

# ***2023 Kansas Pronghorn Harvest Report***

## PERFORMANCE REPORT STATEWIDE WILDLIFE RESEARCH AND SURVEYS

A Contribution of Pittman-Robertson Funds  
Federal Aid in Wildlife Restoration

Grant W-39-R-30

### **Kansas Department of Wildlife and Parks**

Brad Loveless  
Secretary

Prepared by

Matt Peek  
Research Biologist

Jake George  
Wildlife Division Director

Rich Schultheis  
Wildlife Research Supervisor



**January 2024**



## 2023 Kansas Pronghorn Harvest Report

Prepared by Matt Peek, Research Biologist



**Background** – Pronghorn, often referred to by hunters as antelope, mostly exist in Kansas in the westernmost two to three tiers of counties, and mostly South of I-70. There's been a hunting season for pronghorn in western Kansas since 1974. The firearm pronghorn season has been four days long since 1990, starting on the first Friday in October. The archery pronghorn season was nine days long from 1985 to 2004 and encompassed the two weekends prior to the firearm season. From 2005 to last season, the archery season reopened on the Saturday following the firearms season and continued through the end of October but this season was discontinued to reduce archery harvest pressure. A muzzleloader only season was initiated in 2001. It has begun immediately after the archery season and ran for four days. Muzzleloader permit holders can also hunt with muzzleloader equipment during the four-day firearms season, giving them eight days total.

Archery permits have been unlimited due to traditionally low success rates. Firearm and muzzleloader permit demand and success rates require these permits to be limited draw. They are allocated by preference point system. (Applicants with the highest number of preference points are awarded permits.) Demand for these permits has been high. The number of applicant and preference point purchases for these limited permits has jumped significantly in the past four seasons, averaging just over 2000 during that time (Figure 1). The result of this increase is that general residents are likely going to be impacted by some serious point creep in the coming years. At least part of this increase in applications is the result of the Department consolidating application deadlines for simplicity in 2018 and then providing preference point holders with better notification of upcoming deadlines.

By state law, half of the limited-draw permits are awarded to landowner/tenants and half are awarded to general residents. Draw statistics from 2023 are provided in Appendix 1. Applicants are allowed to buy a preference point without applying for the permit, so preference points higher than necessary to draw sometimes show up in the draw stats. For example, in unit 17 firearms, one general resident had 16 preference points when only 5 were needed for a guaranteed draw.

**Harvest** – Pronghorn harvest and hunter activities are compiled annually through harvest reports sent to all pronghorn hunters. Paper report cards and postage paid tooth envelopes are initially sent to all hunters. After season, a direct link to an online harvest survey is e-mailed to nonrespondents for whom we have an active e-mail address. About a week later, a reminder email is sent. A week after that, all nonrespondents are sent a second mailing of the paper harvest survey. Two to three weeks later, a direct email is sent asking only one question about their overall harvest success (see Fig 6). Results are extrapolated to nonrespondents. Response rate by permit type in 2023 was: archery –60%; firearms – 93%; and muzzleloader – 82%.

An estimate of 159 pronghorn were harvested in 2023. Total pronghorn harvest since hunting seasons were initiated in 1974 is provided in Figure 2. The 2023 harvest was down 10 pronghorn (6%) from the 2022 harvest.

Since 1986, all permits have been valid for any antelope. In 2023, an estimated 152 bucks and 7 does were harvested. The sex and age composition of the harvest since 1995 is provided in Figure 3. In recent years, over 90% of the harvest has consisted of yearling or older bucks. Reported harvest dates are provided in Figure 4.

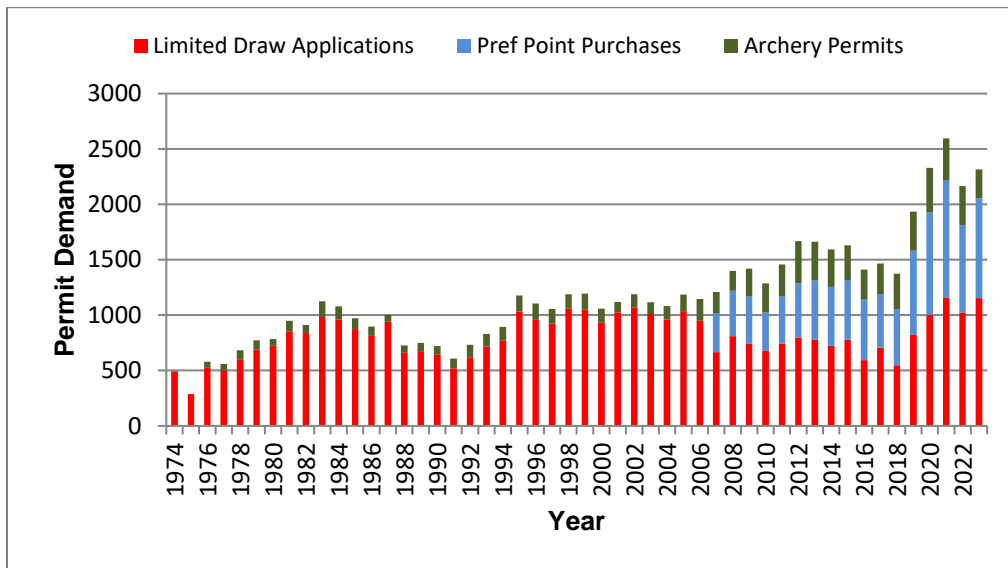


Figure 1. Pronghorn permit demand as indicated by limited draw (firearms and muzzleloader) permit applications and preference point purchases, as well as unlimited archery permit sales in Kansas since 1974.

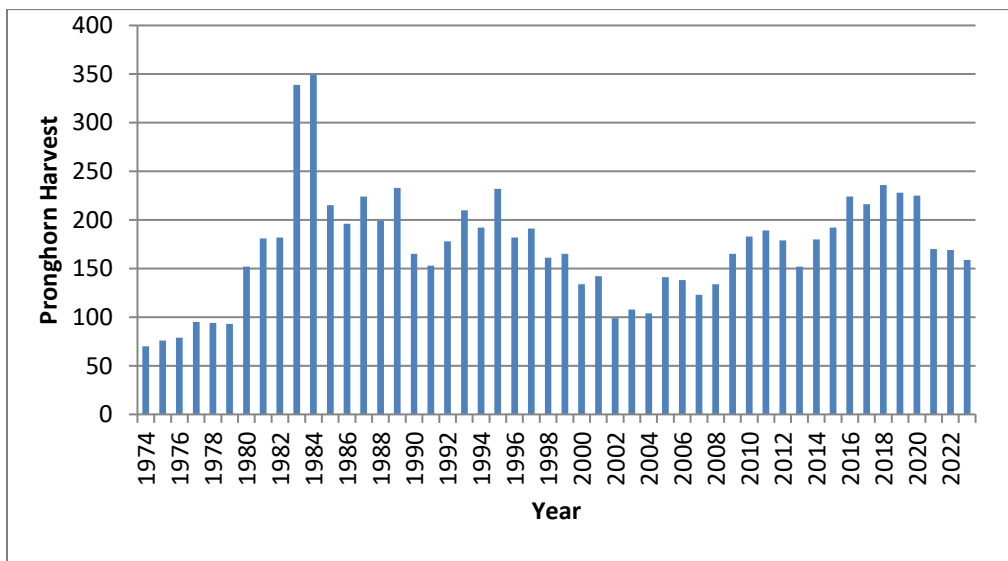


Figure 2. Total pronghorn harvest in Kansas since hunting seasons were initiated in 1974.

