Management History of the Edwards Plateau
Eco regions of Texas

24,000,000 acres
About 15,000 years ago, the Edwards Plateau was much cooler and was more forested than today. Pollen counts indicate that this region was more of a spruce forest.

There were a group of plants and animals that evolved in this forest.

1984 - 16 territories
1999 - 56 territories
About 11,000 years ago the climate began to warm

Forests gave way to shrublands

Fires became more frequent

There were a group of plants and animals that adapted to these brushlands
Shrubland gave way to grasslands

Buffalo Impacted the land and created the habitat for the dove, quail, prairie chicken, deer, antelope, elk, all the other animals that depend on forbs or their seeds.

Fires became even more frequent

There were a group of plants and animals that adapted to these grasslands.

Buffalo Impacted the land and created the habitat for the dove, quail, prairie chicken, deer, antelope, elk, all the other animals that depend on forbs or their seeds.
At the time of settlement the hill county was being grazed by buffalo and antelope. Deer were rare.

Prairie chickens were found in Kerr County as late as 1900

The last black bear was killed in Kerr County in 1909 north of Kerrville

The last wolf was killed in west Kerr County in 1913
1900’s to 1940’s

Grasslands have given way to shrublands

The land is being heavily grazed by cows, sheep, and goats
Deer numbers are increasing.

Deer Harvest is “Bucks” only. Spikes and does are illegal.
Juniper (cedar) dramatically increases
No cows, sheep, goats, or deer
No management
A 40 year change
Lands are being heavily grazed by cows, sheep, and goats. Reduced stocking rates and early grazing systems are being applied.

Deer census indicates over populations and the need for deer herd reduction. Malnutrition is recognized as a major problem with the deer herd. Doe harvest is becoming a primary recommendation. Spike antlered deer are protected.

Juniper control is becoming a major objective. Bulldozing, hand cutting and heavy grazing by goats are common management practices to control regrowth cedar.

The exotic deer industry is beginning to grow.
Biologist are learning to scientifically census deer populations as well as learning to age deer.
Census data indicates that 20 to 40 percent of the deer herd is dying annually.
Adding Exotic Deer to the Mix
Not all animals can eat the same foods.

They were also figuring out what the primary animals impacting the range actually ate.

They are selective in the classes of forages they consume.
Forbs

Browse

Grass
Carrying capacity studies demonstrate more deer could survive on cedar cleared land.
Studies indicated moderate to light stocking rates would produce more deer.

They also indicated a combination of cattle and deer produced more deer per acre than grazing with sheep and goats.
Juniper (cedar) was controlled by hand cutting, bulldozing, or chaining.
Most pastures were being grazed with continuous grazing systems
Grazing Systems for Wildlife
Relatively easy to manage and require little labor input

Range improvement is slow, produces a monoculture of plants, and is more dependent on stocking rates

Domestic livestock performance is usually good

Less flexible for other management practices because of few pastures
From 1962-1966, the highly successful screwworm fly eradication program had a dramatic effect on increasing deer numbers.
Increase doe harvest and balance sex ratios

<table>
<thead>
<tr>
<th>Buck to doe ratio</th>
<th>1 : 1</th>
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</thead>
<tbody>
<tr>
<td>Carrying capacity</td>
<td>120 deer</td>
</tr>
<tr>
<td>Percent fawn crop</td>
<td>100%</td>
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</table>

<table>
<thead>
<tr>
<th>Bucks</th>
<th>60</th>
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<tbody>
<tr>
<td>Does</td>
<td>60</td>
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</table>

<table>
<thead>
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<th>Fawns</th>
<th>60</th>
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</thead>
<tbody>
<tr>
<td>Buck fawns</td>
<td>30</td>
</tr>
<tr>
<td>Doe fawns</td>
<td>30</td>
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The more equal the sex ratio, the more males can be harvested

<table>
<thead>
<tr>
<th>Buck to doe ratio</th>
<th>1 : 5</th>
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<td>Carrying capacity</td>
<td>120 deer</td>
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The more equal the sex ratio, the easier it is to add age to the herd
1970- mid 1980’s

Lands are still being heavily grazed by cows, sheep, goats, exotic deer, and white-tailed deer.

