas State University range management specialists reveal that native grasslands in the northern Flint Hills need a 3-year consecutive burn to ward off woody plant invasion. Those who suggest that Flint Hills' pastures be burnt on a rotational basis (not every year) must understand this practice, over a long-term period of time, will change the plant composition of our beloved tallgrass prairie.

### **Economics of burning**

There are also economic consequences of reduced burning in the Flint Hills. Research at Kansas State University concludes that yearling cattle grazed on burned grasslands will average 32 additional pounds of gain during the grazing season, when compared to gains on unburned pastures. With today's market prices, these 32 pounds result in an additional \$32 per head. For a section of Flint Hills' grazing land, that equates to \$8 to \$16 per acre.

A good portion of the Flint Hills is stocked with transient yearling cattle and cared for by the landowner or his/her tenants. The owners of these yearlings frequently demand the grass be burnt. If not, the landowner can expect a reduced rental price for their land.

### **KLA's plans for a smoke management plan**

As Allie Devine (KLA's Vice President and General Counsel) mentioned earlier to this committee, we are committed to working with our members to seek tenants of a smoke management plan that may reduce the incidents of air quality nonattainment in neighboring urban areas. This will not be easy, but we understand the necessity and urgency of this challenge.

In the mean time, we thank this committee for its willingness to study this issue in depth. We know our members appreciate your interest in this issue and your actions to urge EPA to consider the ecological and economic impacts of curtailing prescribed burning in the Flint Hills.

KLA supports SCR 1623 and asks this committee to give it favorable consideration.

Thank you.

Summary of Comments on (1623.1\_2.tp)

Page: 1

Author: allie Subject: Cross-Out Date: 3/2/2010 4:47:19 PM

Author: allie Subject: Inserted Text Date: 3/2/2010 4:47:19 PM  
and/or the Environmental Protection Agency to declare emissions from prescribed burning of the Flint Hills region of Kansas an exceptional event for purposes of determinations of compliance with the Clean Air Act.

Author: allie Subject: Inserted Text Date: 3/2/2010 4:47:19 PM

WHEREAS, the maintenance of the open space of the Flint Hills region is vital to maintaining air quality on the vast majority of days in Kansas and emissions from prescribed burns of the Flint Hills have only caused exceedences of air quality standards in two years;

Author: allie Subject: Replacement Text Date: 3/3/2010 8:37:06 AM

will experience an invasion of woody vegetation that alters the natural tallgrass ecosystem;

Author: allie Subject: Cross-Out Date: 3/2/2010 4:47:19 PM

Author: allie Subject: Replacement Text Date: 3/2/2010 4:47:19 PM

and such emissions should be excluded from data for determination of compliance with the Clean Air Act.

Session of 2010

Senate Concurrent Resolution No. 1623

By Committee on Natural Resources

1-25

A CONCURRENT RESOLUTION urging the United States Congress to exempt, because of its unique ecosystem and historic significance, the tallgrass prairie in the Flint Hills, from a smoke management plan mandated by the United States Environmental Protection Agency.

WHEREAS, The Flint Hills region of Kansas contains the world's largest share of the remaining tallgrass prairie, and is the only place where that habitat is in landscape proportions. Only 4% of North America's pre-settlement tallgrass prairie survives to this day, and 80% is located in Kansas; and

WHEREAS, The Flint Hills region is also home to certain declining avian species such as the greater prairie chicken and Henslow's sparrow that cannot continue to exist without large expanses of native tallgrass prairie in an original state. Further, it is a significant corridor for migrating shorebirds such as the American Golden Plover, the Buff-breasted Sandpiper, and the Upland Sandpiper; and

WHEREAS, Beginning in the mid-19th century, cattlemen understood that the richness of the Flint Hills grasses depended on a good spring burn—something they learned from the Native Americans. Fire still thrives in the Flint hills because the ranchers, and others using the land, know that the natural ecosystem depends on fire; and

WHEREAS, Ranchers, land owners, and conservation groups use prescribed burns to mimic the seasonal fires that have shaped the tallgrass prairie for thousands of years. Areas not burned for several years develop mature grasses and thicker, brush-like vegetation which habitat is preferred by invasive species; and

WHEREAS, The Flint Hills is one of the few places in the United States where the prevailing agricultural system works essentially in tandem with an ancestral native ecosystem, preserving most of its complexity and the dynamic processes that helped shape it; and

WHEREAS, Because of the uniqueness of the Flint Hills tallgrass prairie and the historic manner in which the tallgrass prairie has been managed by fire, existing prescribed burn practices should be allowed to continue without a federally prescribed "smoke management plan". Now, therefore,

4-4



Author: allie Subject: Cross-Out Date: 3/2/2010 4:47:19 PM

Author: allie Subject: Inserted Text Date: 3/2/2010 4:47:19 PM

and the Environmental Protection Agency declare emissions from prescribed burning of the Flint Hills region in Kansas as exceptional events and such emissions shall not be included in data for the determination of compliance with the Clean Air Act.

Author: allie Subject: Inserted Text Date: 3/2/2010 4:47:19 PM

Be it further resolved: That the Kansas Department of Health and Environment and state and local officials create a plan to warn citizens of the hazards of smoke during prescribed burning of the Flint Hills and educate citizens of the need to use prescribed burning to maintain the ecosystem of the Flint Hills

~~Be it resolved by the Senate of the State of Kansas, the House of Representatives concurring therein: That we urge the United States Congress to exempt the tallgrass prairie of the Flint Hills from a smoke management plan mandated by the United States Environmental Protection Agency and~~

Be it further resolved: That the Secretary of the Senate be directed to send an enrolled copy of this resolution to the President of the United States Senate, the Speaker of the United States House of Representatives, the Administrator of the United States Environmental Protection Agency, and each member of the Kansas Congressional delegation.

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4-5

k-state  
extension

# AGRONOMY

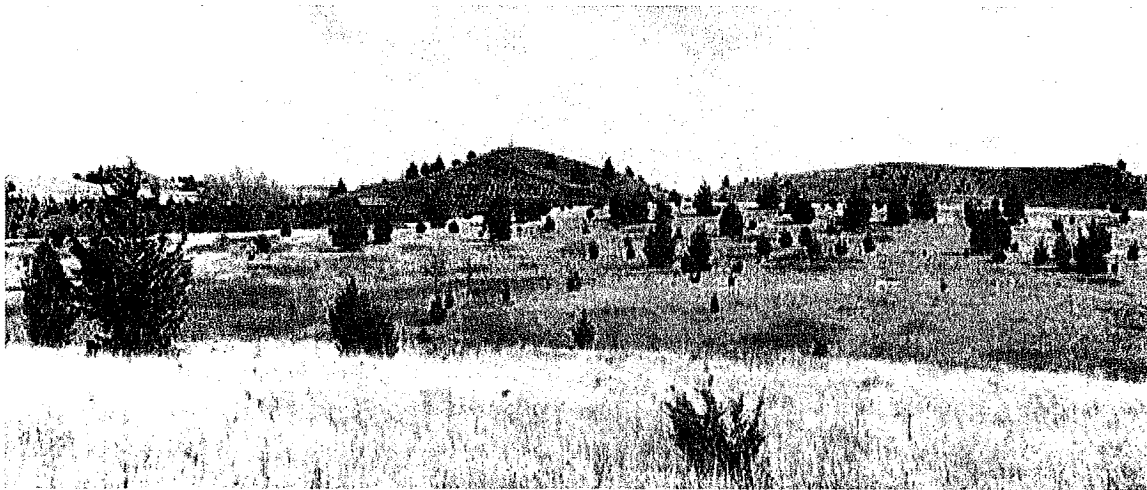
## e-Updates

Number 232  
February 19, 2010

1. Using satellite imagery to map the spread of eastern redcedar in Kansas
2. Eastern redcedar control on grazinglands

1. Using satellite imagery to map the spread of eastern redcedar in Kansas

Redcedar is rapidly increasing in its coverage of grasslands in Kansas, especially in the eastern half of Kansas. The increased coverage of this tree is linked strongly to the lack of fire, which kills the trees when they are younger. Eastern redcedar increased in acreage in Kansas by 210% from 1981 to 1994. In doing so, it gradually takes away productive grazinglands and reduces the amount of income generated by the livestock industry in the state. This industry is vital to the economic wellbeing of our state because, according to USDA's Agricultural Statistics, it produces approximately \$6.4 billion of sales annually.



Eastern redcedar in rangeland near Hays. Photo by Kevin Price, K-State Research and Extension.

Still, it is hard to visually notice the spread of eastern redcedar from month-to-month or year-to-year. As a result, it is not the kind of problem that generates immediate alarm among most landowners.

The best way to demonstrate to landowners and others the extent of the spread of eastern redcedar, and the necessity of controlling its spread, is to compare aerial imagery of a given area from many years ago to imagery of the same area today. Sounds simple enough, but in reality there are several issues that have to be overcome before that can be done.

For one thing, what kind of imagery should be used? A simple aerial photograph can be examined, and this is the most common type of imagery available from previous decades. But it is difficult and tedious, if not impossible, to separate out eastern redcedar from other trees and vegetation in a normal photograph using the visible spectrum.

In the Ecology & Agriculture Spatial Analysis Lab at K-State, we have been able to overcome that by analyzing near infrared (NIR) images instead, taken at the correct time of year. During the late fall and winter, there is a significant difference in infrared reflectance between all the deciduous trees and shrubs that have dropped their leaves and eastern redcedar, which is evergreen and therefore is still photosynthetically active later in the fall and resumes photosynthetic activity earlier in the spring than other trees and grasses.

Because of this difference, we can use a technique called “linear spectral unmixing analysis.” We have found this technique can be used with a high degree of accuracy to determine the percent cover of redcedar. This method allows us to estimate the amount of redcedar within each one-fifth acre pixel. This is truly amazing when one realizes that the satellite is orbiting about 500 miles in space, or about the distance from Kansas City to Denver, Colorado. We check the accuracy of our model by using highly detailed color infrared photography that we can acquire using our multispectral digital imaging camera and analyze it using a specialized object-based image analysis software called e-Cognition. We also checked the model during its development by going to the field to take actual measurements on the ground, and comparing the results of the model analysis to what we found on the ground.

Once we knew we could accurately map the geographic distribution of redcedar, we then used the model we developed to go back to 1985 and come forward, mapping the redcedar coverage at approximately 5-year intervals (depending on availability of Landsat Thematic Mapper satellite imagery). This allowed us to visualize the changing distribution of redcedar and determine where it was most rapidly expanding its distribution. We have been able to reconstruct a visual record, which we can quantify, of the distribution and spread of eastern redcedar over certain areas of land.

Why should we be concerned about mapping eastern redcedar at all? Several reasons.

- \* An increase in redcedar: decreases the productivity of grasslands and reduce the state’s ability to produce livestock; decreases plant and animal biological diversity; changes the way water infiltrates into and runs over the land; changes the way nutrients are cycled within the ecosystem; and many other factors.

- \* To understand which lands in Kansas are being impacted by this tree species, we need to be able to determine where it is increasing in coverage and how rapidly the increase is taking place.

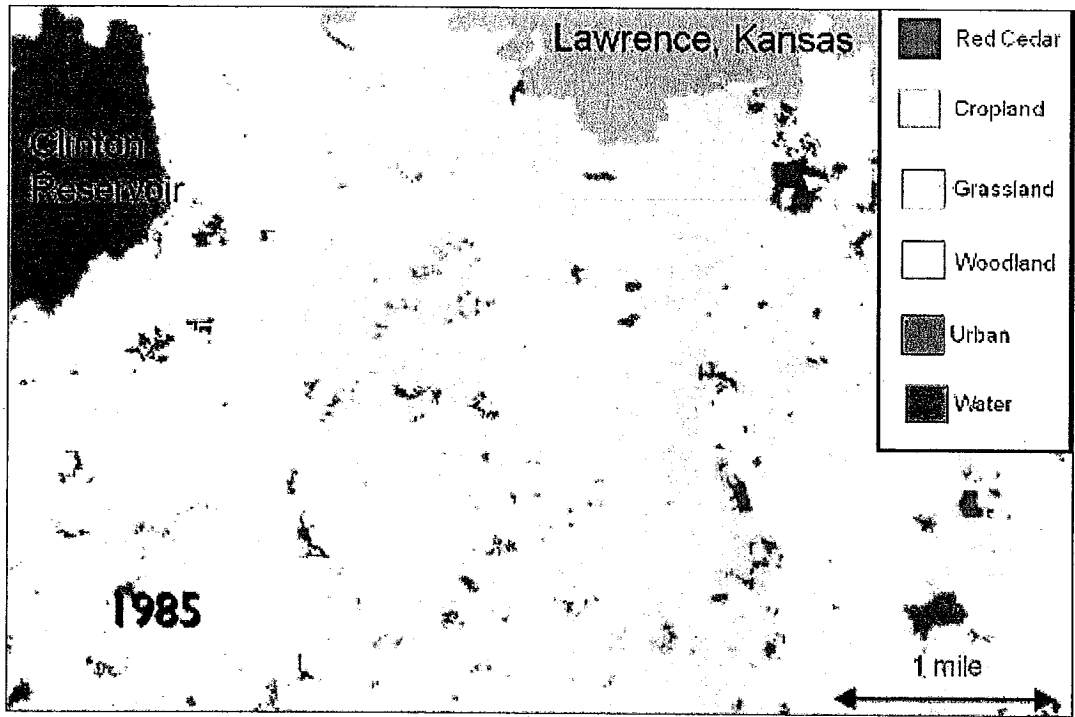
- \* By linking current distributions of the tree to areas with similar spectral characteristics, soil types, and land use practices, we can better predict which lands are most likely to be invaded next.