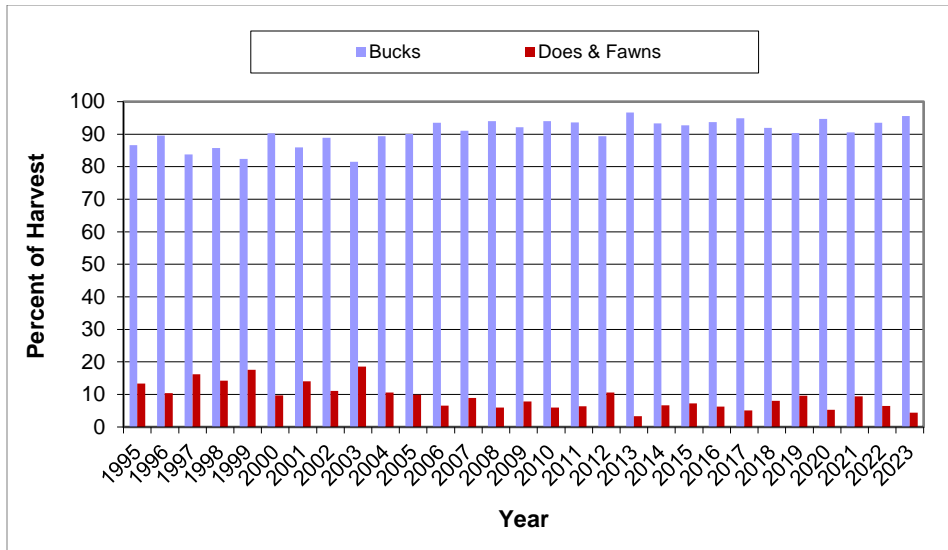


Figure 3. Sex and age composition of annual pronghorn harvest in Kansas since 1995.

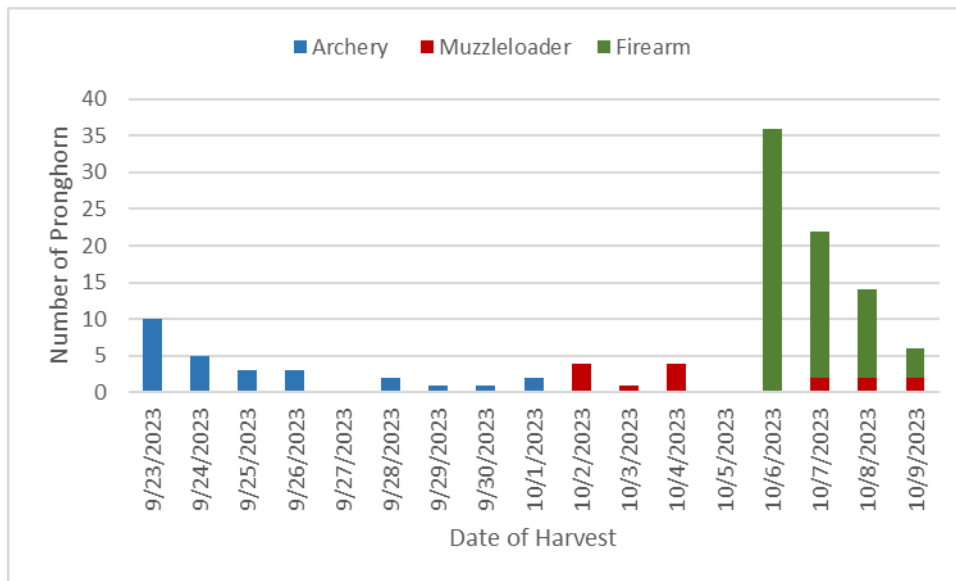


Figure 4. Reported date of harvest and permit type by which pronghorn were taken in Kansas during the 2023 season (n=114).

**Harvest by Weapon Type** – The number of pronghorn permits sold by weapon type since 1995 is provided in Figure 5. Limited draw permit allocations were reduced by about 20% in 2021 due to decreasing pronghorn numbers and have been kept similar since. 2023 allocations were 122 firearms permits and 34 muzzleloader permits. Archery permit sales declined from 2022 by 92 permits (26%) in 2023, likely as a result of eliminating the late season and no longer being able to apply for a limited draw permit and get an archery permit. Harvest classification by permit type is presented in Figure 6.

Harvest by permit type since 1995 is provided in Figure 7, and success rate by permit type is found in Figure 8.

Pronghorn hunters are asked to rank their hunt satisfaction on a 7-point scale ranging from extremely dissatisfied to extremely satisfied. This serves as a general indicator of hunt quality likely reflecting harvest success, pronghorn numbers, buck quality, access, crowding and various other factors of the hunt. Mean satisfaction by permit type since 2013 is found in Figure 9, and hunter satisfaction by permit type is found in Figure 10.

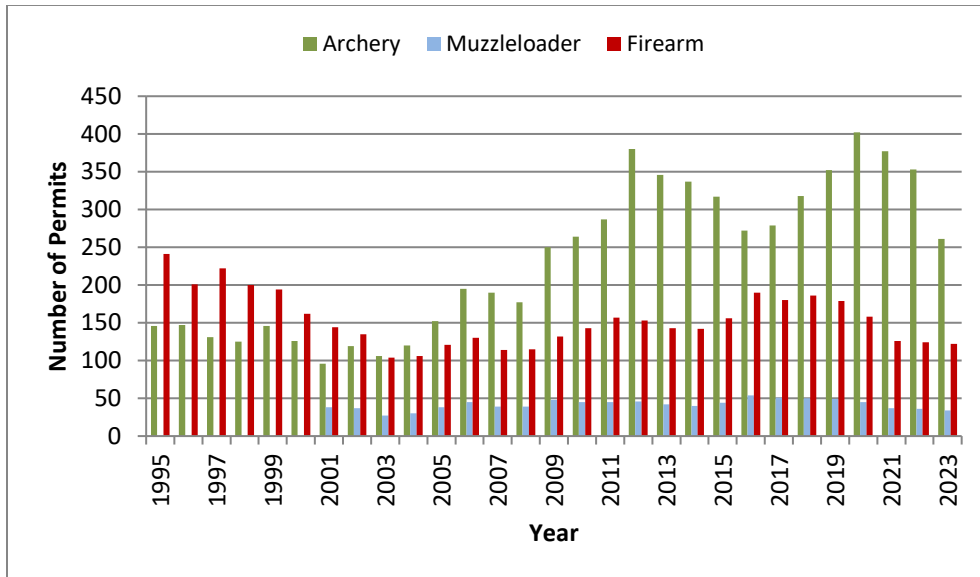


Figure 5. Permits sold by weapon type for pronghorn in Kansas since 1995.

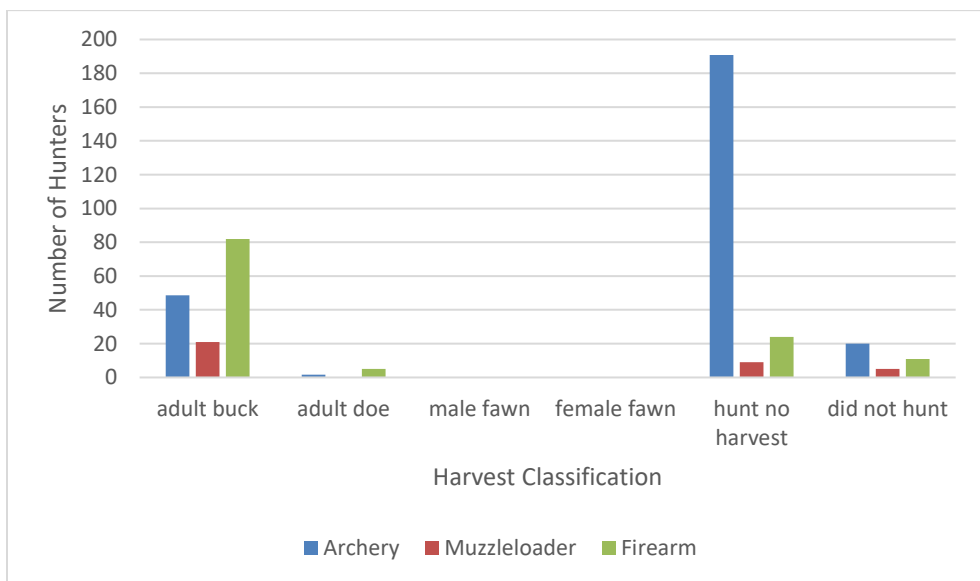


Figure 6. Harvest classification by permit type for 2023 Kansas pronghorn hunters.