Whited-tailed deer are gaining in economic importance and more resources are being applied to management. A need for doe harvest is being accepted. Spike harvest is being allowed in more counties.

Juniper control is still a major management concern. Prescribed burns are being researched as another juniper control tool.

Exotic numbers continue to increase

More intensive grazing systems (HILF) are being applied.

Began to research the effects of genetics on antler development.
Yearlings

1.5 year old deer
In 1974, the Kerr WMA began a series of studies to determine the effects of nutrition and genetics on antler growth. The bottom line of these studies is that both have a major influence.
4 year old deer

Kerr WMA Research Pens

6+ points

3-5 points

Spikes
### High Intensity, Low Frequency (HILF)

<table>
<thead>
<tr>
<th>One herd</th>
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<tbody>
<tr>
<td>20 days</td>
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- **20 Day Rotation**
  \[\frac{365}{9} = 40\]
  \[\frac{40}{2} = 20\]

- **160 Day Rotation**
Juniper (cedar) was still primarily controlled by hand cutting, bulldozing, or chaining.

However ....
Prescribed fires are used to control regrowth cedar.
Kill cedar
Release phosphorus & nitrogen
Increase quantity
Increase variety
Increase livestock & deer performance
Range improvement continues

Healthier deer are the result
Mid 1980s to mid 1990’s

Sheep and goat industries are greatly reduced. There is a major shift from traditional ranching systems to more of an emphasis to deer and exotic management.

Use of prescribed burns, hydraulic shears, and brush cutters are added as juniper control tools.

FWS place Hill Country species on the Endangered Species List. Management research begins to recover these species.

Deer management is now the primary management objective of many landowners. Selective antler harvest and antler restrictions are being applied.

Short duration grazing systems continue to show range improvement.

Began to apply genetic research findings.
High intensity grazing systems provide more flexibility in management of pastures.
New tools for cedar control

Brush cutters

Hydraulic shears
Leaving brush strips was recommended as a deer management enhancement.
1983

Start of special antlerless hunts and spike hunts
Mid 1990’s to Present

Traditional ranching continues its decline. Land fragmentation is becoming a major concern.

Interest in deer management continues to increase.

The need to control “wild” exotic deer numbers is being publicly recognized.

Increased water recharge through proper range management is being recognized as a major land management product.

Short duration grazing systems and proper stocking rates are now recognized as a major management tool.

Prescribed fire is now recognized as a major land management tool and is now legislatively supported.
Juniper (cedar) is still being controlled by hand cutting, bulldozing, or chaining
Brush cutters

As well as brush cutters and hydraulic shears

Hydraulic shears
Use of prescribed fires is increasing
State laws were passed that give landowners the right to burn when there are no burn bans.

Trained and certified individuals given the ability when burn bands are instituted.
Managed Land Deer Permits (MLDP) program initiated to assist landowners with deer harvest. The primary objective being range improvement.

Although not a major objective it also provided a better means to improve the quality of deer in a herd through a more achievable selective removal program.
Range improvement continuous
1997

Start of “4 point or less or antler spread greater than ear width hunts” as well as antlerless hunts
Spike Harvest Adds Age To the Herd

By removing deer from both the younger age class as well as the older age class, fewer deer in the middle age class need to be harvested. This allows more middle aged deer to reach the older age class.
2002
KWMA
5.5 years old
131 Lbs.
Gross B&C 154 0/8
#19

2006
GBCS 177 6/8
6 1/2 years old

[Image of two hunters with deer]
Harvest of 4.5+ Males

2002
KWMA
5.5 years old
131 Lbs.
Gross B&C 154 0/8
#19

1972 - 82
n= 58
10%

1990 - 99
n= 100
21%
10 point or better deer

W/O Spike Harvest 47%

With Spike Harvest 67%
Good deer are the result of good management
Integrated management program

Prescribed Fire
Controlled grazing
Deer herd reduction
Brush control
Results of applying all three categories of management

Genetics

Nutrition

Age
Genetics

A good deer herd starts with a good genetic base.
In 2015, Chronic Wasting Disease (CWD) was found in the Edwards Plateau.

As of May 2017, there are 49 known cases of cwd in Texas.