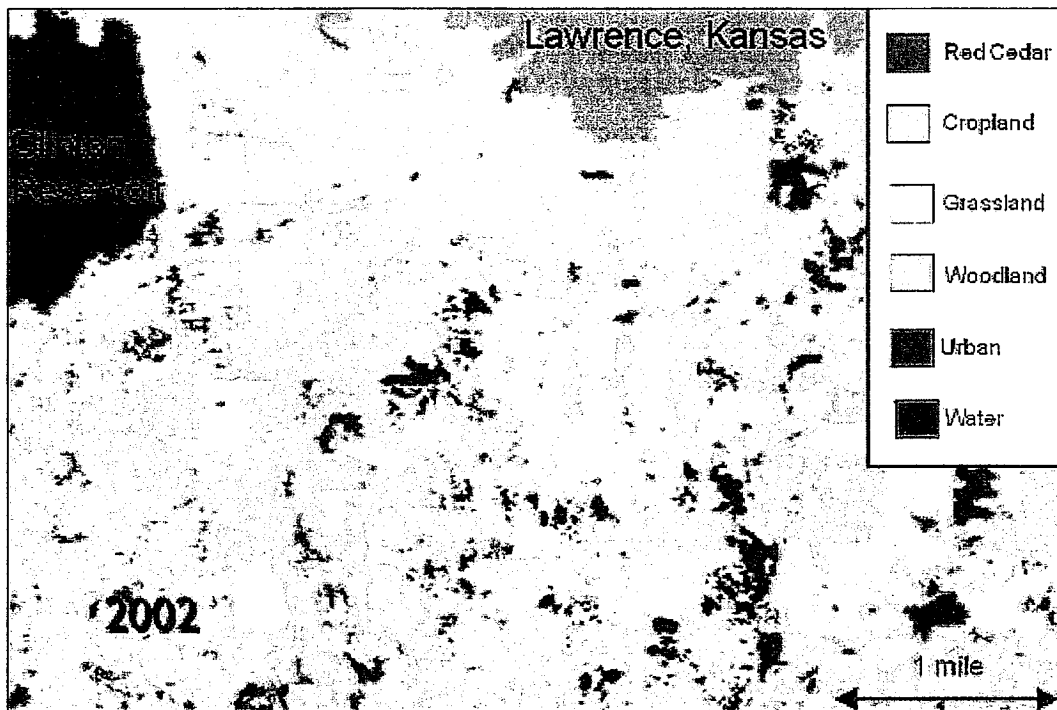
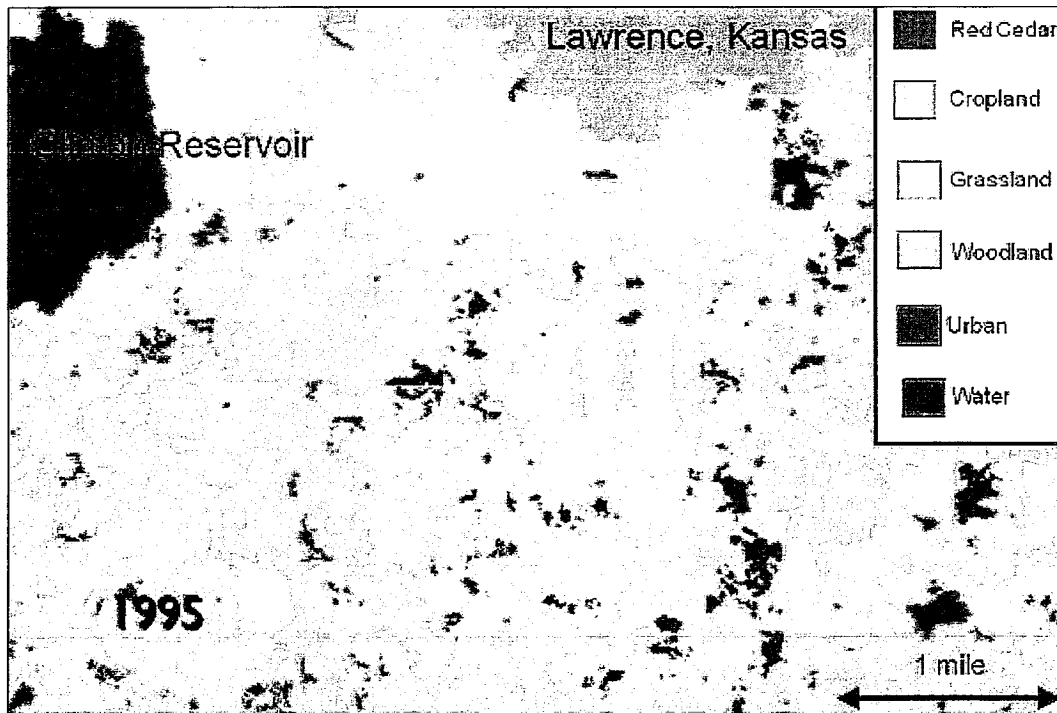
- \* To refine carbon budget models to determine whether changes in the distribution of eastern redcedar act as a source or a sink for carbon dioxide from the atmosphere.

\* To help government agencies develop good management plans for controlling eastern redcedar.

Eastern redcedar is not all bad. It can provide good wildlife and livestock cover and nesting habitat for some birds. It is very useful as a windbreak to protect croplands from soil erosion. When used for windbreaks, we can help control its spread by selecting for the male redcedar trees since the male trees do not produce seed. But in eastern Kansas, the uncontrolled spread of eastern redcedar can have implications for soil erosion, soil hydrology, and understory growth.

The following maps of an area in Douglas County demonstrate how we can now map the progression of coverage of eastern redcedar.





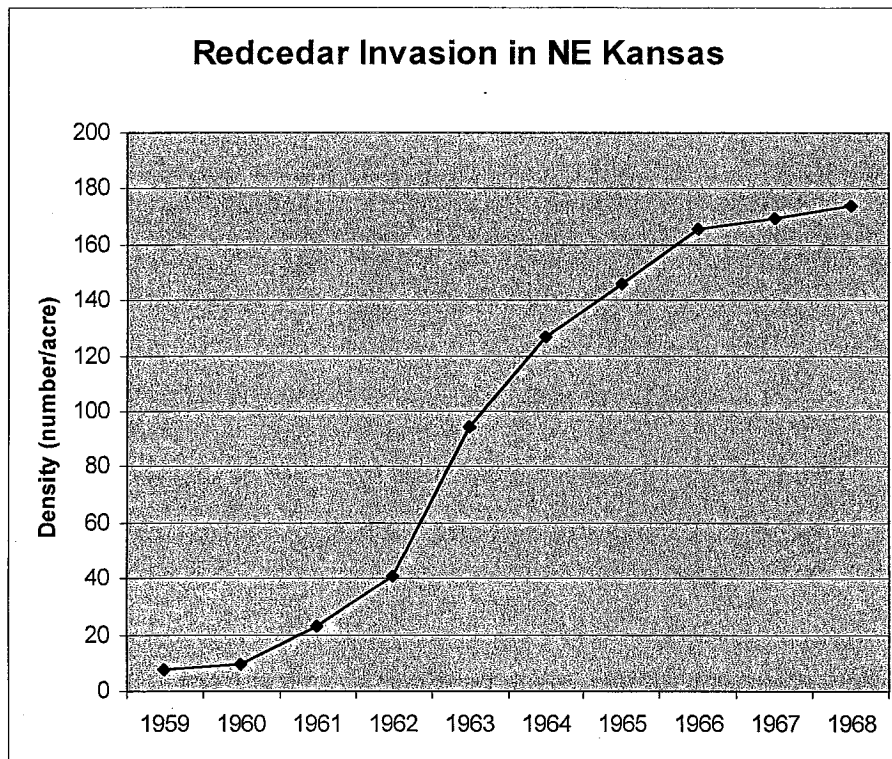
The three images above show the progression of eastern redcedar (area in red) in this tract of land in Douglas County from 1985, 1995, and 2002.

This project was funded by NASA and was a joint project between K-State and the University of Kansas.

-- Kevin Price, Professor, Agronomy and Geography, Remote Sensing, Natural Resources, GIS  
[kpprice@ksu.edu](mailto:kpprice@ksu.edu)

## 2. Eastern redcedar control on grazinglands

Eastern redcedar infests grazinglands throughout Kansas. It can be especially common on rangeland or pasture that has not been burned for several years. If left uncontrolled, eastern redcedar can completely take over grazinglands, intercepting rainfall and reducing forage production. The annual rate of redcedar invasion can be remarkable. See graph below, taken from an article by Owensby et al. 1973, which shows the increase in density at two locations – one in Riley County and one in Pottawatomie County.



Eastern redcedar is a non-sprouting plant. It does not re-sprout from belowground plant parts like hedge or honey locust. This simplifies the control measures, in some ways. There are three principal methods of controlling eastern redcedar. In order of preference, the methods are:

- \* Prescribed burning
- \* Mechanical control
- \* Chemical control

### **Prescribed burning**

Fire can kill or damage eastern redcedar if there is enough fuel on the grazingland. A normal fire will control redcedars that are less than three to four feet tall. Redcedar normally grows about 6-12 inches a year, so as long as grazingland managers burn every 3 to 4 years, that should keep most or all of the redcedars under control. Fire may not kill the entire plant, but if at least two-thirds or three-fourths of the needles are scorched, the plants will eventually die. If only half or less of the needles are scorched, the plants will probably survive. The most difficult situations are when there is a thick stand of redcedar, or many of the plants are more than four feet tall.

Under these conditions, fire will probably not be acceptably effective. Late summer rest should be used in grazing management to allow accumulation of enough fine fuel to ignite trees when the prescribed burn occurs. Burning can take place just about any time, but February-March might be ideal as trees are dry and seem to ignite easily.

### **Mechanical control**

Redcedars can be killed outright if they are clipped off near ground level, below the first green branch. Where clipping or mowing hasn't been effective, it's because the plants were not cut low enough. Even clipping three inches off the ground may not be low enough in some cases. Managers should try to get as close to ground level as possible. Clipping may be the only way of controlling eastern redcedar that is more than four feet tall. Clipping is sometimes easier to do if the plants have first been burned – even if the plants survived the fire. If the fire was reasonably hot, it will almost always sear off many of the lower branches, which makes it easier to get to when operating a clipper, mower, or chainsaw. Eastern redcedar that is clipped off at ground level will not regrow or re-sprout. Redcedar can be controlled by clipping or mowing at any time of the year.

### **Chemical control**

If the stand of redcedar is too thick to get a good burn (or the manager simply doesn't want to do a prescribed burn) and the plants aren't too big, then chemical control is another alternative. One chemical for eastern redcedar control is picloram, which is contained in Tordon 22K and Surmount. Tordon 22K can be applied as a liquid directly to the soil right at the base of the plant. The label calls for three to four milliliters (cc's), undiluted, per three feet of plant height. This should be applied in April/May or September/October, just prior to a rain if possible. It can also be applied as a foliar spray, in a one percent solution. Surmount is applied as a foliar spray to trees no more than three feet tall, at the rate of three to six pints per acre, in late spring or early summer. Tordon 22K and Surmount are restricted use pesticides.

Other chemical options for eastern redcedar include hexazinone and metsulfuron methyl. Velpar L is a liquid formulation of hexazinone, meant to be applied to the soil at the base of the tree at the rate of two to four milliliters per inch of stem diameter at breast height. Pronone Power Pellets are a dry formulation, applied on the soil at the base of the tree at the rate of one to two pellets per inch of stem diameter. Metsulfuron methyl, e.g. Escort XP, can be applied at the rate of 1-2 oz product/100 gal water as a high-volume treatment for redcedar control.

### **Summary**

Prescribed burning is the method of choice for most instances where eastern redcedar has invaded. Fire is a very effective tool for controlling smaller trees. Larger trees that may survive burning can be mechanically removed. Herbicides are available for treating redcedar, but usually require good spray coverage and will be more effective on smaller trees.

-- Walt Fick, Range Management Specialist  
[whfick@ksu.edu](mailto:whfick@ksu.edu)



**TESTIMONY**  
**Kay Johnson, City of Wichita**  
**Environmental Initiatives Manager**  
**SENATE NATURAL RESOURCES COMMITTEE**  
**Air Quality Issues and Agriculture Burning**  
**February 26, 2010**

The City of Wichita acknowledges the importance of periodic prescribed burning for the benefit of the biologically-important grassland ecosystem of the Flint Hills and other rangeland and agricultural areas in Kansas.

In support of those practices, the City of Wichita is working closely with the U.S. Environmental Protection Agency (EPA), state legislators, the Kansas Department of Health and Environment, other state agencies and universities, the Kansas Livestock Association, the Kansas Farm Bureau and others to develop a plan that can be beneficial to all parties.

To that end, the City of Wichita is concerned about the current version of SCR1623. Although the resolution specifically addresses the interests of the agricultural industry, it does not address the ozone issues faced by the Wichita Metropolitan Statistical Area (MSA) and other urban communities in Kansas.

The City of Wichita recently presented testimony to this committee explaining our precarious situation with regard to the EPA's National Ambient Air Quality Standard for ozone. Our ground-level ozone (or smog) levels are very close to the current limit, which means that ozone threatens our community's health. Additionally, if our community falls out of attainment of EPA ozone standards, we will suffer dramatic economic consequences that will be felt at every level of business and personal life.

Therefore, any increase in emissions that drift into the Wichita area such as what happened in April of last year from wildfires and agricultural burning will further degrade our quality of life and economy. Adding to our challenge, EPA recently announced intentions to further reduce the health-based ozone limit in this August because of the nation-wide increase of asthma cases and respiratory illnesses.

It is well known that the Wichita MSA is not entirely responsible for the ozone measured by local air monitors. Ozone is transported from areas in Oklahoma and other states as well from the Flint Hills burning. A special exemption for the Flint Hills will not alleviate ozone issues that threaten our part of the state and community. EPA has made it abundantly clear that the only solution to our continued problem with agricultural burning is to develop and implement a smoke management plan. An effective smoke management plan must be formulated with input from all affected parties, and the City of Wichita has expressed interest in participating in that process.

The State of Oklahoma is also working on such a plan, and other states already have approved and implemented plans. It is vital that the State of Kansas move quickly and effectively to participate in a regional solution to this problem.





*Mark Parkinson, Governor  
Roderick L. Bremby, Secretary*

DEPARTMENT OF HEALTH  
AND ENVIRONMENT

[www.kdheks.gov](http://www.kdheks.gov)

## **Testimony on SCR 1623**

**Presented to  
Senate Natural Resources Committee**

**By  
John Mitchell, Director, Division of Environment  
Kansas Department of Health and Environment**

**March 4, 2010**

Chairwoman McGinn and members of the committee, I am John Mitchell, Director of the Division of Environment for the Kansas Department of Health and Environment. Thank you for the opportunity to speak on Senate Concurrent Resolution 1623.

Beginning in the 1970s, the Kansas City metropolitan area has struggled to meet the National Ambient Air Quality Standard (NAAQS) for ozone. Air pollution sources in the Kansas City area have been operating under a maintenance plan that requires Kansas and Missouri to carefully monitor air quality and implement preventative measures, including more stringent air quality regulations, just to maintain compliance with the NAAQS. With the ozone violation in 2007, Kansas has had to implement additional contingency measures in Johnson and Wyandotte Counties.

To make matters even more difficult, the U.S. Environmental Protection Agency (EPA) lowered the NAAQS for ozone in 2008 from 84 to 75 parts per billion (ppb) and is in the process of reconsidering whether the standard should be set at an even lower level (a range of 60 to 70 ppb). In consideration of the recently lowered standard and in anticipation of its further reduction, Kansas and Missouri closely evaluate air quality monitoring results in the Kansas City metropolitan area. If and when any individual monitoring site violates the NAAQS, each of the states is required under its respective state implementation plan (SIP) with EPA to indicate what can be done to ensure that the detected air quality problems will be addressed.

Unfortunately, spring prairie burning in the Flint Hills sometimes causes ozone impacts as far away as Wichita, Kansas City, Omaha, Des Moines, the Quad Cities area, and St. Louis. Satellite photos have indicated smoke plumes from Flint Hills burning have impacts in Canada and Tennessee. In order to defer violations of the NAAQS in the spring, EPA may consider agricultural burning to be an "exceptional event" so the data can be excluded from calculating the status of compliance with NAAQS.

In the event exceptional circumstances cause a particular NAAQS violation, 40 CFR § 50.14 allows the states to request EPA to “flag” exceptional monitoring events, thereby excluding them from consideration in the formula that is used to determine whether a NAAQS violation has occurred. In order for a prescribed fire to be considered an “exceptional event” under 40 CFR § 50.14, Kansas must either certify to EPA “that it has adopted and is implementing a Smoke Management Program or . . . [ensure] that the burner employed basic smoke management practices.” However, the Region VII EPA office has indicated that Kansas has satisfied neither option for the 2009 burn event in the Flint Hills.

As currently written, Senate Concurrent Resolution (SCR) 1623 would simply exempt KDHE from having to certify a Smoke Management Program for the Flint Hills; the resolution does not address the heart of the issue, the exclusion of the Flint Hills air quality data from EPA’s consideration in determining whether a NAAQS violation has occurred. Consequently, KDHE suggests that SCR 1623 be amended to exclude the Flint Hills tallgrass prairie burning from the application of 40 CFR § 50.14.

Thank you for the opportunity to appear before the committee today. I will now stand for questions.

**Senate Concurrent Resolution No. 1623**

By Committee on Natural Resources

1-25

A CONCURRENT RESOLUTION urging the United States Congress to exempt, because of its unique ecosystem and historic significance, the tallgrass prairie in the Flint Hills, from a smoke management plan mandated by the United States Environmental Protection Agency.