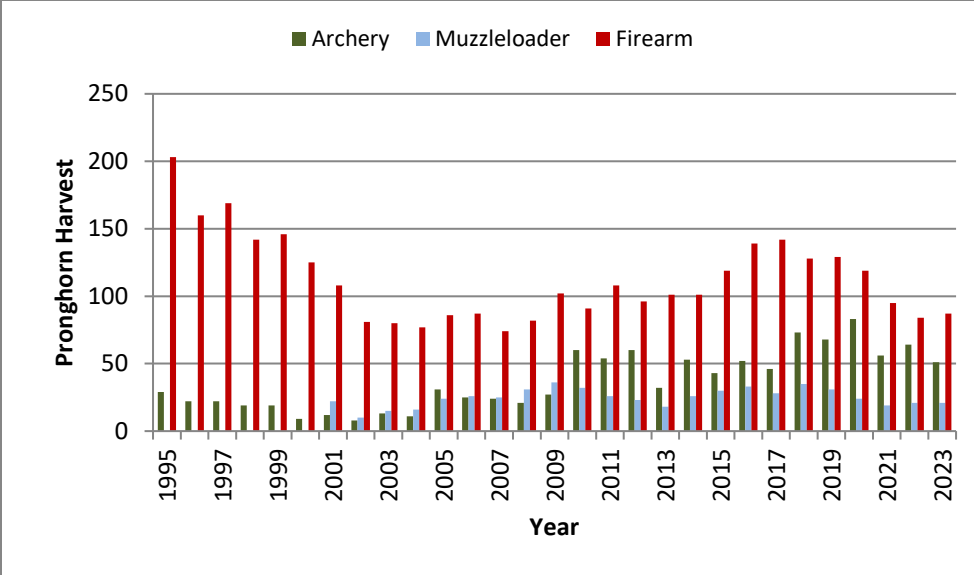


Figure 7. Pronghorn harvest in Kansas by permit type since 1995.

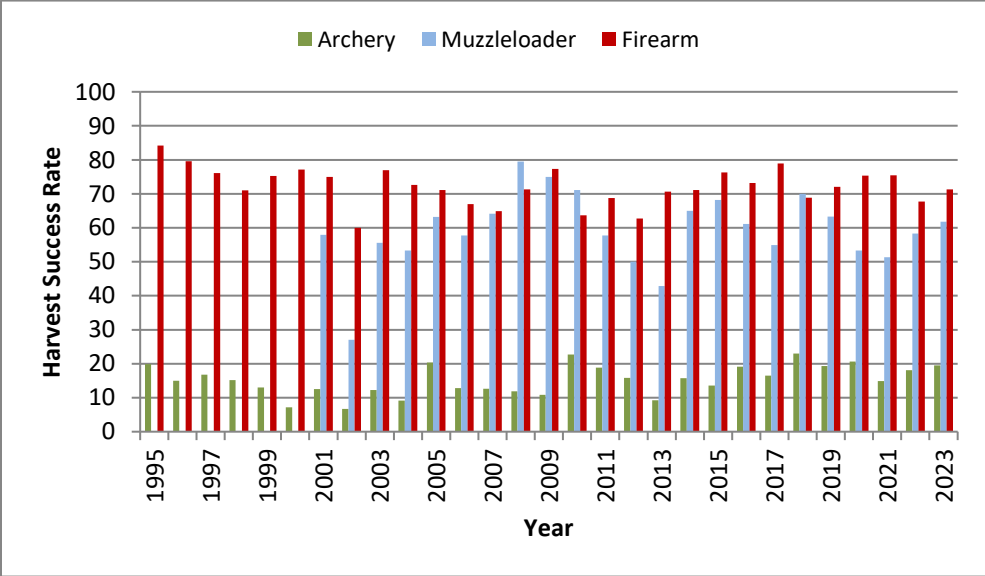


Figure 8. Harvest success rate by permit type for pronghorn in Kansas since 1995.

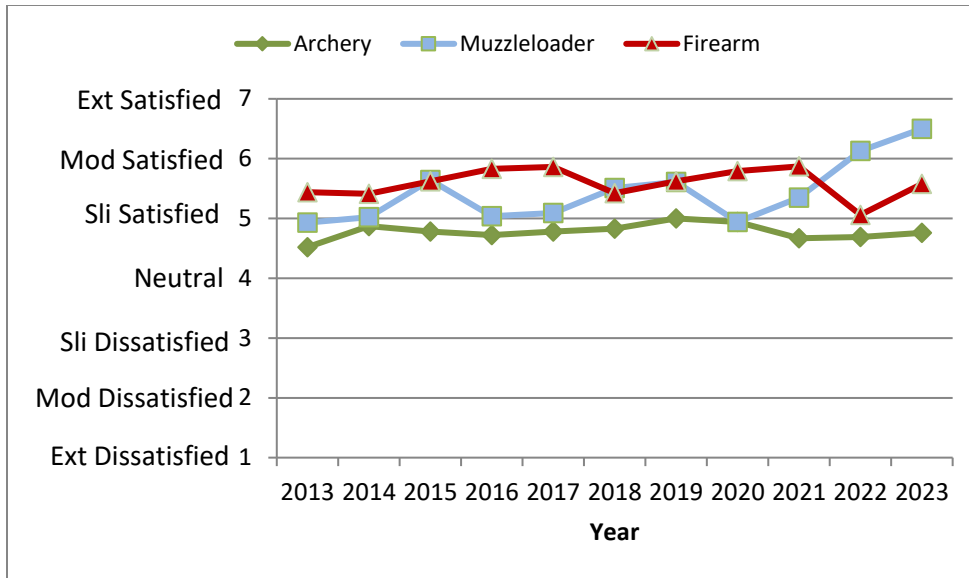


Figure 9. Mean pronghorn hunter satisfaction by permit type in Kansas since 2013.

