2017 Kansas Pronghorn Harvest Report

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2017 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. Since 2005, the archery season has reopened on the Saturday following the firearms season and continued through the end of October. 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 are unlimited due to traditionally low success rates. Firearm and muzzleloader permit demand and success rates require these permits to be limited draw. In recent years, over 1100 hunters have applied for the 200 or so limited draw permits (Figure 1). In 2016, the total number of applicants fell by about 200 from last year. This was the first year since general resident permit prices were increased from $40 to $50 and preference point fees were increased from $5 to $10.

Firearm and muzzleloader permits are allocated by preference point system. Applicants with the highest number of preference points are awarded permits. By state law, half of all permits are awarded to landowner/tenants and half are awarded to general residents. Draw statistics from 2017 are found 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 2 muzzleloader, one general resident had six preference points, but all applicants with three were able to 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 a SurveyMonkey® online harvest report is e-mailed to nonrespondents for whom we have an active e-mail address. After a week for the online survey recipients to respond, all nonrespondents are sent a second mailing of the harvest report. Response rate by permit type in 2017 was: archery –58%; firearms – 86%; and muzzleloader – 84%.

A total of 216 pronghorn were harvested in 2017. Total pronghorn harvest since hunting seasons were initiated in 1974 is provided in Figure 2. The 2017 harvest was down eight from 2016, but was the second highest in the last 22 years.

Since 1986, all permits have been valid for any antelope. In 2017, an estimated 205 bucks and 11 does and fawns 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. The estimated date of harvest is provided in Figure 4. Very little harvest occurs during the late archery season.

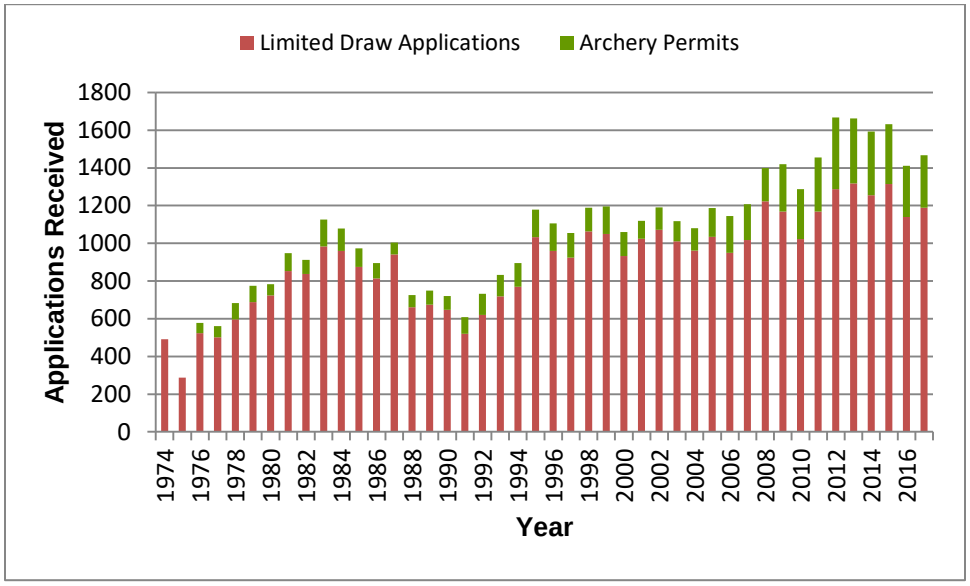

Figure 1. Pronghorn permit demand as indicated by limited draw (firearms and muzzleloader) permit applications and unlimited archery permit sales in Kansas since 1974.