WHEREAS, The Flint Hills region of Kansas contains the world's largest share of the remaining tallgrass prairie, and is the only place where that habitat is in landscape proportions. Only 4% of North America's pre-settlement tallgrass prairie survives to this day, and 80% is located in Kansas; and

WHEREAS, The Flint Hills region is also home to certain declining avian species such as the greater prairie chicken and Henslow's sparrow that cannot continue to exist without large expanses of native tallgrass prairie in an original state, Further, it is a significant corridor for migrating shorebirds such as the American Golden Plover, the Buff-breasted Sandpiper, and the Upland Sandpiper; and

WHEREAS, Beginning in the mid-19th century, cattlemen understood that the richness of the Flint Hills grasses depended on a good spring burn—something they learned from the Native Americans. Fire still thrives in the Flint hills because the ranchers, and others using the land, know that the natural ecosystem depends on fire; and

WHEREAS, Ranchers, land owners and conservation groups use prescribed burns to mimic the seasonal fires that have shaped the tallgrass prairie for thousands of years. Areas not burned for several years develop mature grasses and thicker, thatch-like vegetation which habitat is preferred by invasive species; and

WHEREAS, The Flint Hills is one of the few places in the United States where the prevailing agricultural system works essentially in tandem with an ancestral native ecosystem, preserving most of its complexity and the dynamic processes that helped shape it; and

WHEREAS, Because of the uniqueness of the Flint Hills tallgrass prairie and the historic manner in which the tallgrass prairie has been managed by fire, existing prescribed burn practices should be allowed to continue without a federally prescribed "smoke management plan". Now, therefore,

to require the United States Environmental Protection Agency to exclude air monitoring data from use in determinations of exceedances and National Ambient Air Quality Standards violations where the emissions are from prairie burning in the tallgrass prairie in the Flint Hills, a unique ecosystem of historic significance, and to treat the data as exceptional events under 40 CFR Section 50.14.

considered best management burn practices

1 *Be it resolved by the Senate of the State of Kansas, the House of Rep-*  
2 *resentatives concurring therein:* That we urge the United States Congress  
3 ~~to exempt the tallgrass prairie of the Flint Hills from a smoke manage-~~  
4 ~~ment plan mandated by the United States Environmental Protection~~  
5 ~~Agency; and~~

6 *Be it further resolved:* That the Secretary of the Senate be directed to  
7 send an enrolled copy of this resolution to the President of the United  
8 States Senate, the Speaker of the United States House of Representatives,  
9 the Administrator of the United States Environmental Protection Agency,  
10 and each member of the Kansas Congressional delegation.  
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← to require the United States Environmental Protection Agency to exclude air monitoring data from use in determinations of exceedances and National Ambient Air Quality Standards violations where the emissions are from prairie burning in the Flint Hills, a unique ecosystem of historic significance, and to treat the data as exceptional events under 40 CFR Section 50.14.

# Health Effects of Ozone Pollution

Senate Natural Resources Committee

March 4, 2010

Thomas Gross, Bureau of Air  
Kansas Department of Health and Environment



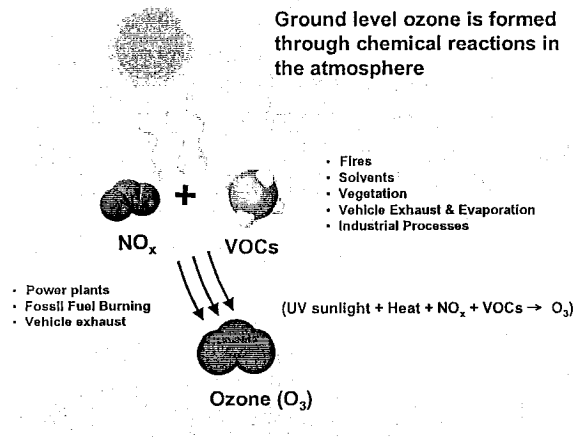
Kansas City on bad and good air quality days



## Overview

- Ozone formation
- Ozone standard history
- Ozone health effects
- Establishing and revising air pollutant standards
- Air pollutant standard benefits and costs
- Health studies associated with establishing the ozone standard

Ground level ozone is formed  
through chemical reactions in  
the atmosphere



## Ozone Standard History

- Ozone NAAQS originally established in 1971
  - 1-hour level of 0.08 ppm
- Revised in 1979
  - 1-hour level of 0.12 ppm
- Revised in 1997
  - 8-hour standard of 0.08 ppm
- Revised in 2008
  - 8-hour standard of 0.075 ppm
- Proposed Revision in 2010
  - 8-hour ozone standard in the range of 0.060 - 0.070 ppm
  - Distinct cumulative, seasonal secondary standard at a level in the range of 7-15 ppm-hours

## Ozone and Health

- Breathing ozone can:
  - Reduce lung function, making it difficult for people to breathe as deeply and vigorously as normal,
  - Irritate the airways, causing coughing, sore or scratchy throat, pain when taking a deep breath and shortness of breath,
  - Inflammation and damage to the airways,
  - Increase frequency of asthma attacks,
  - Increase susceptibility to respiratory infection, and
  - Aggravate chronic lung diseases such as asthma, emphysema and bronchitis.

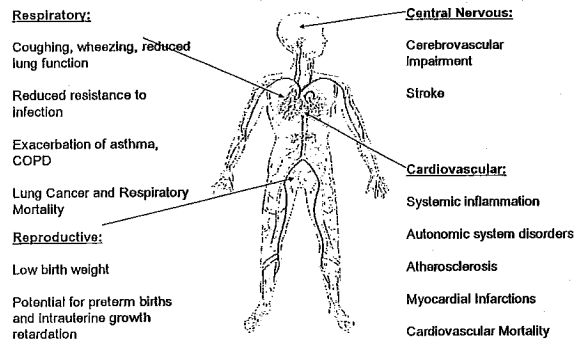
## Ozone and Health

- These effects can lead to:
  - Increased medication use among asthmatics,
  - More frequent doctor visits,
  - School absences,
  - Increased emergency room visits and hospital admissions, and
  - Increased risk of premature death in people with heart and lung disease

## Ozone and Health

- At-risk groups include:
  - People with lung disease such as asthma or chronic obstructive pulmonary disease (COPD)
  - Children
  - Older adults
  - People who are more likely to be exposed, such as people who are active outdoors, including children and outdoor workers

## Air pollution health effects



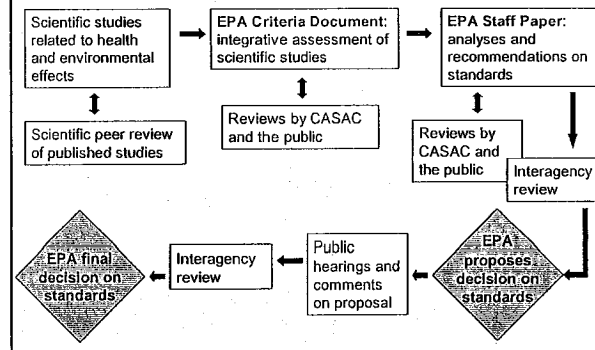
## Establishing Ozone Standard Regulations

- **Section 109 of the Clean Air Act** requires EPA to set **national ambient air quality standards (NAAQS)** for pollutants harmful to public health and the environment.
  - There are two types of NAAQS:
    - *Primary standards* protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly.
    - *Secondary standards* protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings.
  - The EPA has established NAAQS for six principal pollutants
    - Ground-level ozone (smog)
    - Carbon monoxide
    - Nitrogen dioxide
    - Particulate matter
    - Lead
    - Sulfur dioxide

## Revisions to the NAAQS

- The Clean Air Act requires EPA to review each pollutant **every 5 years**, and obtain advice from the Clean Air Scientific Advisory Committee (CASAC).
  - The EPA Administrator is not required to follow the recommendations of the CASAC
- Different considerations apply to setting NAAQS than to achieving them:
  - Setting: health and environmental effects
  - Achieving NAAQS: cost, technical feasibility, time needed to attain

## EPA Process for Establishing NAAQS



## Compliance Costs and NAAQS

- CAA Sec. 109(b)
  - EPA's task is to establish standards that
    - protect public health and welfare
    - are neither more nor less stringent than necessary
  - Costs not addressed in Sec. 109
    - *Whitman v. American Trucking Associations*
      - in establishing standards, EPA may not consider the costs of implementation

## How are Benefits Evaluated by EPA?

- Multiple analyses are used
  - Nature of sources of ozone
  - Current and future precursor emissions
  - Available control strategies
  - Incremental costs and benefits
  - Uncertainties
  - Health benefits
    - Premature mortality and morbidity
  - All combinations used to get a range of cost and economic benefits

## Ozone Health Studies

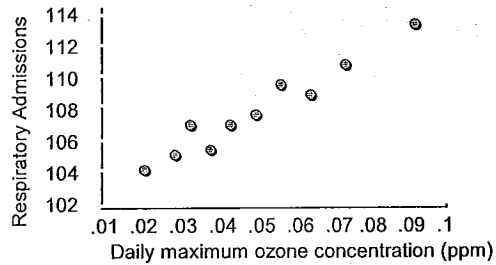
- More than 1,700 new scientific studies show:
  - **Adverse respiratory responses at level of 1997 standard and below:**
    - Clinical studies provide clearest and most compelling evidence of an array of effects, including adverse respiratory responses in healthy adults at a level of 0.080 ppm
    - Lung function decrements and respiratory symptoms
    - Biomarkers of lung injury including inflammation, increased airway permeability, and increased susceptibility to respiratory infection
    - Increased airway responsiveness (airway hyperreactivity)
  - Very limited evidence of lung function and respiratory symptom responses in healthy adults at lower exposure levels (i.e., 0.060 ppm)

## Ozone Health Studies

- **New evidence about ozone and mortality:**
  - Large numbers of new epidemiological studies, including new multi-city studies, reinforce the links between ozone exposure and respiratory morbidity effects
  - Observed effects supported by new animal toxicological studies that provide new information regarding mechanisms of actions and biological plausibility
- **Asthmatics have stronger response:**
  - Studies of people with asthma – especially children – indicate they experience larger and more serious effects that last longer than responses in healthy individuals



### Respiratory Hospital Admissions and Ozone



Source: Burnett, et al, (1994) Effects of low ambient levels of ozone and sulfates on the frequency of respiratory admissions to Ontario hospitals. Environ. Res. 65: 172-194. [44876]

### Ozone & Mortality in 95 Urban Communities

- **Objective**
  - To investigate whether short-term exposure to ambient ozone is associated with mortality in the United States
- **Results**
  - A 10-ppb increase in the previous week's ozone was associated with
    - 0.52% increase in daily mortality
    - 0.64% increase in cardiovascular and respiratory mortality
  - Effect estimates for aggregate ozone during the previous week were larger than for models considering only a single day's exposure.
- **Conclusions**
  - A statistically significant association between short-term changes in ozone and mortality on average for 95 large US urban communities, which include about 40% of the total US population.

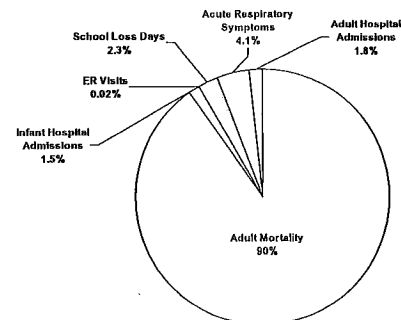
Source: Bell, et al, JAMA. 2004;292:2372-2378

### Projected Adverse Health Effects Avoided Under Alternate Standards in 2020

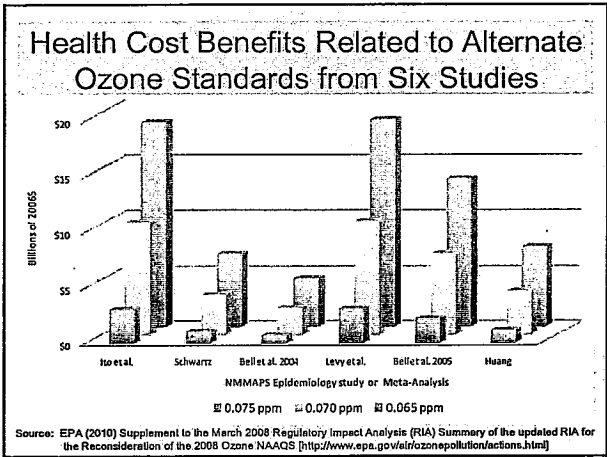
	0.070 ppm	0.060 ppm
Chronic bronchitis	880	2,200
Nonfatal heart attacks	2,200	5,300
Hospital and emergency room visits	6,700	21,000
Acute bronchitis	2,100	53,000
Upper and lower respiratory symptoms	44,000	111,000
Aggravated Asthma	23,000	58,000
Avoided premature mortality	1,500 to 4,300	4,000 to 12,000

Source: EPA (2010) Supplement to the March 2008 Regulatory Impact Analysis (RIA) Summary of the updated RIA for the Reconsideration of the 2008 Ozone NAAQS (<http://www.epa.gov/air/ozonepollution/actions.html>)

### Projected Ozone Health Benefits (using Bell 2004 study)



Source: EPA (2010) Supplement to the March 2008 Regulatory Impact Analysis (RIA) Summary of the updated RIA for the Reconsideration of the 2008 Ozone NAAQS (<http://www.epa.gov/air/ozonepollution/actions.html>)



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**Testimony in Support of Senate Bill No. 553**  
**Provided by Gordon B. Stull**  
**Senate Natural Resources Committee**  
**March 4, 2010**

Chairperson McGinn and Members of the Senate Natural Resources Committee:

Thank you for the opportunity to submit testimony in support of Senate Bill 553.

I am Gordon B. Stull. I am an attorney from Pratt, Kansas, and the President of Stull Law Office, P.A. My firm represents Haynesville Surface and Mineral Owners Association, Inc. ("Haynesville"), a newly formed group comprised of approximately 54 members. The members primarily are owners of property lying within a 14,000 acre area in Northeast Pratt County which Northern Natural Gas Company, Inc. ("Northern") has targeted as an expansion area for Northern's Cunningham Storage Field. I am also Pratt County Counselor of Pratt County, Kansas. I have been Pratt County Counselor for 25 years. I have also acted as attorney for Nash Oil & Gas, Inc. ("Nash") for many years. Nash is one of the oil and gas operators in the extension area but I am not a representative of Nash with respect to this pending legislation and I am not representing Nash in any litigation or administrative proceeding that is pending regarding this overall dispute. More information regarding me and my background is contained in the short biography attached to this written testimony.

**BACKGROUND:**

In 1978 the Federal Energy Regulatory Commission ("FERC") granted a certificate to Northern authorizing it to develop and operate a depleted reservoir gas storage field known as the Cunningham Storage Field in Pratt and Kingman Counties. Initially, the storage field occupied approximately 26,240 acres and Northern was granted permission to store in the Viola Formation. In 1996, due to leaking from the Viola Formation, FERC granted Northern certificate authority to also store gas in the Simpson Formation under the same acreage. In litigation by the landowners in Federal District Court in *Beck, et al. v. Northern* a judgment was rendered in favor of the landowners for Northern's violations of their rights in leaking into the Simpson Formation. In the 1990's, Northern began to make claims against oil and gas producers outside the certified storage field, including Nash and TransPac, asserting they were producing Northern's storage gas that had migrated outside the confines of the certified area. Northern subsequently filed separate lawsuits against both of these producers in Federal District Court in Wichita. In the TransPac case, after a jury trial, a verdict was rendered against Northern. A judgment was rendered against Northern and in favor of Nash because Northern threatened to sue Nash if it did not sign a tolling agreement waiving the statute of limitations and Nash refused to sign it. The judgment was based on Northern's failure to timely litigate the issue. Northern next turned to FERC and on March 16, 2007, filed an application to expand the storage field by approximately 4,800

acres along its northern boundary. Northern presented information to FERC to suggest that their gas had been migrating into this area which included the well operated by TransPac. The resulting FERC order increased Northern certification by approximately 1,760 acres permitting Northern to acquire the TransPac well. FERC, however, denied the application insofar as Northern was attempting to take Nash wells within the 4,800 acre area due to Northern's failure to provide adequate engineering and geological information for the commission to make an appropriate determination as to Northern's claims about leaking. This decision was rendered by FERC on October 30, 2008, in Docket No. 7-107-000. Undeterred, Northern has continued its efforts with FERC and in Docket No. CP 09-465-00 Northern filed an application to expand the existing certified storage boundary of the storage field in an area north of the storage field and by an area of approximately 14,000 acres. This is the area where many of the members of Haynesville own property and received royalty from producing wells. Haynesville and Pratt County, affected oil and gas companies, and the Kansas Corporation Commission, have intervened in this proceeding and it is now pending before FERC. Northern has also begun new litigation in federal and state courts against producers in the extension area regarding their wells.