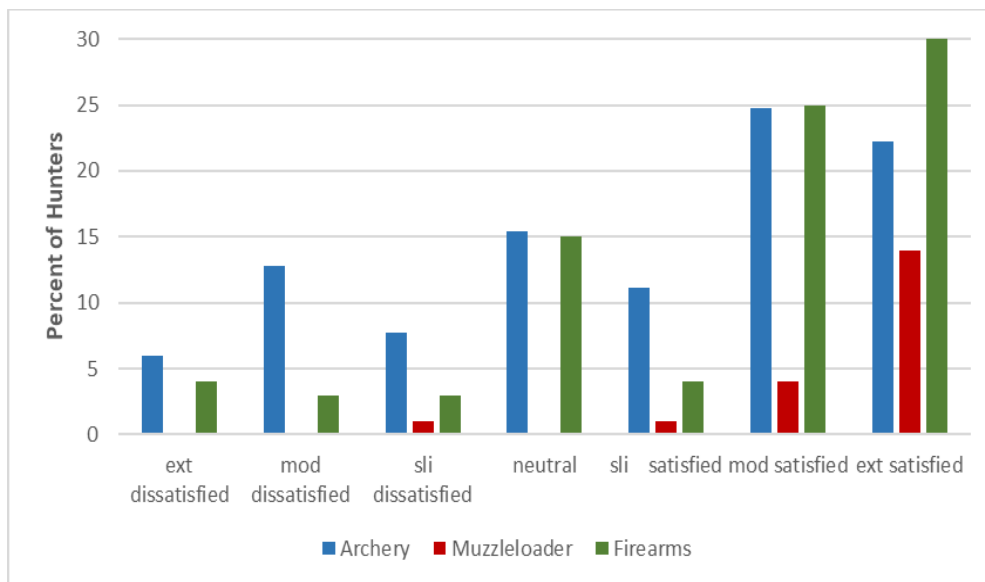


Figure 10. Hunter satisfaction by permit type during the 2023 Kansas pronghorn season.

**Harvest by Unit** – Three management units are open to pronghorn hunting in Kansas (Figure 11). These units, which are also deer management units, were adopted in 2001 to reduce confusion over big game unit boundaries. Pronghorn are generally uncommon in the easternmost parts of all three units. Firearm and muzzleloader permits are restricted to use in one unit whereas archery permits are valid in all three, so unit analyses below are limited to firearms and muzzleloader permits.

Total firearm and muzzleloader permits allocated in each unit is provided in Figure 12. Total harvest by unit is found in Figure 13. Harvest success by unit is found in Figure 14. Mean Hunt satisfaction by unit is provided in Figure 15.

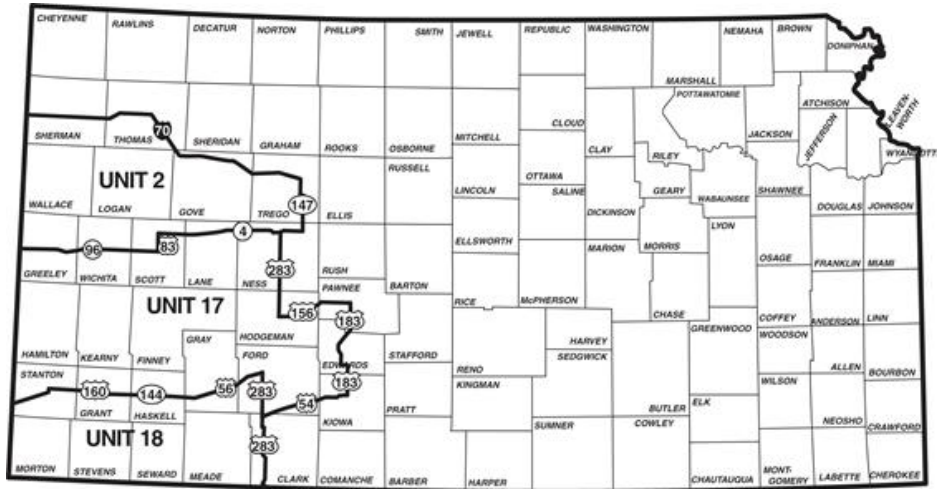


Figure 11. Kansas pronghorn management units.

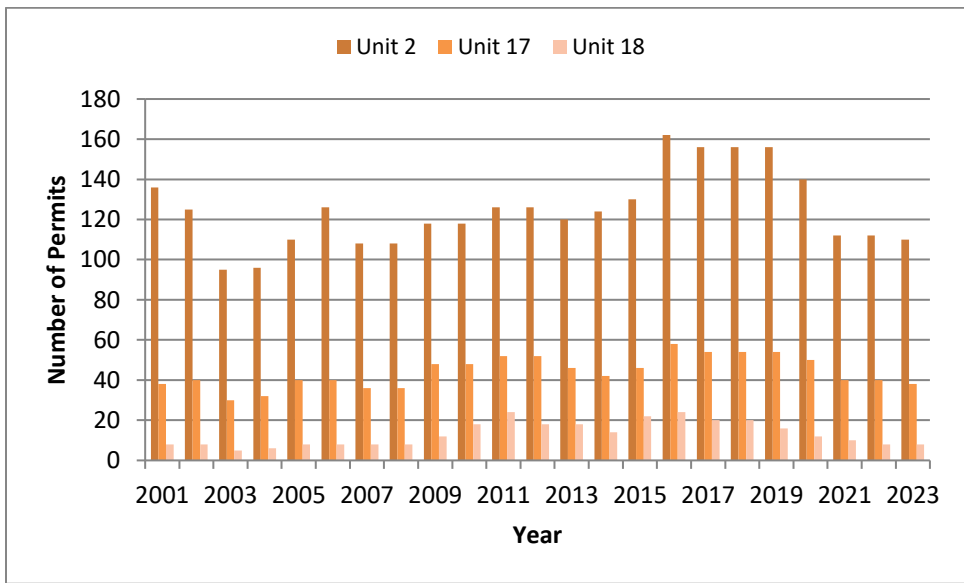


Figure 12. Number of firearm and muzzleloader permits issued in each of the three Kansas pronghorn management units since 2001.



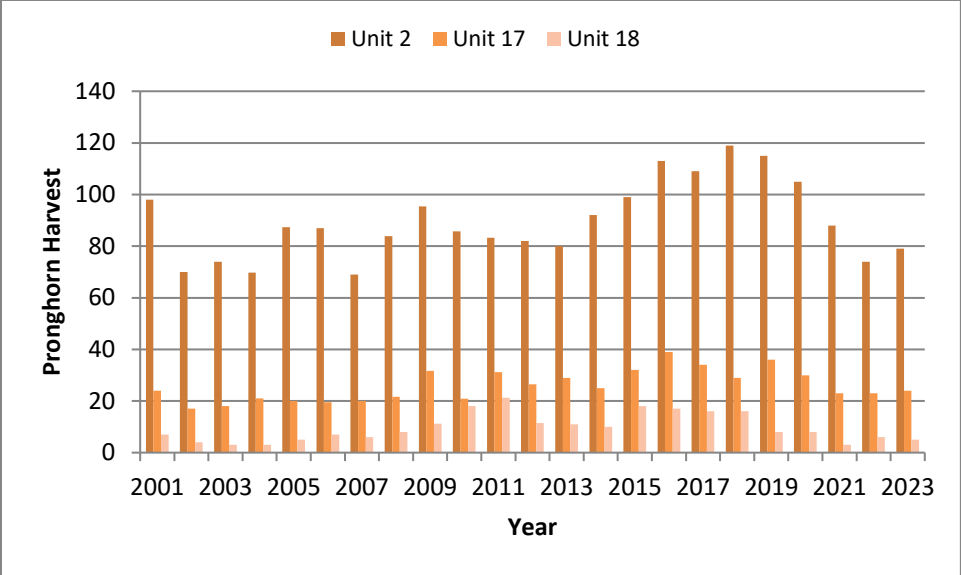


Figure 13. Pronghorn harvest in Kansas by management unit for firearm and muzzleloader permit holders since 2001.