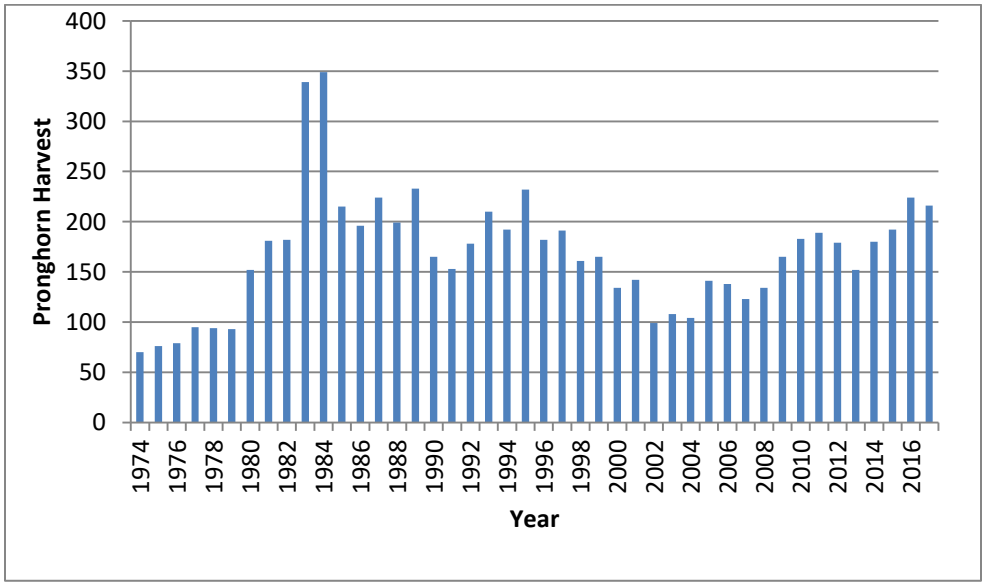

Figure 2. Total pronghorn harvest in Kansas since hunting seasons were initiated in 1974.

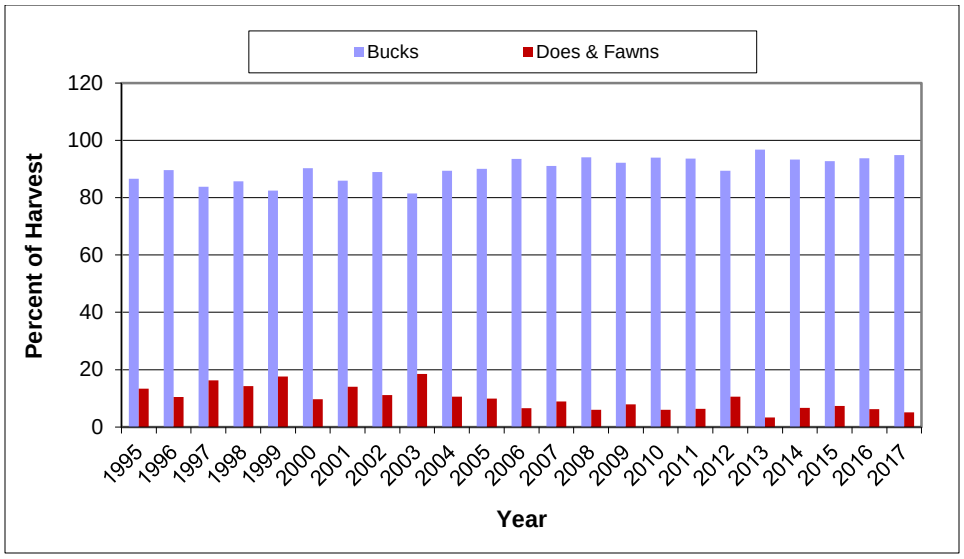

Figure 3. Sex and age composition of annual pronghorn harvest in Kansas from 1995-2017.

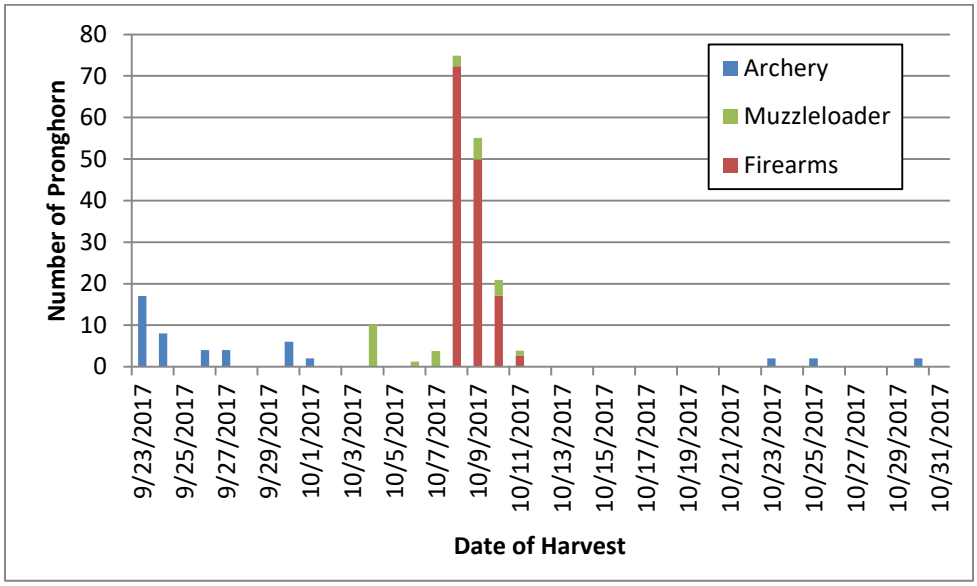

Figure 4. Estimated date of harvest of pronghorn taken during the 2017 season (n=224) and the permit type by which they were taken.