While there are a multitude of issues regarding underground storage in general, and the Cunningham Storage Field in particular, I would like to focus on three aspects of the current statutes pertaining to underground gas storage in Kansas and the need for Senate Bill No. 553:

**PUBLIC SAFETY:**

Northern's Cunningham Storage Field was certified to be located initially in the depleted Viola Formation underlying approximately 26,000 acres in eastern Pratt County. The application was filed in 1977 and granted in 1978. As of the filing of the FERC proceeding in 2007, the storage field had 81 wells, including 52 injection/withdraw wells, 28 observation wells, a water disposal well, pipelines, interconnecting wells and compression facilities. As a condition to utilizing a storage field for both operational necessity and safety, it is necessary for the authorized owner to re-complete and re-plug all existing wells to eliminate the possibility of vertical migration from the target storage formation. As indicated earlier, notwithstanding Northern's efforts in this regard, they were unsuccessful when the field starting leaking vertically into the Simpson Formation. Therefore, under the best of circumstances, when a company is intentionally attempting to assure the safety and integrity of a storage field, something can be missed or errors can be made. The result is escaping gas. It was escaping gas from a storage facility, although not one exactly like the Cunningham facility, that led to the property and human disaster in Hutchinson, Kansas. Once gas is free from its bounds, its pressure will lead it to the point of least resistance sometimes horizontally, sometimes vertically.

In the expansion area, a number of wells are presently producing oil and gas and many wells have previously been drilled that have been plugged and abandoned. Well records obtained from the Kansas Geological Survey indicate wells in this area date back as early as 1940. No responsible storage field operator would place storage gas under pressure in the area where these wells are located without first at least attempting to re-enter the wells and either plug them back by modern methods or re-complete them in association with the field. **If Northern's claims are true, they have for many years been leaking substantial quantities of natural gas without doing anything to mitigate the risk these unknown well conditions pose to the environment, including water quality, and public safety.** When gas migrates it is not just the gas but all other substances it may come in contact with such as oil and salt water. The expansion area requested by Northern is less than a half a mile away from the small city of Preston, there are homes in the area, significant irrigation, and some of the area is in the drainage basin of the North Fork Ninescah that feeds Cheney Reservoir, a major supplier of water to Wichita.

How does this safety issue relate to this legislation? Kansas Corporation Commission Regulations already provide that an underground storage field facility must notify the KCC it in the event they suspect there is a leak. Following common sense, respect for others, and regard for the law was apparently not enough in the situation to induce a utility to take action to mitigate risks to the public and to property when their economic endeavors create risks. Northern, if their claim of leakage is to be believed, was not motivated by those standards and only became interested in certifying the extension area thereby having to operate it appropriately, after many years of leakage passed. The proposed legislation will be effective in preventing this from happening in the future because failure to act responsibly by disclosing leakage immediately will result in the storage facility not being able to recapture lost gas.

#### **RIGHT OF CAPTURE:**

In the case of *Anderson v. Beechcraft Aircraft Corporation*, 237 Kan. 336 (1985), the Court dealt with a case involving a non-certified gas storage facility owned by Beech where a company leased property adjacent to the storage facility, drilled a well and produced injected storage gas from the storage formation. When Beech attempted to stop this through litigation, it obtained an unfavorable result because of something known as the rule of capture. The rule of capture exists in all states. Generally speaking, the rule of capture holds that the owner of a tract of land acquires title to the oil and gas which the owner can produce from wells drilled on the land even though it may be proved that part of the oil or gas migrated from adjoining lands. In most jurisdictions, the rule of capture has been slightly modified as to how close someone can drill to adjoining property and to take into account conservation so there is not over production. When Kansas adopted the current form of K.S.A. 55-1210, it modified the rule of capture as to migrated gas in adjoining property to a storage field to either prevent or at least discourage the kind of activities that had taken case in the Beech case.

The problem with the modified rule of capture, however, is that it was apparently not anticipated how that slight modification might be abused.

In reliance on this limited modification, Northern is attempting to recapture the storage gas it claims has leaked by suing oil and gas operators in federal and state court and by a their request in FERC for the additional 14,000 acres to be certified as part of its storage facility. Northern's leaking of gas from its storage boundaries and ensuing litigation has resulted in economic loss to operators and landowners and loss of ad valorem taxes by the County. If this proposed legislation is not passed, the situation will just get worse. Presently, Northern has also filed suit against Oneok and Lumen, two pipeline companies which purchase gas from the area claiming they are also violating Northern's rights by purchasing gas from wells in the extension area.

Because of the abrogation of the rule of capture as to adjoining property, and the interpretation of the rights given to an operator by that modification, Northern apparently had no incentive to immediately undertake efforts to contain leakage at the earliest possible time that it was suspected. In its most recent litigation, Northern has claimed leakage began in 1994 but there is evidence to suggest that the leaking may have begun many years before. **Nonetheless, Northern has not disclosed leaking to the Kansas Corporation Commission as required by law.** In spite of Northern's numerous court actions claiming migration of its storage gas and damage by third party producers because of alleged leaking to the north, Northern, from the time it filed for a provisional permit with the KCC in 2003, had not filed a single report of a leak or a lack of containment to the KCC up to the time it filed the most recent Federal Court litigation. In October 1995 at a hearing in which Northern requested permission from the Kansas Corporation Commission to store gas in the Simpson Formation in the Cunningham facility, Northern's witnesses and experts testified there was an impermeable fault on the north edge of the original field that prevented migration in that direction. None of the witnesses revealed, however, that just a month earlier, Northern's witnesses at the hearing, including Northern's expert at the time, Michael Norton, had received an internal memorandum directly contradicting his testimony in which Northern claimed it had lost 2.5 bcf. in injected gas to the north. Northern received the permit in 1995 for the Simpson Formation no doubt in part based upon testimony of its witnesses to the fact that there was a fault which prevented migration to the north.

An attitude of entitlement was created by the change in the rule of capture. **Not only is a utility not penalized when it violates its storage limits, the utility is rewarded because it keeps title to the gas and gains more storage area without having to prove in advance its suitability for that purpose.** This unabated and unreported leaking also creates extreme difficulty on the part of landowners to protect their rights to native oil and gas because of the commingling. This is especially so in areas with little or no previous development because of lack of information about the nature of

native reserves. This can result in a windfall for the utility. Senate Bill 553 would eliminate or at least minimize these problems because a utility would have to ask first before using someone else's property or run the risk of losing their gas.

#### **TAKING OF PRIVATE PROPERTY RIGHTS:**

The ability of the government, as legislators well know, to take privately owned property for public use is strictly limited by the US and Kansas Constitution and related statutes. No property can be taken except for a public use and then only with just compensation. Special provisions exist regarding the use of eminent domain by private businesses, especially in the area of public utilities. Even with public utilities, however, an authorized taking must be for a public use and with just compensation.

Prior to the 1993 amendment of K.S.A. 55-1210, the Kansas law was satisfactory in that it provided that only upon the showing of an appropriate public use, could property be taken for the creation and operation of a storage field provided just compensation was paid. The amendment of K.S.A. 55-1210 created an unconstitutional violation of private property rights. Under the revised statute which modifies the rule of capture as to migrating storage gas on adjoining property, the steps in the eminent domain process have changed from legal authority→public purpose→taking and compensation, to taking→legal authority→ public purpose, and compensation. *Why have we allowed it to get to this point?*

Under the law of condemnation, the government's actual or effective acquisition of private property, either by ousting the owner and claiming title, or by destroying the property or severely impairing its utility, is considered a taking. There is a taking of property when government action directly interferes with or substantially disturbs the owner's use and enjoyment of the property. In the underground storage situation, the authorized utility acts as a defacto governmental entity authorized to take property for a public purpose. To take the property, the utility must comply with the law which says in K.S.A. 55-1203 and K.S.A. 55-1204 that before there is any taking, there must be a finding of appropriateness and that it is in the public interest.

What K.S.A. 55-2010 does, however, is implicitly authorize the taking and use of private owner's property for the storage of migrating natural gas without the authorizing steps. The statute does not specifically say that but if the statute allows a utility to retain title to migrated gas beyond the boundaries of its certified storage field, it follows that the legislature has therefore authorized the utility to use the private owner's property for the temporary storage of that gas until it is recaptured. Storage of migrated gas is being conducted in a non-certified field and, therefore, the private owner's property has not been determined to be suitable for, or appropriate for, the public use of a storage facility or that the use of the property for that purpose would be in the public interest. Only upon being authorized to use property for a storage facility by the KCC or FERC, does the utility have the authority to use private property and the

authority to take it from the owner. Therefore, the statutory system devised by the legislature in modifying the rule of capture is constitutionally flawed.

Northern asserts that not only does it continue to have title to migrated gas on adjoining property but it has the right to keep that title for gas migrating as far as 5 miles away in an area of 14,000 acres. **In addition, Northern must think it has the right to continue to store gas on private property, for more than 15 years, and without notifying or compensating the landowner. This is probably not what the Legislature intended. Northern has taken the inch given by the Legislature and made it 5 miles.**

The current legislation is a cure for this ill by at least making it certain that it is understood that this leaking and taking is subject to certain limitations and reasonable compensation. Does any governmental entity needing a road and start using the roadway for several years and then decide to go through the condemnation process and compensate the owner? Does a telephone company or electric company lay transmission lines to an area where they need coverage, use the lines for several years and then decide to condemn the property and compensate the owner for it? Such privileges should not have been given to a gas storage utility. The Legislature in 1993 was attempting to fix a problem but unintentionally created different ones.

Gordon B. Stull  
1320 East First Street  
Pratt, Kansas 67124



# PRATT COUNTY

300 S. Minnescah  
P.O. Box 885, Pratt, KS 67124

Office of the County Clerk  
Sherry Kruse, Clerk  
620-672-4110  
FAX 620-672-9541

County Commissioners  
Charles F. Rinke, 1<sup>st</sup> District  
Dwight W. Adams, 2<sup>nd</sup> District  
Joe R. Reynolds, 3<sup>rd</sup> District

March 4, 2010

**RE: Testimony of Commissioner Dwight Adams  
in support of Senate Bill No. 553**

Chairwoman McGinn and Members of the Senate Natural Resources Committee:

Thank you for the opportunity to provide testimony in support of Senate Bill 553. My name is Dwight Adams. I come to you as a representative of my fellow county commissioners of Pratt to encourage the passage of Senate Bill 553. Attached to my testimony is a map of the proposed storage field extension area including the current producing wells and a breakdown of the tax dollars collected on those wells prepared by our appraiser DJ McMurry.

As a county commissioner, I am torn on this issue. On the one hand, as a businessman and fiduciary for the people of Pratt County I am concerned about the loss of over \$1 million each year in ad valorem property taxes collected on the producing wells located in the extension area. That is property taxes collected on native natural gas, some of which has been produced in the area since 1954.

On the other hand, I feel for the employees of Northern Natural Gas Company who have contacted me and the other commissioners and who have attended county commission meetings to express their concern that Pratt County was attempting to shut down the Cunningham storage field. Currently, Northern Natural employs 17 area citizens.

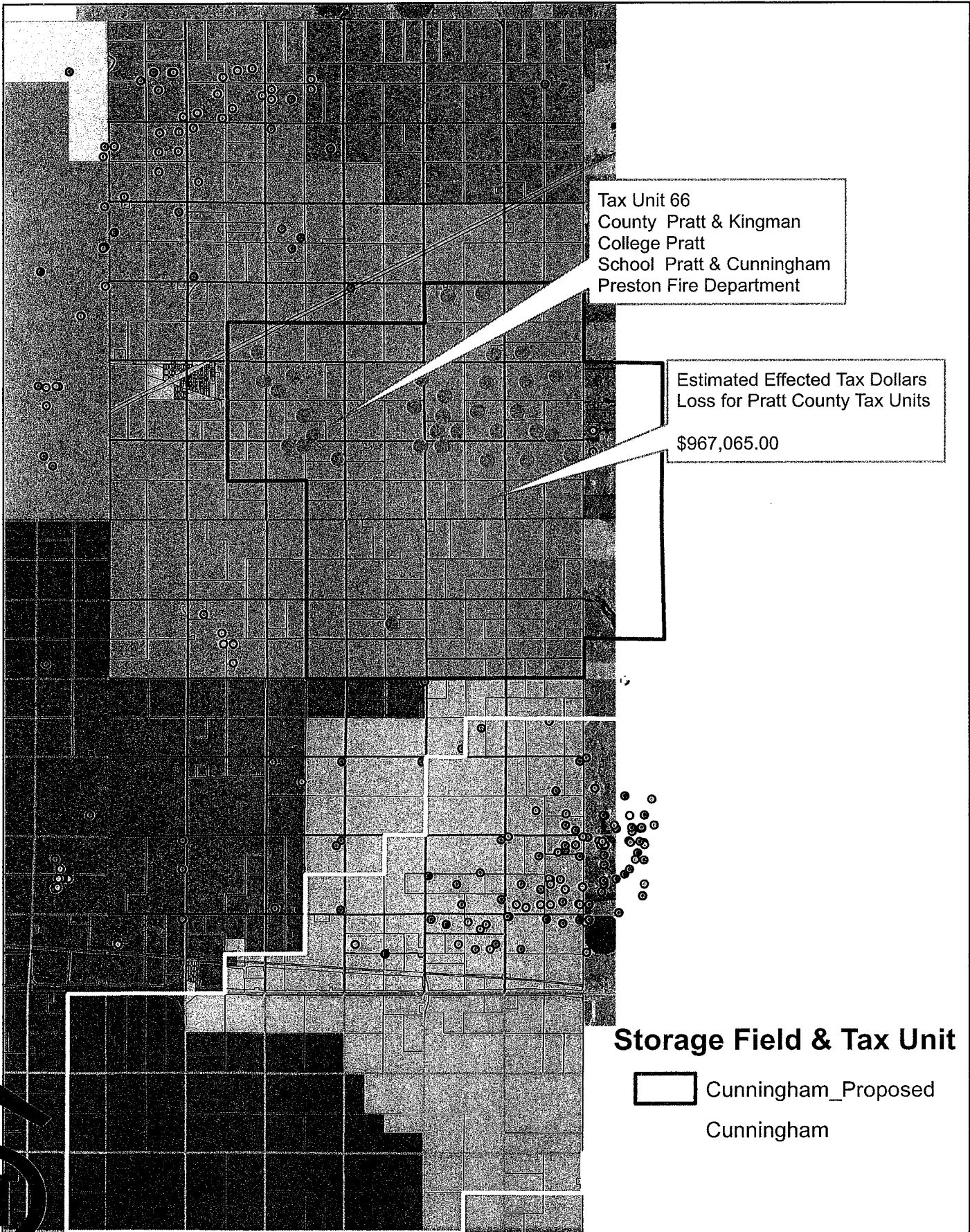
As a commissioner, I am required to balance the issues. Though I feel for the employees, I also feel for the landowners who will see a drop in the value of their farm and ranch land. I feel for the oil and gas industry that provides services to the producers operating in Pratt County, and I feel for the community college and two school districts that rely on the property taxes collected from those producing wells. It is not fair for any one party. Had Northern Natural operated their field like a good neighbor, had they followed KCC regulations, I may not have to be here this morning. I find it a bit disheartening that Northern Natural Gas Company has leaked under Pratt County land for this many years, endangering the lives of my citizens, and the first time anybody from Northern Natural has ever come to the county to discuss the issue, were the employees afraid of losing their jobs. Pratt County will be very happy if this problem can be resolved to protect the property owners and keep those jobs.

I, along with the Pratt County Commission support passage of Senate Bill No. 553. If Northern Natural is successful in condemning the 14,500 acres it seeks, they will receive the native minerals produced from the area tax free. New Section 7(A) of the bill requires the operator of a storage field to pay ad valorem taxes on this native gas if its loss is caused by their leaking. Natural gas storage field operators like Northern Natural should not be allowed to reap a windfall from the negligent manner in which they have claimed they have operated their storage field.

Thank you for this opportunity. I will stand for questions at the appropriate time.

A handwritten signature in cursive script that reads "Dwight Adams". The signature is written in black ink and is positioned above the printed name.