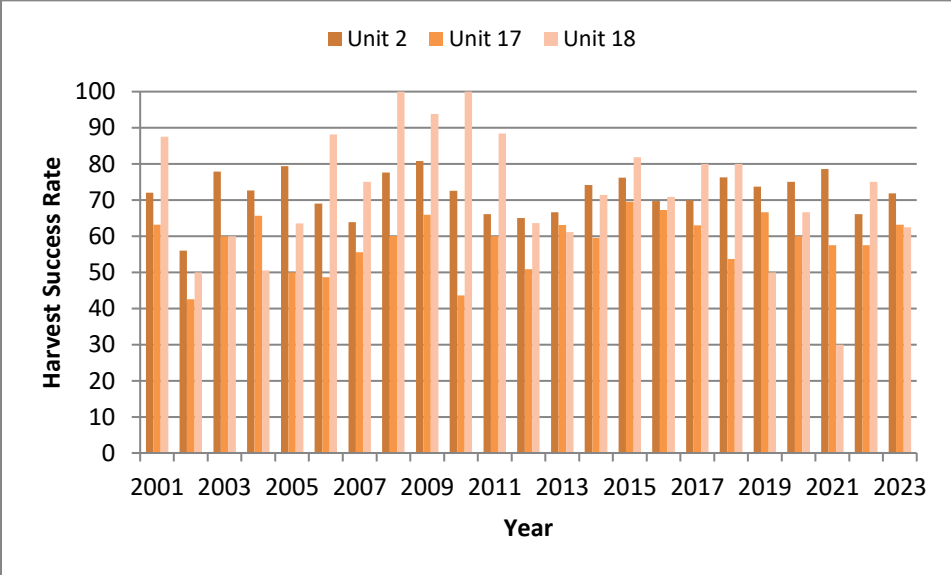


Figure 14. Harvest success rate by pronghorn management unit for firearm and muzzleloader permit holders in Kansas since 2001.

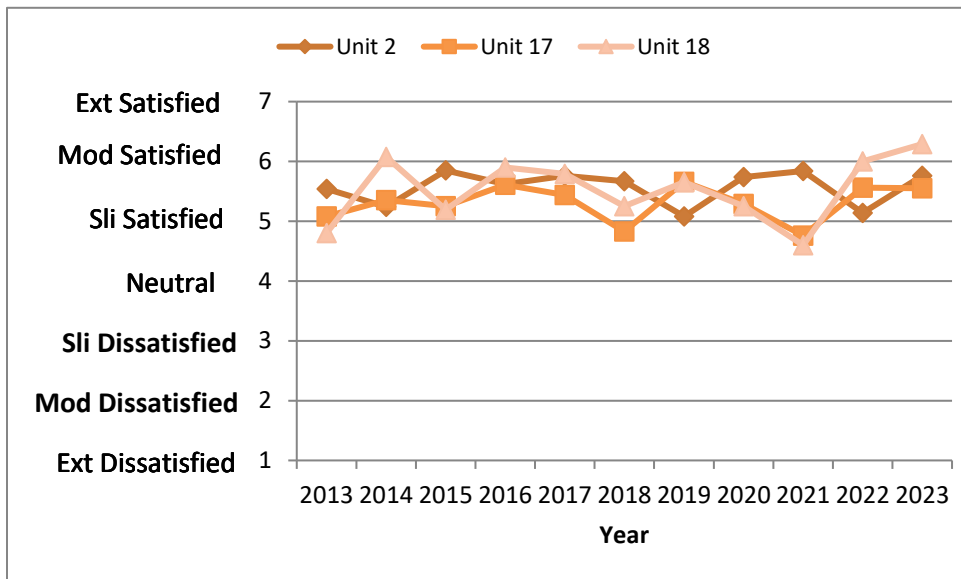


Figure 15. Mean pronghorn hunter satisfaction by unit for firearm and muzzleloader permit holders in Kansas since 2013.

**Horn size** – The Department has been asking hunters to provide horn length and circumference measurements since 2009. Hunters are asked to take the measurements themselves, and given the frequency of whole numbers (8, 9...) and even halves (8.5, 9.5...), this data should be considered an estimate. However, it still provides for a meaningful comparison with age data.

Frequency of adult buck horn lengths and circumferences can be found in Figures 16 and 17, respectively. A scatterplot of this data can be found in Figure 18.

Mean horn lengths and circumferences of adult buck pronghorn harvested in Kansas can be found in Figure 19. This year the mean horn length was 12.5 inches, up from the average the previous three years of 12.0. The mean circumference was 5.9 inches, up slightly from the average the previous three years of 5.8. Mean horn length and circumference by management unit and weapon can be found in Figures 20 and 21, respectively. The means for both measurements have been pretty consistent over time. There has generally been minimal difference in mean horn size by unit. By weapon type, mean horn length of pronghorn taken by archery hunters has been slightly lower than that of pronghorn taken by firearm and muzzleloader, and that was the case again this year.

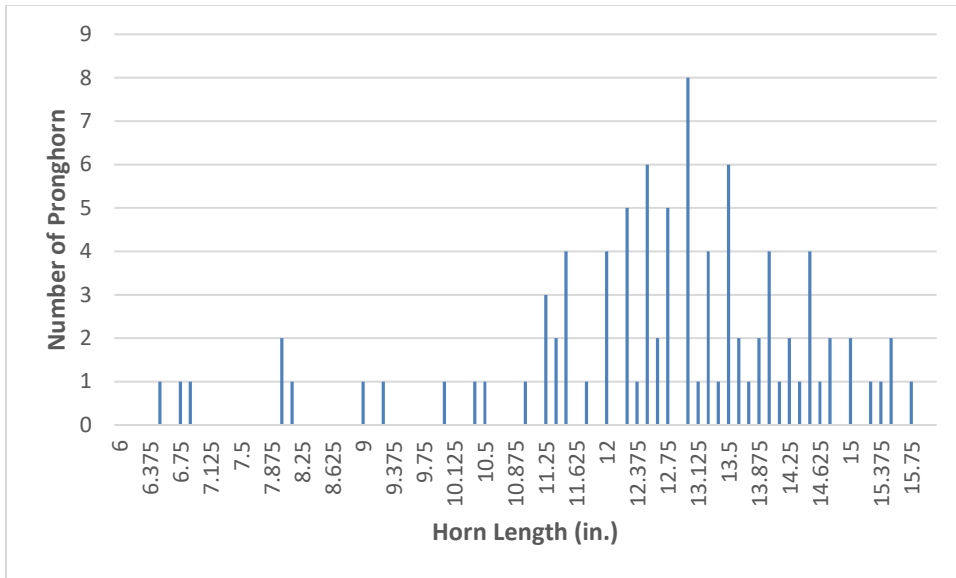


Figure 16. Horn length of adult buck pronghorn harvested in Kansas during the 2023 season (n=93).

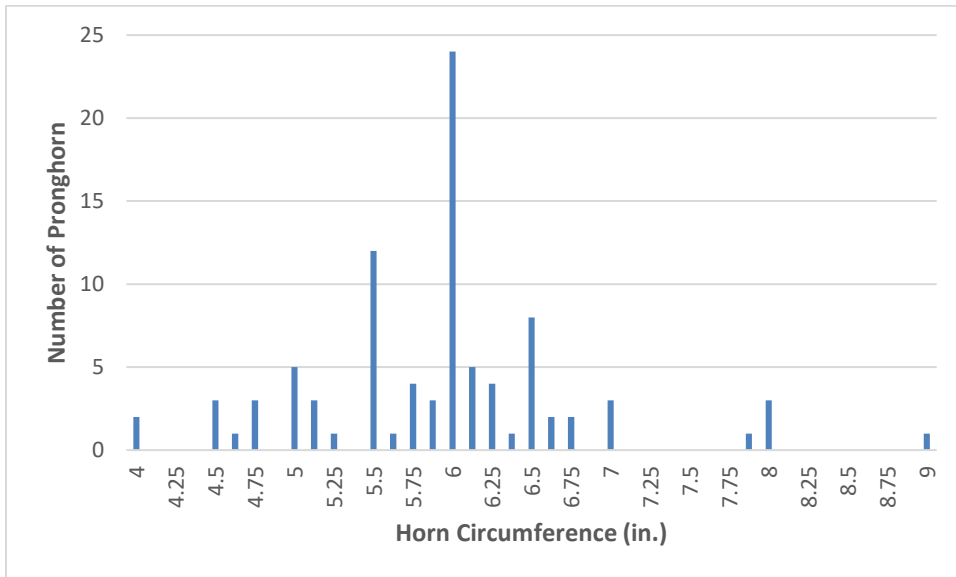


Figure 17. Horn circumference of adult buck pronghorn harvested in Kansas during the 2023 season (n=92).