Harvest by Weapon Type – The number of pronghorn permits sold by weapon type since 1995 is provided in Figure 5. Most notably, archery permit sales have dropped from 380 to 272 since 2012. Harvest classification by permit type for 2017 Kansas pronghorn hunters is provided 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, 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.

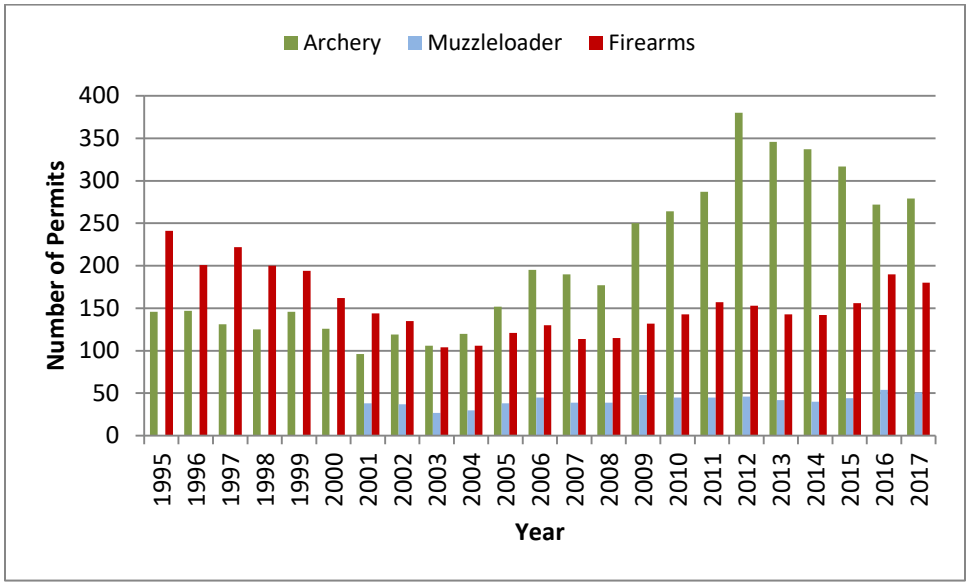

Figure 5. Permits sold by weapon type for pronghorn in Kansas from 1995-2017.

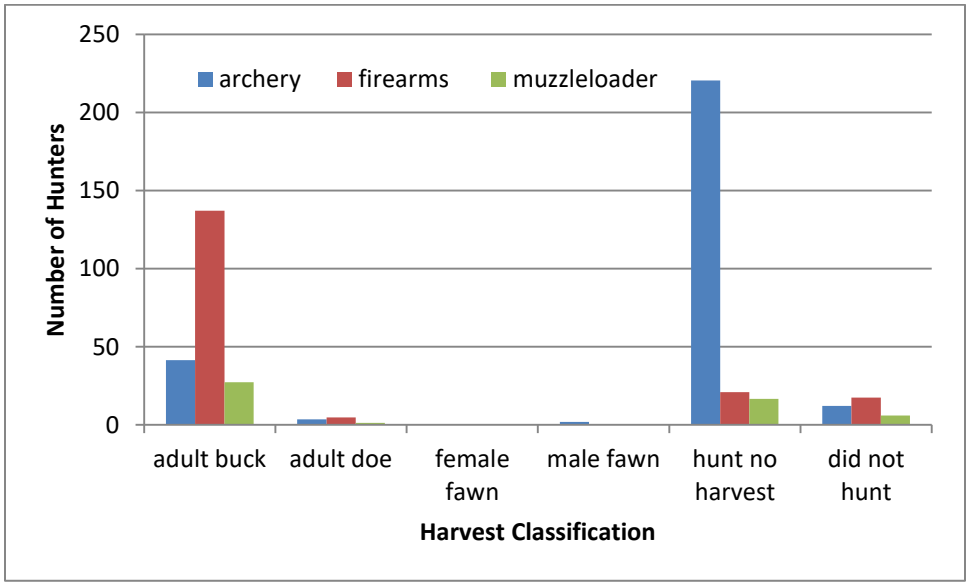

Figure 6. Harvest classification by permit type for 2017 Kansas pronghorn hunters.