Commissioner Dwight Adams



Effected Area Of proposed storage feild

	Legal	Working Value	Royalty Value	Total Value	
Mapel 2					No Information
Staab #1	35-28-11	337466	51845	389311	
Holland 2-26	26-26-11	63960	12442	76403 O/G	
Trinkle #1	36-26-11	1478775	233223	1711999 G	
CRC #1	1-27-11	583291	86865	670156 O/G	
CRC #2	1-27-12	134287	31306	155594 G	
Holland 2-22	26-26-11	434543	92338	526881 G	
Mezger	26-26-11	241343	46388	287731 G	2 WELLS
Meiries	23-26-11	18011	4899	24909 G	
koenemann	28-26-11	27340	8366	35706 G	SHOW STARTED 8/5/2008
Brown A	36-26-11	797928	130695	928623 O/G	
SLB	35-26-11	2440	1810	4250 G	
Nicklin	Eqment	441		441 G	
Trinkl 1-33	33-26-11	12833	8157	20990 O/G	
Moore 1-27	27-26-11	1621	250	1871 G	
Geesling	26-26-11	58380	12939	71319 G	
Young	26-26-11	337027	82101	419128 G	2 WELLS THINK SAME LEASE
stanton	26-26-11	34413	9135	43547 G	
Milton	25-26-11	42298	14756	57054 G	
Zink	25-26-11	3575	3971	7546 G	
Zink A	25-26-11	25358	8065	33423 G	
Zink B	24-26-11	17049	7287	24336 G	
Martin	36-26-11	465261	77523	742784 G	
Ethie Koenemann 1					No Information
Pruitt 1-29					No Information
Trinkle 1-28					No Information
Joanne 1-20					No Information
Martin 2					No Information
DT 1-33					
Gard	28-26-11	6421	4109	10530 O	Oil only
Riffy V 1-25					Equipment Only
Branscom 1					No Information
McGuire 1-31					No Information
Kerehen Trust V 1-31					No Information

4786595      876625      6244532

Levie      0.154866

Total Tax \$      \$ 967,065.69

**HAYNESVILLE SURFACE AND MINERAL OWNERS  
ASSOCIATION, INC.**

1320 E. First St.  
P.O. Box 345  
Pratt, KS 67124

620-672-9446  
620-672-3228-FAX

Dorothy Trinkle-President

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**TESTIMONY IN SUPPORT OF SENATE BILL NO. 553  
HAYNESVILLE SURFACE AND MINERAL OWNERS ASSOC.  
DOROTHY TRINKLE, PRESIDENT  
SENATE NATURAL RESOURCES COMMITTEE  
MARCH 4, 2010**

Chairwoman McGinn and Members of the Senate Natural Resources Committee:

Thank you for the opportunity to provide testimony in support of Senate Bill No. 553. It is with pleasure that I appear before you on behalf of the 50+ members of the Haynesville Surface and Mineral Owners Association.

As much as the other conferees want you to believe that this bill is about natural gas, that this bill is about one side versus the other, it's not. Proponents and opponents to this bill will blame each other over what is happening in Pratt County, but that's not why I am standing before you this morning. Whether Northern Natural has in fact leaked natural gas under my property and the property of other members is not the purpose of this bill. The bill was introduced graciously by Senator Ruth Teichman to protect the surface and mineral owners.

Here is what will happen without the passage of Senate Bill No. 553. Our land will be condemned and Northern Natural will be required to reimburse us for the native minerals under our land. The farmers and ranchers that work the land, in some cases for generations, will have two options: they can take what Northern Natural is offering or they can hire lawyers, geologists, and experts who will attempt to determine the truth. No other Kansas law requires the owner of property to pay when somebody else violates his or her property rights.

Last Saturday, two-thirds of our members met in a senior center in Preston, Kansas to pass the hat, if you will, to raise money to cover the hiring of a lobbyist to help us fight this battle. Tuesday I learned that Northern Natural has now hired eight lobbyists. Nothing illustrates my point better than that fact alone.

I remember in the late 60s oil producers drilling for oil on my parent's land and hitting gas. Gas production in the area was not economical at the time, so in most cases, the gas was simply flared. It wasn't until pipelines later came to the area that my family could benefit from the minerals below our earth. The royalty we derive from those minerals have supported our farming as it has allowed us to replace an aging irrigation system. The minerals have shored up our retirement and will allow us to pass something on to the next generation. Northern Natural has now forced their hand and prevented the producers from paying the surface and mineral owners for the production of our minerals.

SENATE NATURAL RESOURCES  
3-4-10  
Attachment 9 - /

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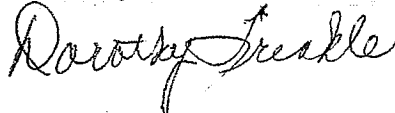
In my mind, passage of Senate Bill No. 553 does one thing; it will give the members of the Haynesville Surface and Mineral Owners Association and others who find themselves in our situation a leg to stand on. It will level the playing field and allow us to fight fire with fire. It will help us fight the taking of our property.

I always thought to take something by eminent domain was to provide for the greatest good for the greatest number of people. In this case, the only one to benefit will be Northern Natural Gas Co.

Again, as President of the Haynesville Surface and Mineral Owners Association, I encourage the swift passage of Senate Bill No. 553.

Thank you for your time.

Sincerely,



Dorothy Trinkle  
President

**TESTIMONY IN SUPPORT OF  
SENATE BILL NO. 553  
SENATE NATURAL RESOURCES COMMITTEE  
MARCH 4, 2010**

Chairperson McGinn and Members of the Senate Natural Resources Committee:

Thank you for allowing me the opportunity to address Senate Bill No. 553.

My family has farmed and ranched the same 980 acres in Pratt County since my great-granddad first settled in the area in the late 1890s. My family has never had a producing natural gas well on any of its land, I am not facing a fear of losing royalty checks like some of the other surface and mineral owners in the area. What I do fear is the loss in value my land will suffer if Northern Natural Gas Company gets its way.

Our land currently sits dead center of the proposed expansion area, several miles away from the northern most boundary of the Cunningham storage field. It's hard to believe that something miles away could cause the pain that Northern Natural is causing to my family and our neighbors. It is my understanding that there are several families in the area that depend on royalty payments that have ceased showing up in their mailboxes since early fall.

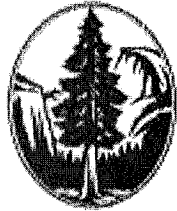
I do not rely on royalty payments to make ends meet. What I lose is the ability to use my property as I see fit. I lose the ability to mortgage my minerals if I need to buy seed or equipment or need money to run my business. I even lose the ability to sell my land for its proper value. My land is worth less now than it was only a few months ago. And I did nothing to deserve it.

In 2008, I entered into a lease with Sabco Oil and Gas Company to explore for minerals on my property. Before they began seismic testing they were notified by Northern Natural to expect a fight if Sabco discovered minerals. The warning scared of development of my property as it has elsewhere near the storage field. Landowners shouldn't live in fear of doing what they wish with their own property.

It is my belief that Sabco will never come back. Northern Natural may have actually accomplished their goal in scarring of future exploration and production in the area. If Northern Natural gets its wish, I will never know what lies under my earth. Passage of Senate Bill No. 553 will allow me the opportunity to know the truth by giving me the opportunity to hire my own geologist before Northern Natural comes in and takes that opportunity away from me and my family.

Thank you for your time. I ask the committee move quickly to pass Senate Bill No. 553.

Dennis Huff  
Preston, Kansas



SIERRA  
CLUB  
FOUNDED 1892

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RE: PRESCRIBED BURNING IN THE FLINT HILLS  
BEFORE THE HOUSE ENERGY AND UTILITIES COMMITTEE

THE FOLLOWING IS A COLLECTION OF EXCERPTS FROM THE REFERENCED PAPERS  
WHICH SUPPORT A 3 YEAR BURN CYCLE

ANNUAL PRAIRIE BURNING AND INTENSIVE EARLY-STOCKING  
HARMS THE PRAIRIE CHICKEN

Human impacts on tallgrass prairies and their biota have been severe. Among recent impacts is the shift from mosaic or rotational burns in fall and spring to broadscale artificial burns annually in the spring, coupled with “early intensive cattle stocking. (1)

**These declines are closely associated with different burning regimes: where spring burning regimes and associated early intensive cattle stocking are common, prairie-chickens are declining dramatically, whereas where spring burning is rare and/or rotated, populations are stable.** We suggest that this relatively new management technique works to the great detriment of the Greater Prairie-Chicken—and indeed to that of an entire suite of species that depend on prairie vegetation that is not burned yearly. (1)

In short, **spring burning followed by early intensive stocking of cattle** on an annual basis make the prairie all but uninhabitable for these species. This technique, combined with other problems (e.g., invasion of the prairies by *Sericea cuneata* [Fabaceae], resulting in spraying for control), **could easily place the species in serious danger of regional extirpation or even extinction altogether.** (1)

Direct effects of fire on birds include destruction of nests, while indirect effects may involve changes to vegetation, which favor some bird species over others. Greater-Prairie Chickens (*Tympanuchus cupido*), Henslow’s Sparrows (*Ammodramus henslowii*), and Dickcissels (*Spiza americana*) respond negatively to annual fire. (2)

Birds and other organisms dependent on this habitat have declined concomitantly, and many species have become of high conservation concern. **Emblematic of this habitat is the greater prairie-chicken (*Tympanuchus cupido*), a species whose fate has followed the prairie’s fate.** Even where tallgrass prairie remains—where it has not succumbed to the plow—it is impacted by land management, particularly those practices associated with cattle ranching (Robbins et al. 2002). Chief among these management tools is prescribed fire. (3)



**Our data suggest that both male and female greater prairie-chickens favor a patchwork of burned and undisturbed tallgrass prairie. (3)**

The management practice of spring burning in the Flint Hills has been intensified (100% of pastures) to improve forage value and utilization by livestock (Applegate and Horak 1999). Consequently, **minimum nesting cover values for Greater Prairie-Chickens often are lacking in the Flint Hills of Kansas and Oklahoma due to a combination of annual spring burning and intensive grazing stimulated by the burning regime.** “Good” range management is good for livestock production in this setting, but is detrimental to prairie grouse because there is “virtually no cover for spring nesting” (Clubine 2002:2). (4)

In the Flint Hills of Kansas (Applegate and Horak 1999) and Oklahoma (Horton and Wolfe 1999), there has been an increase in extensive spring burning to increase pasture utilization by livestock. Although this may be good for livestock production, it can significantly diminish the residual cover needed by hens and broods. (4)

#### THE BEST SOLUTION IS A 3-YEAR PATCH BURNING REGIME

Management Recommendations: Rejuvenate nesting cover by rotational disturbance management every 3-5 yr, with prescribed burning being the most desirable disturbance (Kirsch et al. 1973, Westemeier and Buhnerkempe 1983, Toepfer 1988, Applegate and Horak 1999, Westemeier and Gough 1999). (4)

Clubine (2002) reported that **patch burning and grazing**, which involves rotationally burning a third of a parcel, **offers ranchers an environmentally sensitive alternative which doesn't greatly diminish livestock yields.** This could dramatically improve nesting conditions, however, by leaving as much as 2/3 of the range unburned throughout the nesting season. (4)

**This (Intensive Early-Stocking) system is profitable for ranchers, but results in a high percentage of land in this region receiving fire treatment nearly every year, an interval shorter than that believed to be the historical fire interval of 3–4 yr (Robbins and Ortega-Huerta 2002).** The spring timing of these burns also differs from the historical timing of lightning-set fires, which were usually ignited in late summer. (2)

Patch burning involves burning roughly one-third of a given area in each year (Fuhlendorf and Engle 2001). This creates focal points of intense herbivory, results in a fire-return interval of 3 yr, leads to increased structural heterogeneity, and, at least initially, appears to be productive in terms of herbivore response. **This management regime is probably closer to the natural patterns and processes of tallgrass prairie** (Howe 1994). (2)

In effect, for prairie to represent a viable habitat for these species, **a mosaic of burn frequencies of 1-5 years is necessary** (Knapp and Seastedt 1998). Hence, **a system centered around**

**rotational prescribed burning, combined with reduced grazing pressure, is highly recommended. (1)**

Management practices will need to change if we hope to conserve viable populations of this species. **A key change involves the timing and extent of fires and the associated extent of cattle grazing.** Cattle gain weight more quickly when foraging on recently burned prairie (Zimmerman 1997), a result of increased forage quality and primary productivity; therefore, ranchers have an economic incentive to continue with spring burns. Yet such burns need not cover vast areas nor affect the same areas year after year. **A rotation of smaller burns (and their associated grazing pressure)—the basic idea of patch burning (Johnson 1997, Fuhlendorf and Engle 2004)—would create the patchwork of burned and unburned prairie necessary for the greater prairie-chicken. (3)**

Recommended 70-80% grass and 10-20% forbs as optimal grassland composition, and habitat should be 75% grassland and 25% cropland; **prescribed fire best applied on 4-yr rotation; large pastures were best because they promoted a variety of grazing intensities with different habitat uses” (5)**

Our data suggest some tallgrass prairie snakes avoid freshly burned tallgrass prairie but can recolonize burned areas within a single growing season. **We recommend that unburned areas be maintained adjacent to prescribed burns in managed tallgrass prairies to serve as snake refugia. (6)**

Fire frequency has significant effects on the biota of tallgrass prairie...concern has been expressed that **widespread annual burning, sometimes in combination with heavy livestock grazing, negatively impacts the biota of remaining prairie remnants. A common management recommendation, intended to address this problem is to create a landscape with a mosaic of different burn regimes.** Fire frequency effects were manifested primarily in changes in abundance of common species. (7)

**Burning** is necessary to maintain a tallgrass prairie but **should be done only every three to four years on a pasture rotation basis**; that is, burning one-third to one-fourth of an area each year. Generally, burning for best prairie chicken management occurs after early April, about the same time as first nest initiation. This will cause some nest losses, but hens will re-nest. If pasture burning is rotated annually, suitable habitat will be available for subsequent nesting. In the long run, this type of burning benefits prairie chicken populations. (8)

To provide prime nesting conditions, two management techniques can be used: 1) moderate to light grazing to maintain the proper height and density of vegetation and create edges; and 2) burning every three to four years to create nesting cover. If occasional burning is not done on moderately grazed pastures, the residual growth will reach a density discouraging hen use...**A good technique is to control burn only a third of the pastures every year. (8)**

**A patchy burn (about 20% unburned area) is most desirable for wildlife.** This leaves adequate cover for upland and big game and a winter food supply of various nuts and acorns. Prescribed fires, in general, greatly increase the diversity of wildlife species, as well as population densities on all vegetation types (R. Komarek, 1963; Marshall, 1963). (9)

**Historical evidence suggests that pre-settlement tallgrass prairie fires took place at irregular intervals of perhaps 3–10 yr in any given area.** Fires were ignited by both American Indians and by lightning at various times of the year but especially in late summer. Contemporary use of fire in tallgrass prairie is a necessary and powerful management tool that can yield dramatic results in terms of the response of both vegetation and birds. **Fire and grazing today rarely operate at the same frequency or with the same seasonality as they did historically, and certainly not at the same scale.** (2)

Current widespread use of annual or near-annual burning in the spring, together with widespread lack of burning in other areas, promotes a single type of grassland habitat available to birds. Such uniformity of management does not provide adequate habitat for the suite of tallgrass prairie bird species. **A shift to more varied fire regimes, which still maintain the profitability of ranching, would allow for greater avian species diversity and potentially higher nest success as well.** (2)

Based on the trends and patterns documented herein, as well as on our observations of prairie species across the Flint Hills region in recent years, **we and numerous colleagues involved with tallgrass prairie biotas are convinced that the spring burning regime with early intensive livestock grazing represent a serious threat to numerous elements of biodiversity.** (1)

Fire frequency has significant effects on the biota of tallgrass prairie, including mammals, vascular plants and birds. Recent concern has been expressed that widespread annual burning, sometimes in combination with heavy livestock grazing, negatively impacts the biota of remaining prairie remnants (7)



## Sparking a new trend

*Researchers discover the benefits of a new rangeland management technique*

By **Leslie N. Smith**, Sand Springs, Okla.