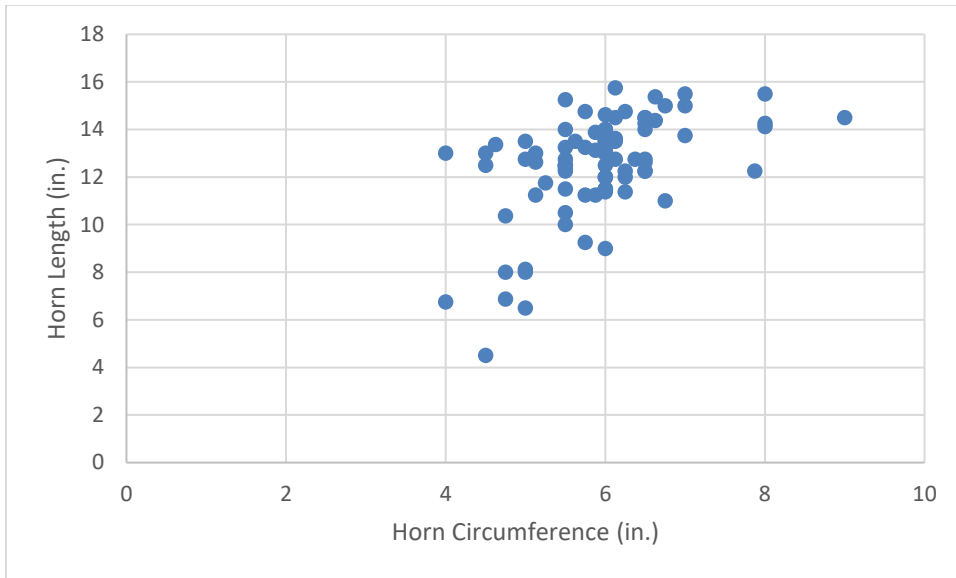


Figure 18. Scatterplot of horn length and circumference of pronghorn harvested in Kansas during the 2023 season (n=92).

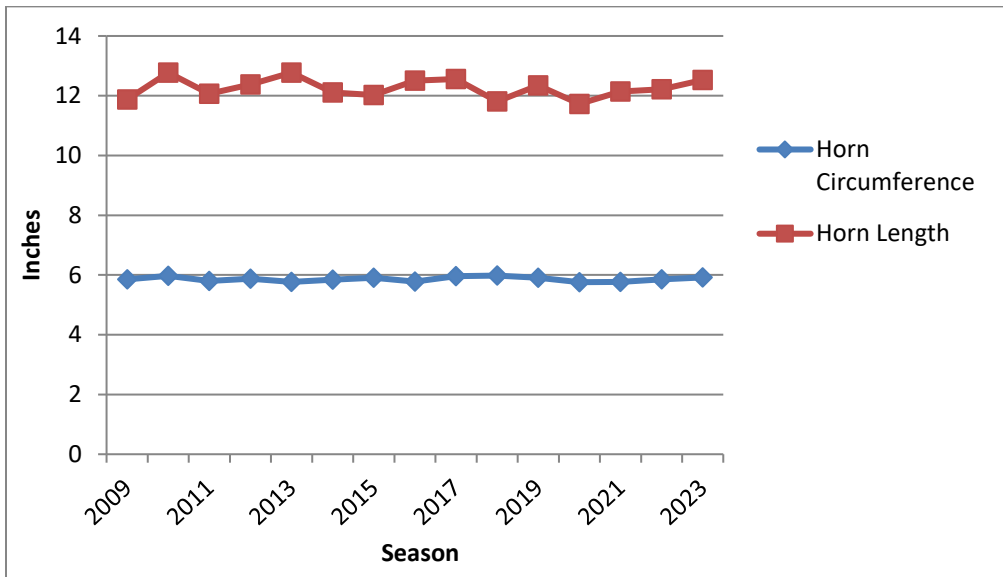


Figure 19. Mean horn length and circumference of pronghorn harvested in Kansas since 2009.

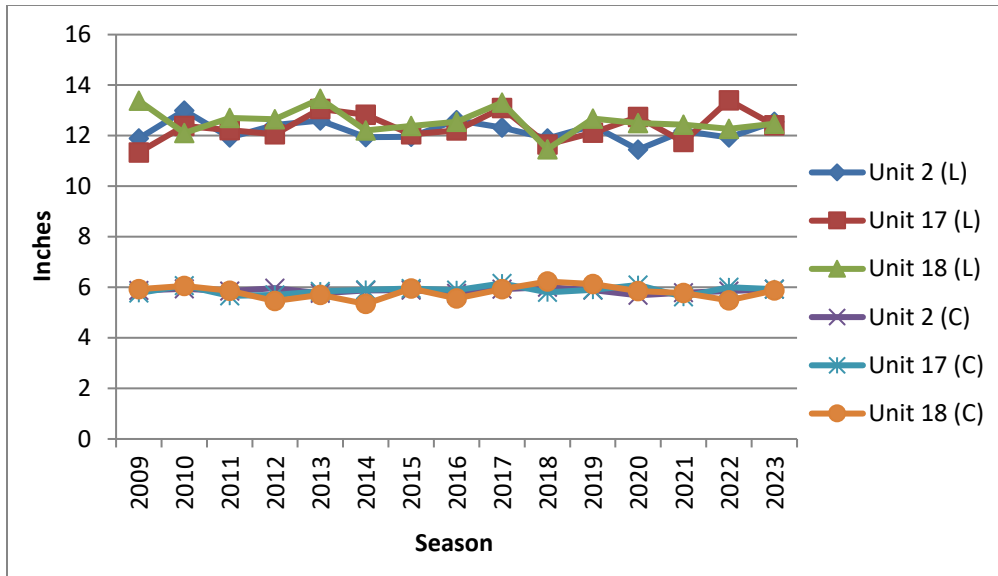


Figure 20. Mean horn length (L) and circumference (C) of pronghorn harvested in Kansas since 2009 by management unit.