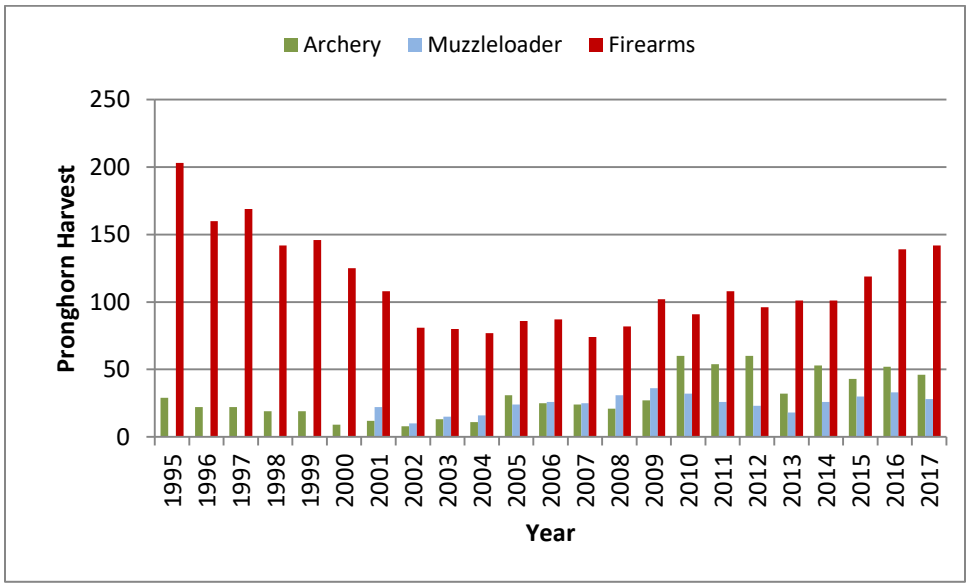

Figure 7. Pronghorn harvest in Kansas by permit type from 1995-2017.

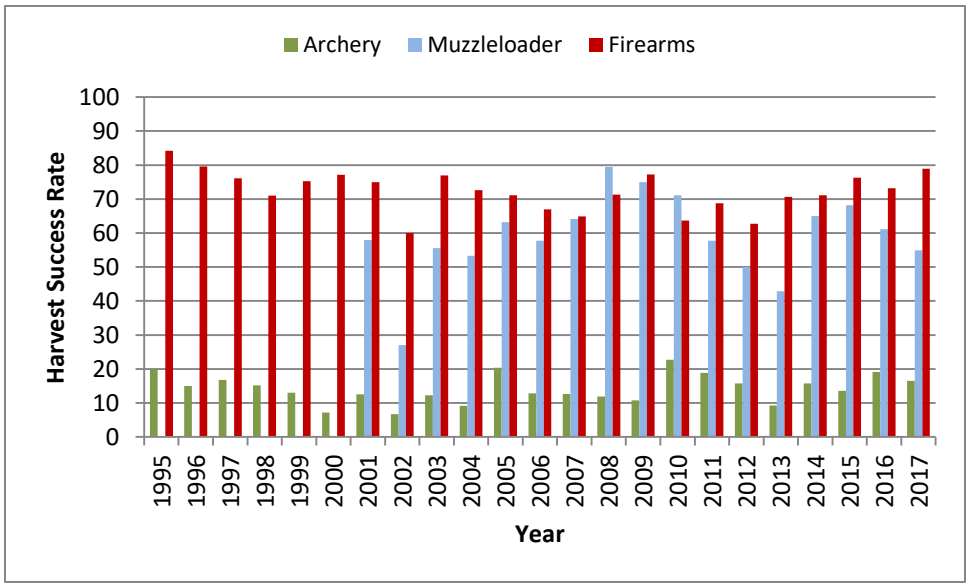

Figure 8. Harvest success rate by permit type for pronghorn in Kansas from 1995-2017.