Before western settlement and the bison's population decline, these massive animals roamed the tallgrass prairie and grazed its nutritious grasses and forbs. To the average person, their movements may have seemed random, even pointless. But to experts, their roaming patterns have become a source of information that can benefit cattle ranchers and conservationists alike.

### Performing research

Sam Fuhlendorf, professor and researcher for Oklahoma State University's natural resource ecology and management department, worked with researchers at Oklahoma's Tallgrass Prairie Preserve to confirm theories he developed about bison's roaming habits.

"Historically, bison grazing patterns followed fire," Fuhlendorf said. "Fires were started by light-

ning or natives, and the unburned areas were not grazed much and accumulated fuel to burn later."

Knowing this, Fuhlendorf said he wondered whether the cattle would follow the same pattern as bison if he burned small areas of land. He wanted to know if the cattle would benefit from it and how native grassland species would be affected. To come to a conclusion, Fuhlendorf designed a study involving patch burning.

"We took two sections of land and used different management techniques for each," Fuhlendorf said. "In the first section, we divided it into six subsections, burning one subsection in the spring and one in the fall. The other section was completely burned once."

At the end of three years, each of the subsections in section one had been burned, leaving six patches in different stages of re-

growth, Fuhlendorf said. All of section two was at the same stage of regrowth.

To test the effects the patch-burning system had on cattle production, researchers stocked sections one and two with the same number of cattle and let them graze at their will, Fuhlendorf said. The cattle were tracked to determine where they grazed in the sections, and weight and growth statistics were collected.

"We completed the same study in three areas around Oklahoma," Fuhlendorf said. "One study was done at the Tallgrass Prairie Preserve, one at Stillwater's research station and the other at the Marvin Klemme Research Station."

### Saving time and money

Some advantages were immediately obvious. When researchers burned all of section two, they

Bison graze on a previously burned patch of land on Oklahoma's Tallgrass Prairie Preserve. (Photo by Steve Winter)

incurred monetary and time costs associated with relocating the cattle, Fuhlendorf said. With patch burning, the cattle did not have to be moved from the section.

As researchers collected statistics and results, more benefits of patch burning were revealed.

"Forage quality on recently burned patches is much greater than forage that has grown," Fuhlendorf said. "So, there is less need for supplemental feed.

"Animals graze everything in burned areas, even weeds they don't otherwise eat, because they are more palatable, more nutritious and have fewer tannins when they are in the early stages of regrowth."

Producers are able to maintain the same livestock production in both sections, but they feed less with the frequent burn scenario, Fuhlendorf said.

"Another benefit to cattle production is risk management," said Bob Hamilton, director of science and stewardship at the Tallgrass Prairie Preserve.

Patch burning provides a reserve patch and diversified forage options, Hamilton said.

"By having pasture in a multi-year rotation, you have higher fuel levels and thus better control of invasive species," Hamilton said.

One of the invasive species that affects forage quality, sericea lespedeza, is taking hold in much of eastern Oklahoma, Fuhlendorf said. With patch burning, these weeds do not increase.

"Sericea lespedeza seed lasts a long time in the soil, and one herbicide treatment won't work," Hamilton said. "With patch-burn grazing, we turn a weed into a forage species, and the cattle eat away your problem."

Oklahoma faces ecological catastrophes with the encroachment of Eastern redcedar, said Dwayne Elmore, assistant professor and wildlife extension specialist at OSU. Burning in the summer will provide for a hotter fire that will burn wood, like cedar, but you can still get a hot burn in winter with the right conditions, he said.

"The elimination of herbicide use, redcedar and noxious weeds are very beneficial aspects of patch burning," Elmore said.

### Helping native wildlife

Although ranchers can benefit from patch burning, they are not the only ones who may find patch burning helpful.

"People are interested in more than just livestock on their land," Fuhlendorf said. "You can manage land for wildlife with fire."

Native species from insects to small mammals respond well to patch burning, Fuhlendorf said. Patch burning makes a greater variety of habitat and helps increase species diversity in the prairie.

"Any wildlife species that evolved here did so with a fire and grazing interaction," Elmore said. "The good thing about patch burning is it's very dynamic.

"You can change the scale of the burn in terms of size, time of year and intensity to control for the species you want. For example, to maximize quail management, smaller burns of less than 50 acres are ideal."

While quail are birds commonly associated with the prairie, many other grassland birds benefit from patch burning, as well. One species that responds positively to patch burning is prairie chickens, Hamilton said.

"Prairie chickens are interesting in that during the spring and summer, just for a few months, they seek out very different patch types in a fairly short amount



Stacy Dunkin, a NREM graduate student, starts a fire on an OSU research range during last August's patch-burning study. (Photo by Steve Winter)

of time," Hamilton said. "In the spring, males look for very short vegetation where they can strut.

"Once hens breed, they seek patches with quite a bit of vegetation already on them so they can hide. Then, as soon as their eggs hatch, the hens try to take their babies to a patch with less dense vegetation because it is so difficult for the babies to get around."

By having a diverse landscape, you have a much broader array of grassland birds because different ones require different vegetation, Hamilton said.

### What you should know

While patch burning can be useful to ranchers and conservationists, researchers think there are some things both groups should know before implementing a new management plan.

"The producers need to be

comfortable with a forby, weedy initial response," Hamilton said. "People should know that patch burning takes a little more management, and they should be comfortable with having a messier looking landscape. Have trust in the plant community that it will respond and recover."

This leads to another benefit of patch burning. If you start and change your mind, you can burn the rest of your land with no loss on investment, Hamilton said.

"If I were a producer, I would want to know the bottom line, that is, weight gain and cost cuts," Elmore said. "Weight gains don't differ from traditional burns, patch burning costs substantially less, and it kills noxious weeds.

"It removes the need for interior fencing, which is a huge cost, and it greatly reduces handling time," Elmore said.

For those who used fire management before, trying patch burning will not be a big change, but for those who have not, it will be harder, Elmore said.

"We tell people to pick a section of land they are comfortable with and try patch burning for two to three years," Elmore said.

Then, if they are comfortable and it meets their objectives, he recommended they do it for the rest of their land.

"With the adoption curve, it takes a while for new information to take hold and be used," Elmore said. "Once people consider patch burning against the traditional alternatives, we believe they will decide to adopt this technique."▲

*For additional information on patch burning, visit <http://fireecology.ok-state.edu> or call Sam Fuhlendorf at 405-744-9646.*



# Red Creek Outfitters

[www.huntingandfishinginfo.com](http://www.huntingandfishinginfo.com)  
405-880-4267

and the  
hunting and fishing network welcome you  
to the four seasons.

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BEFORE THE SENATE NATURAL RESOURCES COMMITTEE  
MARCH 4TH, 2010  
TESTIMONY ON SCR 1623

Chairperson McGinn and honorable members of the committee:

My name is Chris Cardinal, and I am writing on behalf of the Kansas Chapter of the Sierra Club, the nations largest and oldest grassroots environmental organization. Thank you for the opportunity to give our written testimony in opposition to SCR 1623, and for the fine work this committee and its members do for the state of Kansas.

SCR 1623 is an irresponsible response to legitimate health and environmental concerns - brought to the doorstep of the Kansas Legislature by the Environmental Protection Agency (EPA) - riddled with factual half-truths and errors.

On page 1 line 25 SCR 1623 states that "Beginning in the mid-19th century, cattlemen understood that the richness of the Flint Hills grasses depended on a good spring burn— something they learned from the Native Americans." This is not factually true. Early-intensive stocking, which has only been practiced in the Flint Hills since about 1980, is not the method that was used by the Native Americans (as noted in 2002 by Kansas University researchers). Naturally occurring burns and burns by the Native Americans were not as large in scope as the Early-intensive stocking process is today, as the Early-intensive stocking annual burns hit 70-98% of the Flint Hills in an average of a 2 days. Current range burning practices in the Flint Hills have nothing to do with preserving the 'agricultural heritage' of the Flint Hills.

It goes on, in line 27, to read "Fire still thrives in the Flint hills because the ranchers, and others using the land, know that the natural ecosystem depends on fire." This is a half truth. The *annual*, early-spring, complete burning of entire ranches - in fact almost all of the Flint Hills - is not a requirement to preserving the prairie ecosystem. Rather, thirty plus years of prairie ecosystem research in the Konza Prairie and others, has shown the best regime for maintaining the ecosystem is to burn on approximately a *3-year cycle* and that burning in patches or on a rotational basis within a landowners property is preferred to burning all the property in a single year.

Page 1 lines 35-38 read, "The Flint Hills is one of the few places in the United States where the prevailing agricultural system works essentially in tandem with an ancestral native ecosystem, preserving most of its complexity and the dynamic processes that helped shape it." This is another half truth. Unplowed ground in Kansas that is used intensively for agricultural purposes and subjected to frequent burning, excessive grazing, and spraying of herbicides is not a functioning ancestral 'native' ecosystem. Ranching today in most of the Flint Hills is a broad-



scale industrial activity that is damaging on many levels. Scientists agree that it is responsible for the decline of the greater prairie chicken and other grassland birds. Many studies have shown that it is detrimental to the prairie ecosystem. It decreases plant diversity and eliminates all habitat for wildlife at a single moment in time.

Everyone involved in the presentations on Prescribed Burning, as well as in all types of agriculture, have a sustainable proposition to offer. The Kansas Chapter of the Sierra Club, in turn, is not in support of taking away the ranchers' matches. Rather we believe that the manner and frequency of range burning in the Flint Hills needs to be changed to accommodate native wildlife habitat, to reduce air pollution, and to protect the day to day operations livestock production. As seen in Oklahoma, this is a reasonable request. Ranchers who use a patch burning regime have preached numerous benefits to its practices over annual burns.

Flint Hills burning should and must continue, but under different regimes than currently used. Such burning could be done using the regime supported by science, to reduce its impact on urban air quality and to meet the proposed EPA requirements for ozone.

Exempting the Flint Hills from EPA regulation is a hasty request which will only contribute to the worsening of the urban air quality and be detrimental to the prairie ecosystem and the agricultural industry as a whole.

Madam Chair and Members of the Committee; it is our position, in line with thirty-years of research, that burning approximately one-third of the prairie each year would go a long way to meeting the EPA air quality standards, would be beneficial to the long term health of not only the prairie ecosystem, but also to the day to day livestock, oil, gas and wind energy operations. Thank you again for the opportunity to give our written testimony.



Before the Senate Committee on Natural Resources  
**SENATE BILL 553**  
Written testimony of Kansas Gas Service  
March 4, 2010

Kansas Gas Service appreciates the opportunity to provide written testimony on Senate Bill 553. Kansas Gas Service is the largest natural gas distribution company in the state serving more than 642,000 customers in approximately 342 communities. We are opposed to SB 553.

We are opposed to SB 553 for two primary reasons. We feel it could likely raise costs to our residential and commercial customers and we feel it may threaten our ability to deliver enough natural gas to customers during times of peak demand.

Traditionally natural gas prices are lower in the summer and higher in the winter. Kansas Gas Service puts gas into storage in the summer months, when prices are usually lower, and withdraws gas in the winter when both demand and costs are higher. Without storage, the gas needed for winter demand would have to be purchased as it was needed, at the prevailing, and usually higher, market price.

Costs to our customers could also increase due to higher fees charged to Kansas Gas by storage field owners. One component of the fee is called "lost and unaccounted for gas". This bill could lead to higher losses, which storage owners would incorporate into their rates, increasing storage fees to customers like Kansas Gas, who in turn passes these higher fees onto the customer.

Kansas Gas takes pride in delivering a safe and reliable service. Being able to deliver natural gas to all our customers on the coldest day of the year is something our customers and regulators expect us to do. Storage is necessary to meet our customer's varying and peak day requirements.

Passage of this bill will likely raise costs, possibly jeopardize the integrity of our system and could potentially cause harm to our customers.

March 2, 2010

Mr. John Beverlin  
Stull Law Firm  
1320 E. 1<sup>st</sup> St.  
Pratt, KS. 67124

Dear Mr. Beverlin,

On several occasions I've been asked the impact of the Northern Natural Gas litigation has had on my family. Easily stated, the impact has been very significant.

I inherited the family farm in Pratt, Co. in January 2008 after the death of my mother, Betty Mezger. Even with all of the heart ache this legal action has brought to my family recently, I count myself very, very fortunate that all of this occurred after her death. In September, 2005 I had no choice but to sign Mom into a nursing home that provided Alzheimer care. I knew the costs would be large, but I had no idea that her cost of care would very quickly escalate to between \$7,000 - \$8,000 per month. This amount did not include the cost of personal care items, prescription medication and replacing clothing that easily cost an additional \$500- \$700 per month. With out the gas checks from L.D. Drilling, I would have had no choice but to liquidate her assets to pay for additional months of nursing home care. It would have been a sad twist of fate that the land and possessions that Mom treasured all of her life not only would have had to be sold, but would have only provided an additional year and a half of care. Even as frugal as Mom was, it would not have kept her out of the state Medicaid program had she lived longer. Most elderly people's savings can not withstand the crushing \$100,000 per year care that is common in this day and age. Because of the additional income provided by the gas wells, she not only paid for her own care but paid taxes into the state and local treasuries and stayed out of the state Medicaid program. I have no doubt that there are several families currently facing this situation because of the litigation that Northern Natural Gas has brought to Pratt Co. and the state of Kansas.

Since Mom's death in 2008, my husband, Randy and I have made the conscious decision to give-back to the community as best as we could with some of the money the gas wells provided us. We believe in the biblical saying that to whom much is given, much is expected in return. We have paid for boy scouts from the local troop to go to scout camp when their families have been unable to afford the camp fee. We also have given generously to the altar society of our church and to our local school libraries, art and music programs - all entities that have suffered deeply from the recent recession. Within our family, we planned for a large portion of the gas well proceeds to be invested to pay for our childrens' college education. We are no longer able to set aside or donate money at the levels that we had planned when we benefited from monthly royalty checks due to the injunction requested by Northern that was granted by the court system.

SENATE NATURAL RESOURCES  
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Attachment 13 - /

Our family is just a normal family; we have not and do not spend lavishly. We play by the rules of society; never once did we ever think that we would have to defend ourselves with a team of attorneys against a Goliath of a company that for most appearances does not believe rules apply to them. The state of Kansas also needs to consider the tax implications of Northern Natural Gas; it's my understanding that companies such as Northern are not required to pay tax on stored gas while individuals benefiting from royalty checks contribute to the well being of our state through paying individual taxes. This situation has and will continue to create revenue issues for Pratt county, surrounding areas and the state as long as Northern is allowed to play by their rules.

For all of the above reasons, I would ask the Kansas legislature to pass Senate Bill 553 concerning gas storage facilities and will be happy to support this measure in any way that I can. In my opinion, this bill does not have a down side; it provides for a safer environment for Kansans and helps businesses make the right choices in how they store natural gas in Kansas. Most of all it contributes to the well being of our wonderful state.

Thank you for your time and consideration in this matter.

Sincerely,

*Ruth Mezger Urban*

Ruth Mezger Urban  
106 Broadmoor Dr.  
Louisburg, KS. 66053  
913-837-2360

**Written Testimony in Support of Senate Bill No. 553  
Provided by Clint W. McGuire  
Senate Natural Resource Committee  
March 4, 2010**

Chairperson McGinn and Members of the Senate Natural Resource Committee:

Thank you for the opportunity to provide written testimony in support of the passage of Senate Bill No. 553. Senate Bill No. 553 provides the surface and mineral owners surrounding a natural gas storage field a fighting chance when the operator of a storage field claims that injected gas has migrated under our property.

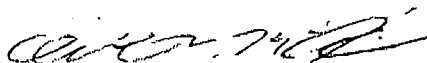
My wife and I purchased property in the Reno County area about seven years ago, on July 25, 2003. We used a loan offered through the Farm Service Agency to begin our dream of operating our own farm. In 2008, Val Energy drilled and discovered natural gas on our property. Because discovery of the gas knocked us into a higher tax bracket, we were no longer able to take advantage of the low interest FSA loan. Instead, on September 30, 2008, we were required to take out a higher interest bank loan. Later that year, I lost my job with Gateway Ethanol.