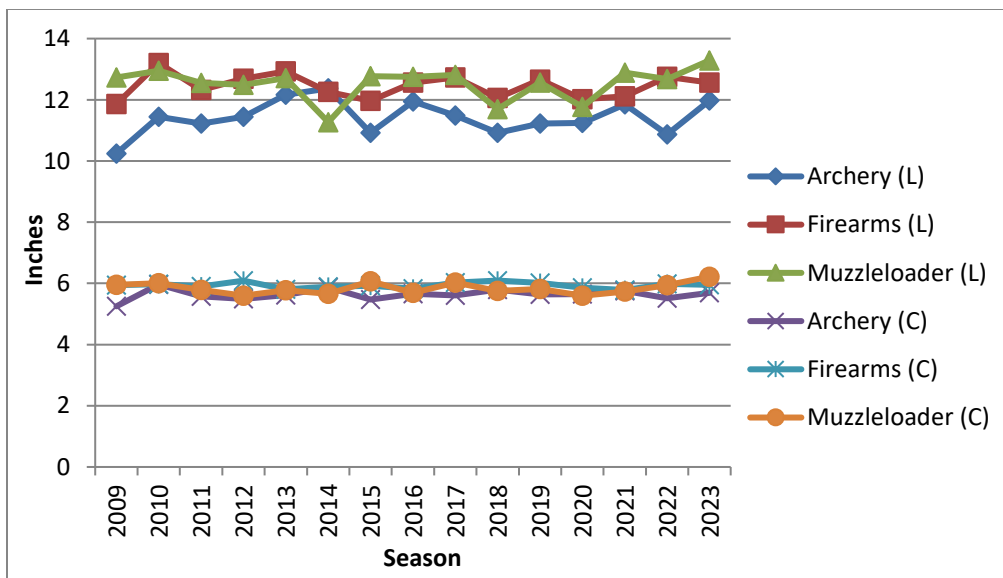


Figure 21. Mean horn length (L) and circumference (C) of pronghorn harvested in Kansas since 2009 by weapon of harvest.

**Archery Equipment** – In 2013, the opportunity to use crossbows during big game archery seasons was expanded to all archery hunters. The percent of archery hunters using each type of archery equipment is found in Figure 22, and the actual number of crossbow and non-crossbow archery hunters is presented in Figure 23. Since legalized, crossbow hunters have comprised an increasing number and percent of total archery hunters in the state. It is uncertain whether crossbow hunters are additive to other archery hunters based on this

data (i.e. whether these hunters would be hunting in the archery season with traditional equipment if they weren't allowed to use a crossbow).

A comparison of crossbow and other archery hunter success rates is found in Figure 24. Crossbow hunter success rates have averaged 8% above non-crossbow archery success over the past 5 seasons. This year, non-crossbow and crossbow success rates were 18% and 28%, respectively.

In 2006, unlimited nonresident archery permits were established. In 2023, 12 of these permits were sold. The 5-year average sales is 10.8 per year. Representing <4% of total archery permit sales, these permits are considered an insignificant factor in archery harvest pressure.\*\*\*

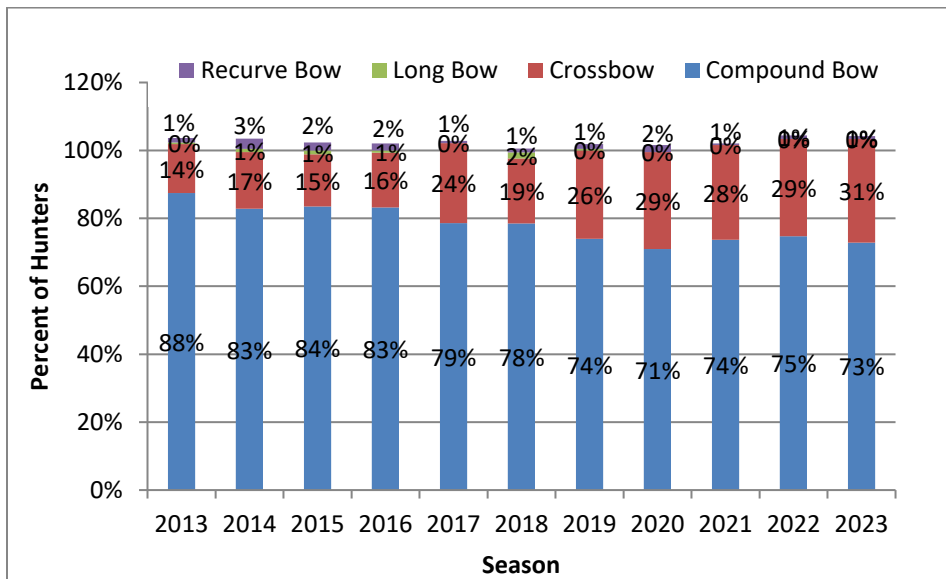


Figure 22. Percent of archery pronghorn hunters using different types of archery hunting equipment since 2013. (Totals exceed 100% some years because some hunters used more than one bow type.)

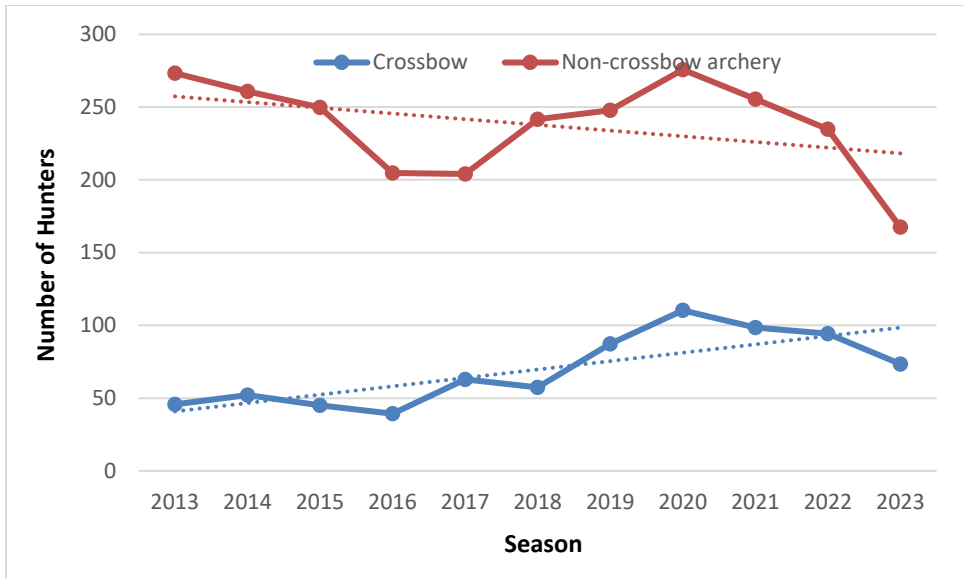


Figure 23. Number of active archery hunters using crossbows and not using crossbows (Non-crossbow archery) since 2013, and linear trendlines for each user type.

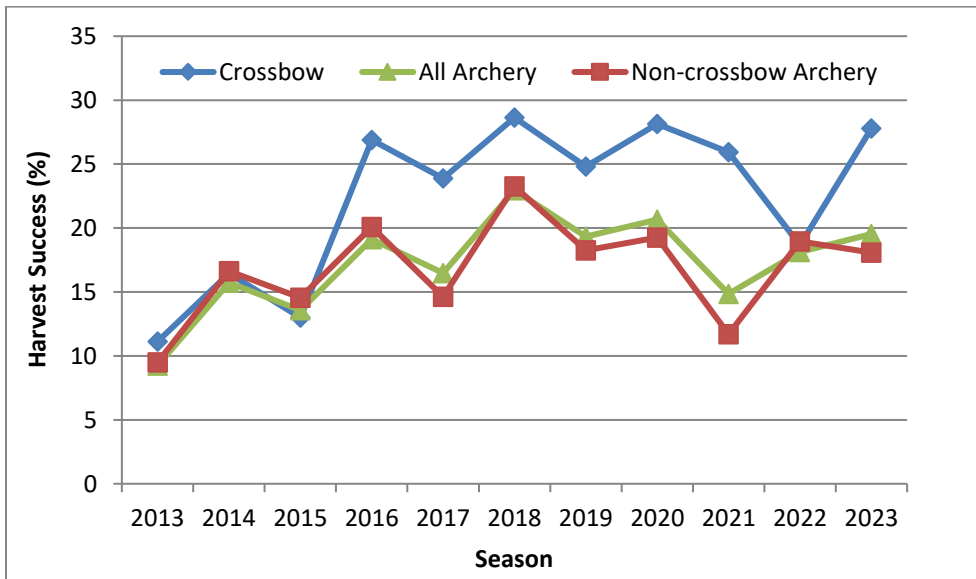


Figure 24. Harvest success rates by Kansas pronghorn hunters who used crossbows, did not use crossbows, and all archery hunters combined.