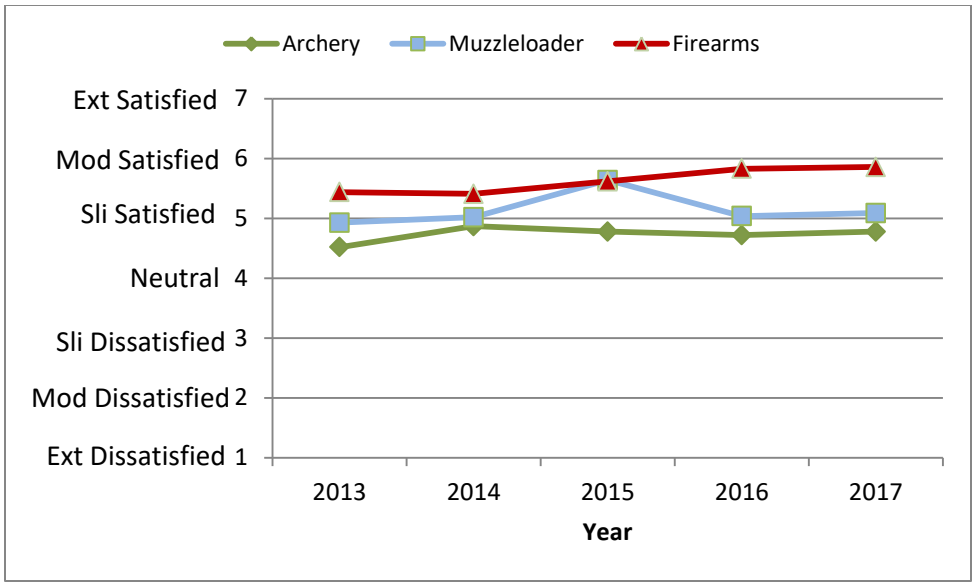

Figure 9. Mean pronghorn hunter satisfaction by permit type in Kansas from 2013-2017.

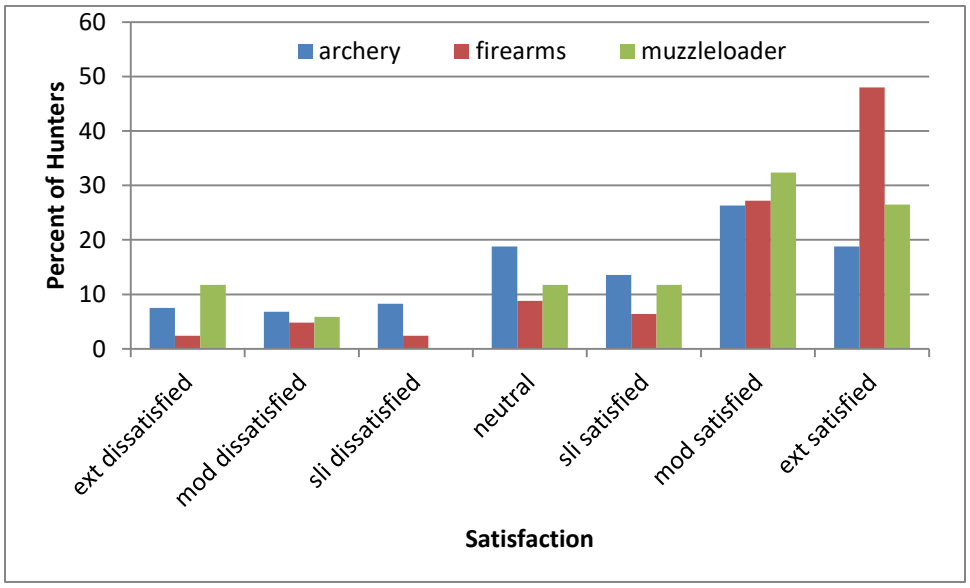

Figure 10. Hunter satisfaction by permit type during the 2017 Kansas pronghorn season.

Harvest by Unit – There are currently three management units open to pronghorn hunting in Kansas (Figure 11). These units, which are also deer management units, were adopted in 2001 in order 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 valid 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.