In October 2009, my wife and I received a letter from Northern Natural Gas Company indicating that they were pursuing expansion of their Cunningham storage field, because they believed that we and others were producing their storage gas. Let me reword that, Northern claims that my family is producing their storage gas from a well more than **four miles** from the boundary of their field. The letter we received came prior to a holiday weekend; it seems to me, an effort to hide from us. The letter did not apologize for Northern's negligence or their trespass; instead, Northern took the position that they were doing me a favor. I say negligence, because it is my understanding that even after Northern came to my wife and I to let us know that they were leaking under our land, they stuffed more gas in their storage field than anytime in the past.

Because of Northern's actions, we do not receive the revenue from our well's gas production. My wife and I struggle to make the payments on our higher interest loan, thus forcing our four young children to suffer as well. Without sufficient income, we have put our land in Reno County up for sale. Before Northern's actions, I could get \$1,200 per acre; now I have a hard time even getting attracting offers.

Please pass Senate Bill No. 553. Give us farmers and ranchers the opportunity to determine for ourselves whether Northern Natural has in fact leaked under our land. Don't make us take their word for it.

Very truly yours,



Clint W. McGuire

**Written Testimony in Support of Senate Bill No. 553  
provided by Kermit Brown  
Senate Natural Resources Committee  
March 4, 2010**

Chairwoman McGinn and Members of the Senate Natural Resources Committee:

Thank you for the opportunity to provide these words in support of Senate Bill No. 553. Senate Bill No. 553 will correct the wrong that has allowed another party to trespass on my property and the property of other members of the Haynesville Surface and Mineral Owners Association.


I was diagnosed with cancer in 1995, leaving me, because of a decision by my insurance company, with more than \$100,000 in medical bills to pay on my own.

In 2008, a tornado destroyed my farmstead and several pieces of machinery used in the operation of my farm.

With the help of royalty money from a producing well on my land, I have been able to make a sizeable dent in my medical bills and was beginning to replace the property I lost in the tornado; specifically I was in the middle of replacing the farmhouse built by my grandparents when Northern Natural filed their FERC petition. The house I was preparing to build is only 1500 square feet, yet without the money from my well I am unable to make the required payments.

Northern Natural's actions have destroyed any of that hope. Because of nothing I have done, or any of the other landowners have done, we are now required to face and fight a large company with a track record of lying and thievery. Senate Bill No. 553 will give me a chance to fight a company that has claimed to have trespassed on my property; to give me a chance to fight a company that wants to take all of my minerals that I have hung my hopes on.

Thank you for this opportunity. I support the passage of Senate Bill No. 553.



Kermit Brown  
Preston, Kansas

**Written Testimony in Support of Senate Bill No. 553  
provided by Sonja Staab  
Senate Natural Resources Committee  
March 4, 2010**

Chairperson McGinn and Members of the Senate Natural Resources Committee:

Thank you for the opportunity to submit written testimony in support of Senate Bill 553. Passage of this legislation means a great deal to my family and me; please give me the opportunity to tell you how.

My grandmother and her mother purchased 400 acres located in Section 1, Township 27, Range 11 and Section 35, Township 26, Range 11 in Pratt County for 32 cents an acre in the 1930s. For years they farmed this ground with a horse and plow themselves, as my grandfather died at an early age. Shortly before her death in 1999, my grandmother gave the land to me under the promise that it would always remain in our family.

In 2007, the first producing well was drilled on our property. In 2008, two more producing wells were drilled. It seemed our lives were about to change for the better. Income from the wells allowed my husband, who had been working 7 days a week, 12 to 14 hours per day, doing remediation work for pipeline companies, to give up the business that was taking a toll on his body physically. Money from the wells allowed him to get a total knee replacement in 2009, something that he had been putting off for years over financial concerns.

Until Northern Natural's revelations in October of 2009, we were in the process of setting up trusts for our three children. It is now February of 2010 and I am sitting here typing this, wondering how much longer we can keep our home, transportation, health insurance and my husband's remaining businesses. Words cannot express the fear and gut wrenching feelings you have in an experience such as this. I feel helpless and hopeless 90% of the time. I feel anger because my husband feels as if he has failed us. I don't understand how one company (Northern Natural Gas Co.) can complicate so many lives.

I realize that this is a small part of the world in the great scheme of things, but it is my grandmother's life work and my life's promise to care for that land. Most importantly, it is my children's legacy.

Please give Kansas landowners and mineral owners the ability to fight back against companies who think they have the right to come in and disrupt so many lives. Senate Bill No. 553 at least gives us the ability to fight back against such actions, and gives us some legal recourse.

Thank you so much.

*Sonja Staab*

Sonja Staab  
Russell Kansas

# SWKROA

*SOUTHWEST KANSAS ROYALTY OWNERS ASSOCIATION*

209 East Sixth Street  
Hugoton, Kansas 67951

Telephone: 620-544-4333  
Email: [erickn@pld.com](mailto:erickn@pld.com)

Testimony before the Senate Committee on Natural Resources  
**SB 553** – an act concerning natural gas storage

March 4, 2010

Chair Person McGinn and Members of the Committee:

My name is Erick Nordling. I am from Hugoton and serve as the Executive Secretary of SWKROA. I also am an attorney with the law firm of Kramer, Nordling, and Nordling, LLC. In my law practice, and as Secretary for the Association, I regularly advise mineral and royalty interest owners, as well as surface owners and farm tenants, with regard to issues relating to access to their lands for oil and gas operations and from damages resulting from such access and use of the land for oil and gas operations. Although we don't have many natural gas storage fields in southwest Kansas, my law firm and I have, from time to time, represented mineral and landowners in and around the Boehm storage field in Morton County.

I would like to submit written testimony on behalf of SWKROA **in support of SB 553**.

It is my understanding **SB 553** is a spin-off of a longstanding and bitterly fought series of legal battles between oil and gas production companies which obtained oil and gas leases from mineral owners whose minerals were located several miles from Northern Natural Gas Company's Cunningham Gas Storage Field located in Pratt County. Northern apparently has claimed that its stored gas escaped the known areal confines of the gas storage area and migrated to the distant properties, where it claims the gas and oil operator was producing its gas. The producer who obtained the gas leases and obtained gas production and its mineral and royalty owners have hotly disagreed with Northern's allegations. I presume others will testify to provide more background on the battles fought, but my understanding is there have been contests before the state courts, federal courts, the Kansas Corporation Commission, and the Federal Energy Regulatory Commission.

The proposed legislation will help to address issues related to escaped or migrated natural gas from natural gas storage areas, not only from the Cunningham Storage Field, but also for other storage fields located throughout the State.

The migration of natural gas from storage fields can create significant problems to people and property outside the know storage field area. Although factually different because of the type of storage field, (underground porosity storage vs. cavern storage), you might recall the leaks and problems associated with poor management of the Yaggy gas (cavern) storage area in Reno County, when vast quantities of stored gas escaped from the brine cavern storage area and



migrated up to 8 miles from the storage field. When the migrated storage gas breached the surface in 2001, the leaking gas exploded resulting in death and extensive property damages. Yaggy Field's operator, Kansas Gas Service, was found to have ignored pressure changes which indicated a leak, and to have otherwise put profits before safety, and was fined the state's maximum fine of \$10,000 for each of 18 violations. As late as 2009, remediation efforts to restore the site were ongoing.

Although the current statutes and regulations for underground porosity gas storage are pretty extensive, the current statutes allow the storage company to maintain title (not lose title) for gas which it has not been able to control and keep within the storage field area, even if the storage company may have known or should have known about stored gas escaping from the storage area. The statutes and regulations also do not appear to punish the storage company if the recommended storage pressures are exceeded, which could be a factor contributing stored gas migrating from the storage area.

The whole concept of storing gas in an underground storage area is precisely that, the gas should be stored for later use and sale. Current statutes provide that the underground stratum or formation must be suitable for the underground storage of natural gas. Injected gas should not be migrating outside the 'known' storage area, which seems to defeat the goal of having an area to store gas for later uses and sale. Yet, the statutes don't appear to punish the storage company for not being able to better define or predict leaks from storage areas. Perhaps storage companies do not want to pay more to condemn or purchase an adequate buffer area when establishing the storage field. If the rules favor them on migrated gas, what would be their incentive to secure an adequate field and buffer area?

Once gas has migrated outside the storage area, then it becomes a question of how to identify stored gas from native gas in the areas where the stored gas is claimed to have migrated. The current standard of proof by a 'preponderance of the evidence' is quite minimal. The storage company enjoys extremely powerful rights to chase after its 'lost' gas by conducting tests on 'adjoining' properties, although 'adjoining' is not defined. The suggested standard of 'clear and convincing' evidence is more appropriate.

It seems that with technological advances of today's sciences that an injector of natural gas should be able to put 'markers' into the injected gas which would make it uniquely identifiable over native or non-stored gas. I don't know if this could be as simple as a dye, or whether it could be radio isotopes which would create a 'signature' or 'fingerprint' for the stored gas. Such markers would sure cut to the chase on claims of escaped gas, and would help to differentiate migrated storage gas from native gas which may be found in the areas where storage gas migrates.

Also, once gas migrates outside a storage area, a number of other stakeholders are harmed or impacted by the storage company's alleged migration of its stored gas. These stakeholders obviously include the oil and gas company which secured oil and gas leases (outside the storage and buffer areas) from the mineral owners, and then obtained production from such wells. Once the company obtained production then the mineral owner, now as a royalty owner, would also be impacted. These groups could become embroiled in litigation and regulatory procedures over claims whether the produced gas is migrated gas or native gas, or even a combination of migrated and native gas. The groups you may not have considered as being impacted, include the county and state governments due to loss of ad valorem and severance taxes.

Simply put, this bill distills the responsibilities which a storage company should have to know the areal confines of its storage fields and strengthens the storage company's duty to contain such stored gas or face losing title to such gas.

We respectfully urge passage of **SB 553**.

Respectfully submitted,

Erick E. Nordling  
Executive Secretary, SWKROA

## TESTIMONY AND SUPPORT OF SENATE BILL 553

Submitted by:

Jeffery L. Carmichael  
Morris, Laing, Evans, Brock & Kennedy, Chartered  
Wichita, Kansas

I wish that my trial schedule would have permitted me to be present to testify in person regarding this important Bill, unfortunately that was not possible. I am submitting the following testimony in support of Senate Bill 553 which I believe clarifies important mineral rights for land owners and producers in the State of Kansas relating to gas production.

Senate Bill 553 will have an impact in clarifying K.S.A. 55-1210 as it relates to the Underground Gas Storage Act. K.S.A. 55-1210 is currently being misused by Northern Natural Gas in litigation in which it initiated in the United States District Court, District of Kansas, Pratt County District Court and in FERC in an effort to expand their Kingman Storage Field which is located in Pratt and Kingman counties to the disadvantage of surrounding landowners and oil and gas producers.

To understand the purpose of K.S.A. 55-1210 and the related Underground Storage Act, you need an understanding of Kansas law and how it related to property owners and natural gas that may be placed into storage. In *Zinc Company v. Freeman*, 68 Kan. 691, 75 P. 995 (1904), the Kansas Supreme Court developed a line of Kansas law which held that when oil or gas escapes from under the land of another or comes under another's control, the title of the former owner is gone. Under this ownership in place theory, Kansas landowners owned a present estate in oil and gas that was in the ground.

In an effort to temper this rule of law, the Underground Storage Act was passed including K.S.A. 55-1210 which is designed to provide some degree of protection to companies which store gas in formations that are allegedly safe, secure and designed to contain those gases for future use. Under K.S.A. 55-1210, Subsection A begins with the basic proposition that once gas is reduced to possession and subsequently injected into an underground storage field, it should remain the property of the injector so long as it remains in the storage facility. Reading this provision in context with the rest of the statute, that provision means that when natural gas is injected and remains in the storage field, it always remains the property of the company which injected it.

In Subsection B of K.S.A. 55-1210, the statute addresses the issue of a landowner's rights relating to such storage fields, reservoirs or facilities. Subsection B states that the owner of the property has no interest or possessory right to any gas which is being stored in such an underground facility. The Section further clarifies that such storage would not affect the right of the owner of the surface to drill through the underground storage facility in a manner that would protect such fields, facilities or reservoirs where the gas was being stored.

Subsection C of K.S.A. 55-1210 then provides that if natural gas escapes to adjoining property which has not been condemned, then in that situation the injector shall not lose title if it could prove by preponderance of the evidence that the gas was originally injected into the underground storage facility. Nothing in this Act addresses issues of wells that are miles away from the storage facility. The term "adjoining" as defined in K.S.A. 55-1210 has been defined to mean "on an adjoining section of land" as that term would normally be used.

Northern Natural Gas, Inc. has attempted to use this statute to enforce rights against gas wells that are miles away from the storage facility claiming that it has a right to the gas that is located there. The clarification of the law in the immediate bill would place the burden on the storage facility to finance such litigation and would clarify that any gas that escapes beyond the adjoining property would be subject to the rule of capture. It is in the State's interest and in the interest of safety of all citizens that the underground storage of natural gas be done safely and the gas remain within the confines of the storage facility in which it was placed.

With the reasonable interpretation and application of K.S.A. 55-1210 contained in SB 553, companies like Northern Natural Gas will be precluded from utilizing K.S.A. 55-1210 to strong-arm landowners, producers and working interest owners in the State of Kansas to take away their hard-earned investments. Why would an operator or landowner 6 miles away from a storage field have any clue that the natural gas being produced from their lease would be claimed by the storage company. Nash Oil & Gas, Inc. and VAL Energy, Inc. whom I represent, have invested in oil and gas leases and have benefited both the landowners and the counties in which they were located with payment of royalties and taxes. The clarification contained in SB 553 of K.S.A. 55-1210 would benefit landowners, operators and the counties in which they are located by giving them the ability to search for and produce gas without fear of being sued by storage companies which seem to have unlimited resources.

Nash Oil & Gas, Inc. and VAL Energy, Inc. are good companies located in the state of Kansas but are not without limit on their resources and their ability to respond to Northern Natural Gas in litigation that has been pursued would tax any company's ability. On behalf of oil and gas operators and those who intend to pursue the development of gas in the state of Kansas, Senate Bill 553 is a good clarification of the law and to propose the amendment which I have added to the Bill would further clarify the issues which I believe to be important to the State of Kansas and its citizens.

Respectfully submitted,

MORRIS, LAING, EVANS, BROCK  
& KENNEDY, CHARTERED

By

Jeffery L. Carmichael

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AN ACT concerning natural gas storage; relating to recovery of migrating gas; amending K.S.A. 55-1,115, 55-1201 and 55-1210 and repealing the existing sections.

*Be it enacted by the Legislature of the State of Kansas:*

Section 1. K.S.A. 55-1,115 is hereby amended to read as follows: 55-1,115. (a) On or before July 1, 2002, the state corporation commission shall adopt rules and regulations governing underground porosity storage of natural gas. Such rules and regulations shall include the permitting, monitoring and inspecting of underground porosity storage of natural gas and the closure and abandonment of such underground porosity storage of natural gas. Such rules and regulations may establish fees for permitting, monitoring, inspecting and closing or abandoning underground porosity storage of natural gas.

*(b) (1) The commission shall not amend or renew any permits issued on or after July 1, 2002, for the underground porosity storage of natural gas to a natural gas public utility seeking renewal of such permit according to rules and regulations as promulgated under subsection (a), if such utility is seeking a certificate of public convenience and necessity pursuant to 15 U.S.C. 715f, in order to recover migrating gas beyond the limitations as set forth in K.S.A. 12-1210, and amendments thereto.*

*(2) The commission shall assess a \$1,000 penalty for each day that such utility is found to be in violation of rules and regulations due to leaking or migrating gas. The commission may suspend or cancel such permits upon a finding that continued operation of the storage facility causes waste, pollution or a threat to public safety.*

*(b) (c) No hydrocarbon storage shall be allowed in any underground formation if water within the formation contains less than 5,000 milligrams per liter chlorides, except that the provisions of this subsection shall not prohibit the storage of hydrocarbons in an underground porosity storage facility if such storage facility was in use before July 1, 2001.*

*(c) (d) The provisions of K.S.A. 55-162 and 55-164, and amendments thereto, shall apply to violations of the rules and regulations adopted pursuant to this section.*

*(d) (e) As used in this section and K.S.A. 55-150, 55-155, 55-182 and*

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74-623, and amendments thereto, "underground porosity storage" means the storage of hydrocarbons in underground, porous and permeable geological strata which have been converted to hydrocarbon storage.