EQUAL OPPORTUNITY STATEMENT

This program receives Federal financial assistance from the U.S. Fish and Wildlife Service. Under Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act of 1990, the Age Discrimination Act of 1975, and Title IX of the Education Amendments of 1972, the U.S. Department of the Interior and its bureaus prohibit discrimination on the basis of race, color, national origin, age, disability or sex (in educational programs). If you believe that you have been discriminated against in any program, activity or facility, or if you desire further information, please write to:

The U.S. Fish and Wildlife Service, Office of Diversity and Civil Rights Programs- External Programs, 4040 North Fairfax Drive, Suite 130, Arlington, VA 22203

Appendix 1.

2023 Antelope Draw Stats



Management Unit	Permit Type	Permits Authorized	Total # of Applicants (1st) Choice	Preference Points (PP)	Number of Permits issued by Pref Pt LO/T	Number of Permits issued by Pref Pt GEN	Total Number of Permits Drawn
Unit 2	Muzzleloader	11 LO/T 11 GEN	10 LO/T 76 GEN 1 YOUTH 0 NR TENANT	0	8		11 LO/T 11 GEN
				1	3		
				2			
				3			
				4		4	
				5		7	
Unit 2	Firearms	44 LO/T 44 GEN	87 LO/T 533 GEN 25 YOUTH 4 NR TENANT	0	8		44 LO/T 44 GEN
				1	27		
				2	7		
				3	1		
				4	1		
				5		17	
				6		13	
				7		6	
				8		5	
				9		1	
				10			
				11			
				12			
				13		1	
				14			
15		1					
Unit 17	Muzzleloader	4 LO/T 4 GEN	1 LO/T 18 GEN	0	3		4 LO/T 4 GEN
				1	1		
				2			
				3			
				4		4	
Unit 17	Firearms	15 LO/T 15 GEN	25 LO/T 241 GEN 11 YOUTH 0 NR TENANT	0			15 LO/T 15 GEN
				1	9		
				2	5		
				3	1		
				4		4	
				5		10	
				6			
				7			
16		1					
Unit 18	Muzzleloader	2 LO/T 2 GEN	1 LO/T 11 GEN 1 YOUTH	0			2 LO/T 2 GEN
				1	2		
				2			
				3			
				4		1	
5		1					
Unit 18	Firearms	2 LO/T 2 GEN	14 LO/T 86 GEN 6 YOUTH 2 NR TENANT	0			3 LO/T 2 GEN
				1			
				2	2		
				3			
				4	1		
				5			
				6		2	
7							
<b>TOTAL</b>		<b>156</b>	<b>138 LO/T 965 GEN 6 NR TENANT 44 YOUTH</b>				<b>157</b>
			<b>1153</b>				
.Preference points purchased 902							

Appendix 2.

2023 Pronghorn Hunter Comments

Comments
Archery season needs to be by draw only! I ran into some archery hunters on a scouting trip on 10/01/23 that killed an antelope with a crossbow @ 167 yards!!! This is why are antelope populations are struggling. I was told that there were 600+ permits in 2022 for archery, this is just too many.
Crossbows should not be a legal method of take for archery season. Ran into a lot of hunters on WIHA, the majority hunting with crossbows.
Cutting the season down for archery didn't seem appropriate. It is already hard enough to archery hunt antelope. Saw plenty of goats. Needed more time.
did not hunt
Didn't see any on public. They are very smart. Could use more habitat i think to generate more opportunities.
DIDN'T SEE ANY W/ THE CROPS
DIDN'T SEE ANY W/THE CROPS STILL STANDING
Extended archery season.
Extremely fun and challenging with a bow. Limited time to chase them makes it hard to make it happen with a bow since there isn't a late archery season this year.
Extremely hard to locate any.
First pronghorn hunt ever. Will definitely be doing it again but with more knowledge and hopefully more luck!
First time was fun. Very hard animals to get close to with archery.
Found antelope, but numbers appeared lower then normal
Hard work, but lots of fun!
I cut my hunt short this year due to a lack of animas that I was seeing. This was the lowest number of animals that I have ever seen in my 4 years of doing the archery hunt.
I did not get survey in mail until the week after I had already dropped antelope off at taxidermist. By the time I got a hold of him, he had already disposed of teeth so I have no teeth.
I didn't see many this year.
I felt like where we hunted in Logan and Wallace county's the numbers were way down from past years. we did not see near as many as usual.
I FORGOT TO RECORD THE HORN MEASUREMENTS, BUT ANTELOPE SCORED 74". HE IS @ THE TAXIDERMIST, SO I COULD GET THEM.
I love the over the counter option for non residents.
I took my Antelope to a taxidermist, it scored 72" per him. Sorry I forgot to send this in earlier.
I was given two amazing opportunities after grinding it out, but luckily for the pronghorn, I did not connect. Good news is no wounded animal, but I worked extremely hard over thousands and thousands of acres to get two extremely lucky encounters. Luckily for them, I hit a cut bank and wasn't high enough on one at 10 yards and the big one on last day came in right at last light directly behind me to water and he busted me. I guessed he was 35 but he ducked my arrow and was only 25 yards. I absolutely love hunting them but will not be back for a few years if numbers do not improve. I've seen the decline over the last 10 years.
I wish we had a late season archery harvesting them is hard with a bow and having little time makes it even tougher
I would like to see more permits given and more days to hunt
I would love to see the archery season extend a little longer
It was difficult to compete with the amount of hunters on the ground. Fewer bucks than normal.
Low numbers
Numbers appeared to be much lower than previous seasons.
Numbers seemed way down
PLEASE LET ME KNOW HOW OLD THIS BUCK IS
Population is way down, season is too short for archery.
Road hunting without permission was observed.
Saw very few. In 320 miles of looking only saw 5.

Season too damn short for archery
The majority of the walk in hunting property was overrun with 5ft tall stick weeds this year, nearly unhuntable and not good browse for the animals
<b>THERE NEEDS TO BE MORE WIHA THAT IS HABITAT FOR ANTELOPE. NOT MILO AND CORN.</b>
There were very few antelope that I saw in the time I was there. Less than 20. The state should consider introducing a new herd or herds to the state to increase and diversify the population. I had 7 points and I'm thankful I harvested mine. The state should consider a reduction in tags to also help rebuild the population. Also seemed to be a lot of poaching based on speaking to land owners.
Too many hunters
<b>TOO MANY HUNTERS NOT ENOUGH ANTELOPE</b>
Was unable to hunt due to a move out of state. Licensing informed me I no longer qualified as a resident at the time of Pronghorn season, therefore I did not pursue this season.
Way too many out of state hunters for a resource that seems to be on the decline every year.
We were hunting private land but managed to see roughly 40-50 different antelope in this area, the biggest herd being about 18 doe
Wish there were more around. Or it would be nice if we could go back to being able to accrue bonus points while archery hunting since success rate is so low. I still enjoy my annual trip to hunt pronghorn so don't want to sit out 5-6 years or more just to get a rifle tag, but that may be the only way some people can get one!
Worst year I have seen yet for goats and lots of hunters.
<b>YOU NEED TO MAIL THESE SOONER. LUCKILY I HAD NOT GOT RID OF THE HEAD YET.</b>