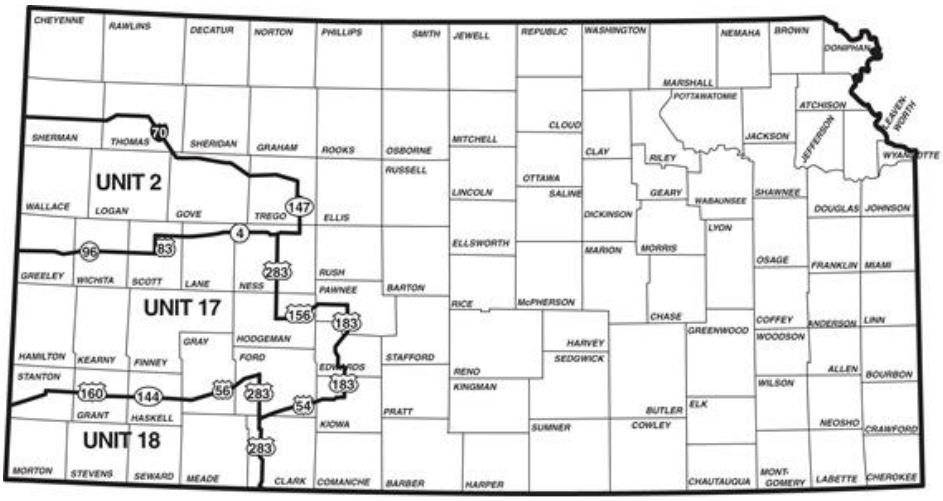

Figure 11. Kansas pronghorn management units.

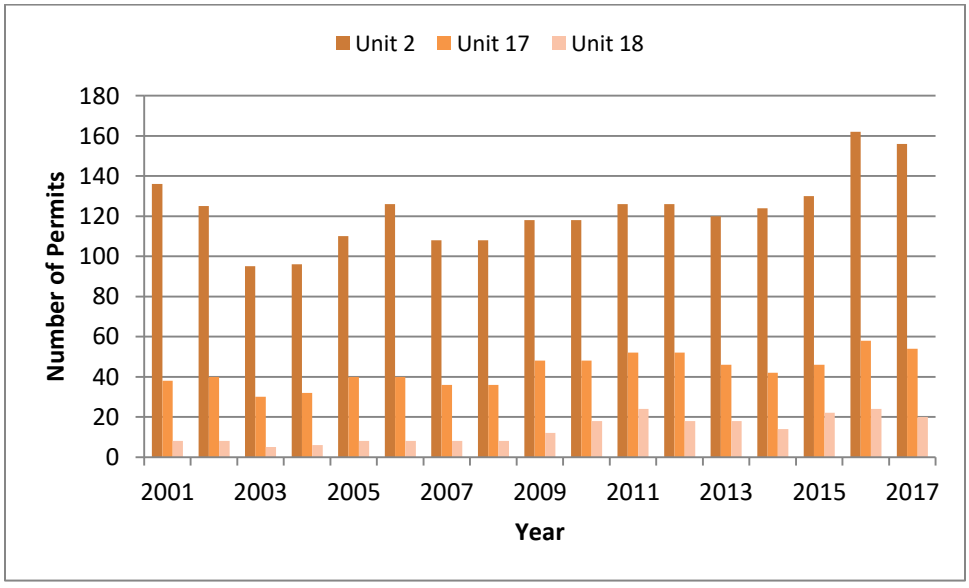

Figure 12. Number of firearm and muzzleloader permits issued in each of the three Kansas pronghorn management units from 2001-2017.

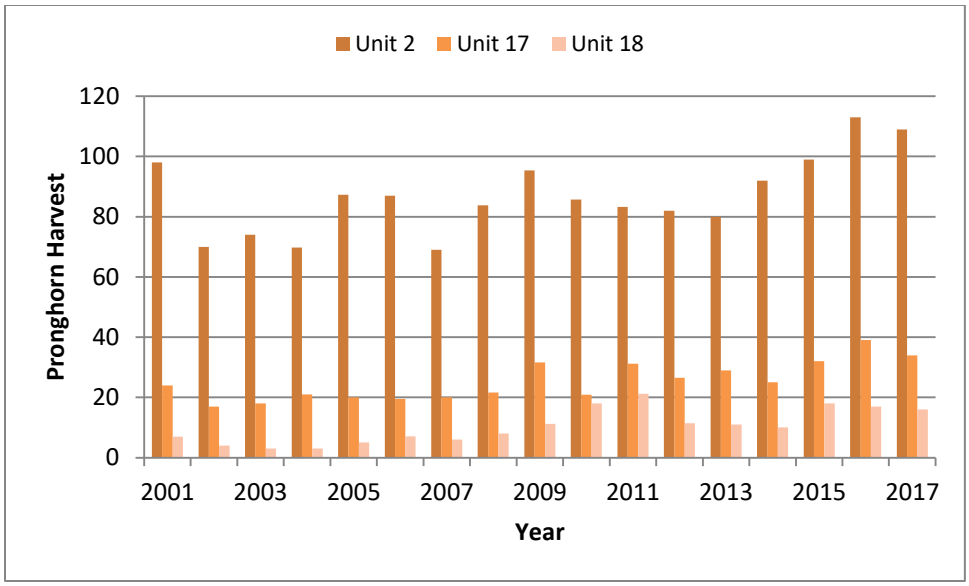

Figure 13. Pronghorn harvest in Kansas by management unit for firearm and muzzleloader permit holders from 2001-2017.