Sec. 2. K.S.A. 55-1201 is hereby amended to read as follows: 55-1201. As used in this act:

(a) "Underground storage" shall mean storage in a subsurface stratum or formation of the earth;

(b) "natural gas" shall mean gas either while in its original state or after the same has been processed by removal therefrom of component parts not essential to its use for light and fuel;

(c) "native gas" shall mean gas which has not been previously withdrawn from the earth;

(d) "natural gas public utility" shall mean any person, firm or corporation authorized to do business in this state and engaged in the business of *the underground storage of natural gas* or transporting or distributing natural gas by means of pipelines into, within or through this state for ultimate public use;

(e) "commission" shall mean the state corporation commission.;

(f) "conservation division" shall mean the conservation division of the state corporation commission;

(g) "adjoining" shall mean the area which includes the surface and subsurface area within a 1/2 mile radius of a certified boundary of an underground storage field; and

(h) "state emergency management" shall mean the division of emergency management within the office of the adjutant general.

Sec. 3. K.S.A. 55-1210 is hereby amended to read as follows: 55-

1210. (a) All natural gas which has previously been reduced to possession, and which is subsequently injected into underground storage fields, sands, reservoirs and facilities, whether such storage rights were acquired by eminent domain or otherwise, shall at all times be the property of the injector, such injector's heirs, successors or assigns, whether owned by the injector or stored under contract *except as limited by this section*.

(b) In no event shall such gas be subject to the right of the owner of the surface of such lands or of any mineral interest therein, under which such gas storage fields, sands, reservoirs and facilities lie, or of any person, other than the injector, such injector's heirs, successors and assigns, to produce, take, reduce to possession, either by means of the law of capture or otherwise, waste, or otherwise interfere with or exercise any control over such gas. Nothing in this subsection shall be deemed to affect the right of the owner of the surface of such lands or of any mineral interest therein to drill or bore through the underground storage fields, sands, reservoirs and facilities in such a manner as will protect such fields, sand, reservoirs and facilities against pollution and the escape of the natural gas

or gas previously injected to which the storage company has lost title and/or which is subject to the law of capture

Sentence to be added at the end of 1210(b). Should the landowner or the landowners lessee or agent incur expenses in drilling, completing, plugging, or working on wells within a underground storage field to a sand or reservoir to which the storage company does not have a certificate, which expenses would not otherwise be incurred but for protection of the storage field, the storage company shall be responsible for promptly reimbursing any such expenses, and if it is necessary to file a legal action to recover such expenses the mineral owner or mineral owner's lessee or agent, shall be entitled to interest and their costs, including attorneys fees and expenses if they are successful in such action.

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being stored.

(c) With regard to natural gas that has migrated to adjoining property or to a stratum, or portion thereof, which has not been condemned as allowed by law or otherwise purchased:

(1) The injector, such injector's heirs, successors and assigns shall not lose title to or possession of such gas if such injector, such injector's heirs, successors or assigns can prove by a preponderance of the *clear and convincing* evidence that such gas was originally injected into the underground storage.

(2) The injector, such injector's heirs, successors and assigns, shall have the right to conduct such tests on any existing wells on adjoining property, at such injector's sole risk and expense including, but not limited to, the value of any lost production of other than the injector's gas, as may be reasonable to determine ownership of such gas.

(3) ~~The owner of the stratum and the owner of the surface property outside the injector's certified storage boundary shall be entitled to such compensation, including, but not limited to, compensation for use of or damage to the surface or substratum, trespass, conversion and slander of title, as is provided by law, and shall be entitled to recovery of all costs and expenses, including reasonable attorney fees, if litigation is necessary to enforce any rights under this subsection (c) and the injector does not prevail associated with determining the extent of migrated and migrating natural gas, the negotiating of lease agreements for the storage of natural gas, any proceedings before any state or federal agency having oversight of underground storage fields or the transportation of natural gas and any other litigation necessary to enforce any rights under this subsection.~~

~~(c) Subsection (c) shall also apply retroactively to all such litigation and such state and federal proceedings.~~

(4) ~~The injector and such injector's heirs, successors or assigns shall lose title to and possession of such injected gas if the migration of such gas is a result of pressure in a storage field or reservoir, measured in psig, in excess of 75% of the fracture gradient of such field or reservoir as determined by a step rate test or as calculated by a licensed engineer or licensed geologist using a testing technique accepted by the conservation division of the state corporation commission.~~

(5) ~~The injector and such injector's heirs, successors or assigns shall lose title to and possession of migrated and migrating natural gas if such injector, injector's heirs, successors or assigns fail to notify the commission, record owners in effected areas, state emergency management and any other interested parties that such injector and such injector's heirs, successors or assigns knows of or has reason to know of natural gas that is migrating or has migrated outside of a certified storage area. Such notification shall be made within 30 days of the date that the injector and~~

(c) With regard to natural gas that has migrated to adjoining property or to a stratum, or portion thereof, which has not been condemned as allowed by law or otherwise purchased:

(i) adjoining property; or (ii) within the confines of a certified storage field, to a stratum, or portion thereof, which has not been certified to be part of such storage field, and which stratum, or portion thereof, has not been condemned as allowed by law or otherwise purchased.

[. . . of such gas] upon obtaining a court judgment in such injector's favor [if such injector, . . .]

[last sentence of (c)(1)]

Such injector shall not be entitled to any damages or reimbursement for gas produced prior to the date the injector obtains such a court judgment.

(3) ~~The owner of the stratum and the owner of the surface property outside the injector's certified storage boundary~~ With respect to such adjoining property or stratum, or portion thereof, within a certified storage field, as the injector has no rights regarding such properties, the owners of any interests, including surface interests, mineral interests, and lessee and royalty interests of any type pursuant to oil and gas leases [shall be entitled to . . .]

if litigation is necessary to enforce any rights **ensues** under this subsection (c) **whether or not** and the injector does not prevails

[new sentence for (c)(3)]

Regarding any well from which production is stopped due to production of storage gas, the storage company shall be liable for all previously unrecovered costs of drilling and operating such well and lease

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such injector's heirs, successors or assigns, knows of or has reason to know of such migrated and migrating gas.

(6) The rule of capture shall apply to any gas that has migrated or is migrating beyond such adjacent property as described in this section.

(7) (A) ~~The injector and such injector's heirs, successors and assigns shall compensate any taxing entity for loss of ad valorem taxes caused by the migration of the injector's gas into any property outside the injector's certified storage boundary if such migration or subsequent condemnation of the property affected by the migration results in a cessation of production or taking of oil or natural gas from any existing oil or gas well which, at the time of cessation, was subject to ad valorem taxation. (B) The amount of tax compensation shall be based on the fair market value of the proved producing and proved non-producing gas or oil attributable to royalty, overriding royalty, working interest or otherwise, which could have been produced from any such well under its estimated commercial life but for the cessation caused by the migration of the injector's gas. (C) The claim for recovery for affected taxing entities shall be made by the county in which any such well is located and calculated by the county appraiser. It will be assumed for purposes of this section that the fair market value was or could have been produced in the year of cessation or condemnation, whichever is latest. The valuation of such fair market value will be made by the county appraiser in accordance with K.S.A. 79-329, 79-330 and 79-331, and amendments thereto. The injector and such injector's heirs, successors and assigns shall file with the county appraiser a statement of assessment on or before April 1 of the year following cessation or condemnation in accordance with K.S.A. 79-332a, and amendments thereto. (D) The mill levy for the applicable taxing entities in effect for the year of cessation or condemnation shall be applied in making the tax calculation and such injector, such injector's heirs, successors and assigns will be invoiced for the tax so calculated and if such tax is not paid within 30 days of the invoice, such tax will be delinquent and be a lien on the injector's real and personal property located in such county. Delinquent taxes will accrue interest and penalties in accordance with K.S.A. 79-2004, and amendments thereto.~~

(d) The injector, and such injector's heirs, successors and assigns, and ~~any surface or mineral rights owner with title or an interest in an underground storage field, reservoir or facility or any area containing migrated and migrating gas,~~ shall have the right to compel compliance with this section by injunction or other appropriate relief by application to a court of competent jurisdiction. ~~A surface or mineral rights owner bringing such actions shall be entitled to recover costs as described in subsection (c)(3).~~

Sec. 4. K.S.A. 55-1,115, 55-1201 and 55-1210 are hereby repealed.

Shouldn't this be "adjoining" to be consistent?

, and any injector who subsequently obtains rights to expand its storage field to such properties which contain migrate storage gas shall be required to compensate all interest owners for any loss of the right to produce such gas pursuant to the rule of capture. The injector shall lose title to any gas which has migrated beyond adjoining property and should the injector subsequently obtain permission to expand its storage field to such properties, the injector shall be deemed to own none of such gas except when the injector can demonstrate by clear and convincing evidence that it has separately purchased such gas to which the injector had lost title after making full, candid, and complete disclosures to any interest owner of such property that the injector had or has lost title to any previously injected storage gas which migrated to such properties

[T]he owners of any interests, including surface interests, mineral interests, and lessee and royalty interests of any type pursuant to oil and gas leases, migrated and/or migrating gas, or allegedly migrated and/or allegedly migrating gas

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Sec. 5. This act shall take effect and be in force from and after its publication in the Kansas register.

Sec. 5. If any provision of this act is declared unconstitutional, or the applicability thereof to any person or circumstance is held invalid, the constitutionality of the remainder of this act and the applicability thereof to other persons and circumstances shall not be affected thereby.

Rename current Sec. 5 as Sec 6.

March 3, 2010

Senator Carolyn Mc Ginn  
Kansas Legislature  
Topeka, Kansas

Dear Senator Mc Ginn,

My name is Diane Pruitt. I was a full time registered nurse for thirty five years, inherited family land adjacent to Preston, Kansas, and became a fourth generation Pratt County, Kansas, farmer.

The land in Preston was leased to an independent Kansas gas/oil driller. No expectations of mineral production were expected from poor, sandy soil.

The lease money was all we expected. You can only imagine my pounding heart opening a letter from the State of Kansas. Deep breathing, I read of your mission to drill a water well and I knew why.

Gas royalty money was an answer to spiritual requests. Following an unexpected situation, I was forced to use ~~my~~ retirement benefits from Stormont Vail Health Care and quit my job with a local insurance company. Gross income of \$370,73 results in financial dependence on my husband.

Some examples of loss of gas money include:

- No improvements planned in Preston (water, electricity)
- Strain on marriage - husband was working 6-7 days/week at Burlington Northern Santa Fe. It may have to increase again from 5 days
- Husband's planned retirement, October 2010 may force longer employment and lower future pension
- Complete change of daughter's wedding plans

- Decreased financial assistance for active Army son-in-law and daughter
- Significant reduction of charitable donations
- Repairs to farm truck and tractor > \$6000 may require changes to 401K/retirement funds. Funds may be needed for a vehicle to drive to work - current on 15 years old / 225,000 miles
- A base required friends to assist with snow removal
- Past money used to pay college expenses, loss will mean less for retirement

Senate Bill #553 requires accountability of Northern Gas and protects the rights of this fourth generation Kansans. Thank you for your support

Sincerely,

Diane Pruitt

Box 172

Perry, Kansas 66073



# **GACHES, BRADEN & ASSOCIATES**

Government Relations & Association Management

825 S. Kansas Avenue, Suite 500 ♦ Topeka, Kansas 66612 ♦ Phone: (785) 233-4512 ♦ Fax: (785) 233-2206

**Senate Natural Resources Committee  
Testimony of Atmos Energy  
Submitted by Ron Gaches  
In Opposition to Senate Bill 553 – Natural Gas Storage Penalties  
Thursday, March 4, 2010**

Atmos Energy is strongly opposed to passage of Senate Bill 553. There is nothing in this bill that favors a Kansas natural gas storage operator. The combination of the Kansas Corporation Commission gas storage regulations approved in July, 2002 and this proposed bill sends a strong message to gas storage operators that Kansas does not want gas storage in the state. That is unfortunate, because gas storage ensures a plentiful supply of low cost gas to our Kansas customers and generates millions of dollars in property tax revenue for Kansas counties and school districts.

Atmos Energy stores gas in our own storage fields for later distribution through our own natural gas utility operations. When our storage needs exceed our capacity, we also store gas in the Southern Star storage system. Prior to adoption of the current KCC gas storage regulations we owned and operated four storage facilities. Due to the expense of compliance with these regulations, we now own and operate only the two storage fields near the small Southeast Kansas community of Liberty. If this bill becomes law we will look to further reduce our storage operations in Kansas.

The bill proposes to create severe penalties on Kansas gas storage operations for potentially innocent behavior. For example, the bill calls for a \$1,000 per day penalty for leaking or migrating gas, as if that is a criminal act of some kind. The reality is the “migrating” is the way that gas moves through the porosity storage field – it “migrates.” Even the gas that is moving within the storage field is “migrating.” Every time the storage operator injects or removes gas from the storage field it becomes migrating gas.

Migration outside of the storage field can easily occur by no fault of the storage operator. Every time a producer drills a hole through a storage field to produce gas or oil beneath the storage field there is created the opportunity for gas migration. If a producer (intentionally or unintentionally) drills a well into the storage field it creates the potential for the migration of storage gas. This creates a particularly difficult situation for all parties when the actual, physical boundaries of the storage field are greater than the approved boundaries of the field. Most storage fields are decades old and the boundaries were approved with the best available data at the time. From time to time these boundaries must be updated to reflect the actual boundaries of the field. Why should the storage firm operator be penalized for trying to update the boundaries of their storage field and providing the public with low cost natural gas?

The Federal Energy Regulatory Commission has a clearly defined process for compensating landowners/royal owners for loss of their mineral interests when the boundaries of a gas storage field must be expanded. While we cannot comment on the situation concerning the Cunningham Field, this process has worked well for decades without significant confrontations or disadvantage to the public.

Another troublesome section of the bill is found at page 3, lines 29-35 which provides that the storage operator loses title to any migrating gas injected about 75% of fracture gradient for the field. The current KCC porosity gas storage regulations do not allow for storage at pressures above 75%, unless approved by the KCC. If approved as safe and prudent by the Commission to go above 75% of fracture gradient, why should the operator lose title to their storage gas? The bill doesn't say that the migrating gas must go beyond the boundaries of the storage field; it just says you lose title to your migrating gas which could be all of the storage field gas.

It is also difficult to understand why the storage company should be held to a standard of evidence more rigorous than most property law. The language on page three of the bill, lines 5-9 are clearly intended to make it as difficult as possible to prove that the gas produced by a production well outside the boundaries of a storage facility is actually storage gas. Why is the state considering such a standard when it is in the public's interest to encourage the storage of natural gas and to discourage the production of storage gas by unscrupulous producers. Many producers who place new wells near the boundaries of existing storage facilities are hoping to find storage gas that has moved beyond the current edge of the storage field. Why should we permit them to extract the gas owned by gas utilities? It is not the producers' gas and the preponderance of the evidence test is routinely used by virtually all other states to prove the ownership of storage gas. The only result of this bill will be to increase the cost of gas to Kansas consumers.

This bill is poorly conceived and drafted in a manner full of contradictions, inconsistencies and conflicts with the federal Natural Gas Act and FERC standards for mitigating the impact of gas that has migrated outside the established boundaries of a gas storage field. We urge the Committee to fully study the unintended consequences of passing such legislation. Passage of this bill will disrupt gas storage operations in Kansas and discourage storage investment in Kansas. The result will be substantially less local property tax contributions from gas storage firms and their storage customers.

Atmos Energy encourages you to reject this legislation.

Atmos Energy is a Kansas certificated public utility serving 125,000 Kansas households in 32 communities across the state.

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