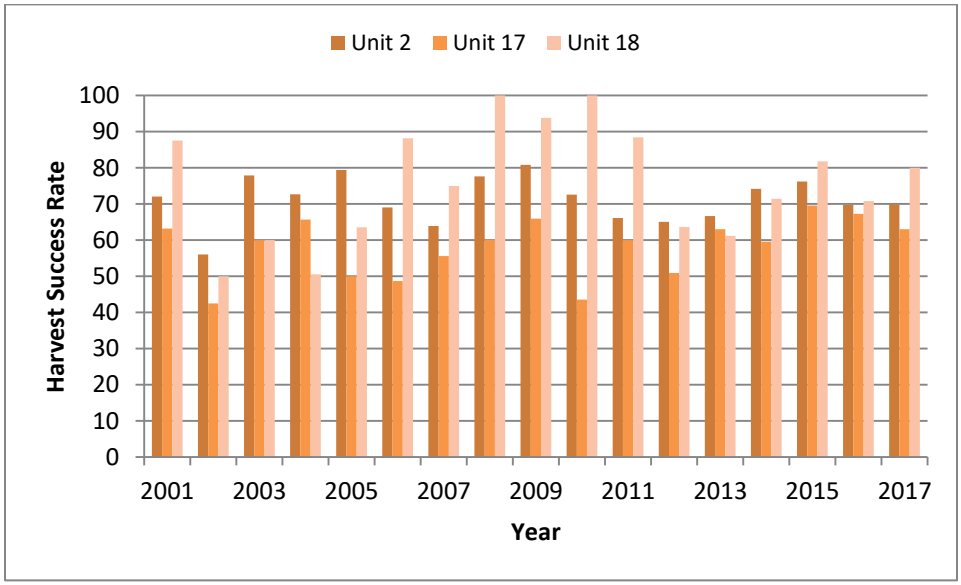

Figure 14. Harvest success rate by pronghorn management unit for firearm and muzzleloader permit holders in Kansas from 2001-2017.

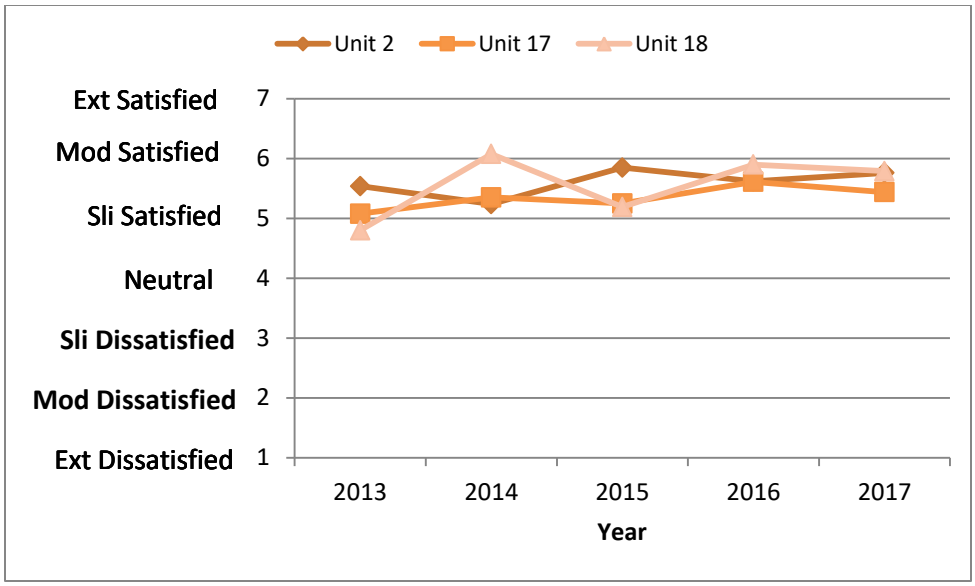

Figure 15. Mean pronghorn hunter satisfaction by unit for firearm and muzzleloader permit holders in Kansas from 2001-2017.

Horn size – As part of the harvest report, the Department began asking hunters to provide horn length and circumference measurements to the nearest 1/8 of an inch in 2009. Hunters 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 and is being considered as an alternative to tooth collection.

Frequency of 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 pronghorn harvested in Kansas can be found in Figure 19. Mean horn length and circumference by management unit and weapon can be found in Figures 20 and 21, respectively. The means for both of these measurements have been pretty consistent over time. There is no difference in mean pronghorn horn size by unit. By weapon type, the mean horn length of pronghorn taken by archery hunters is slightly lower than that of pronghorn taken by firearm or muzzleloader.

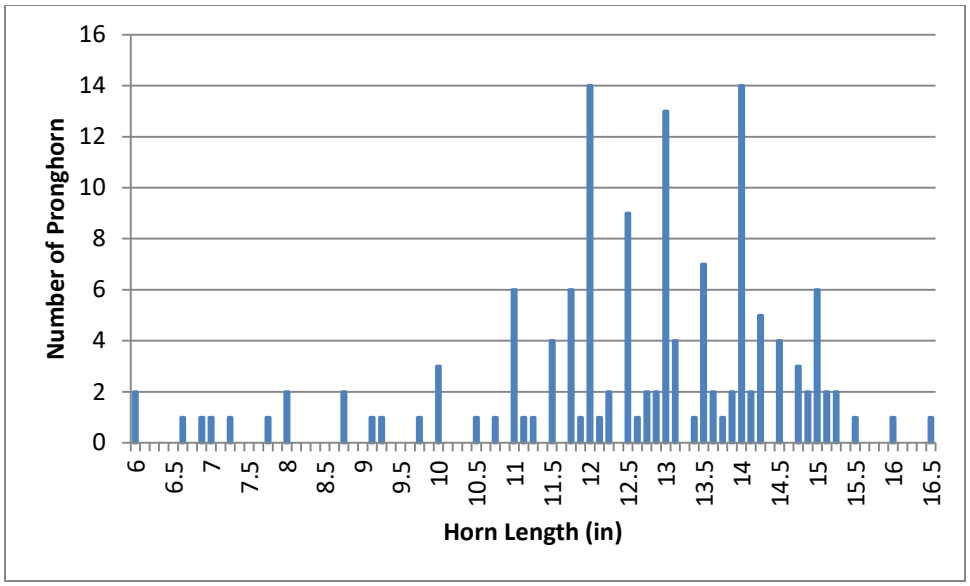

Figure 16. Horn length of pronghorn harvested in Kansas during the 2017 season.

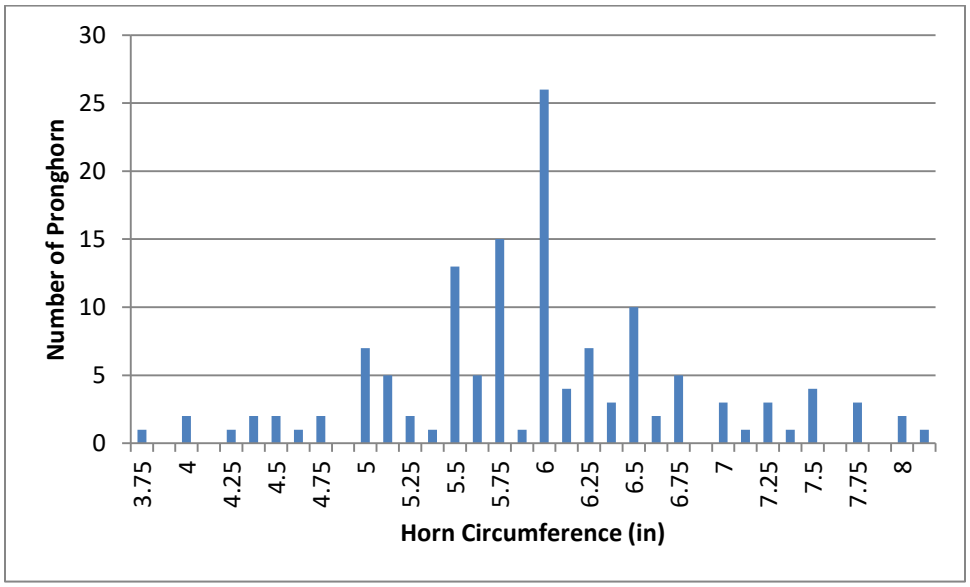

Figure 17. Horn circumference of pronghorn harvested in Kansas during the 2017 season.

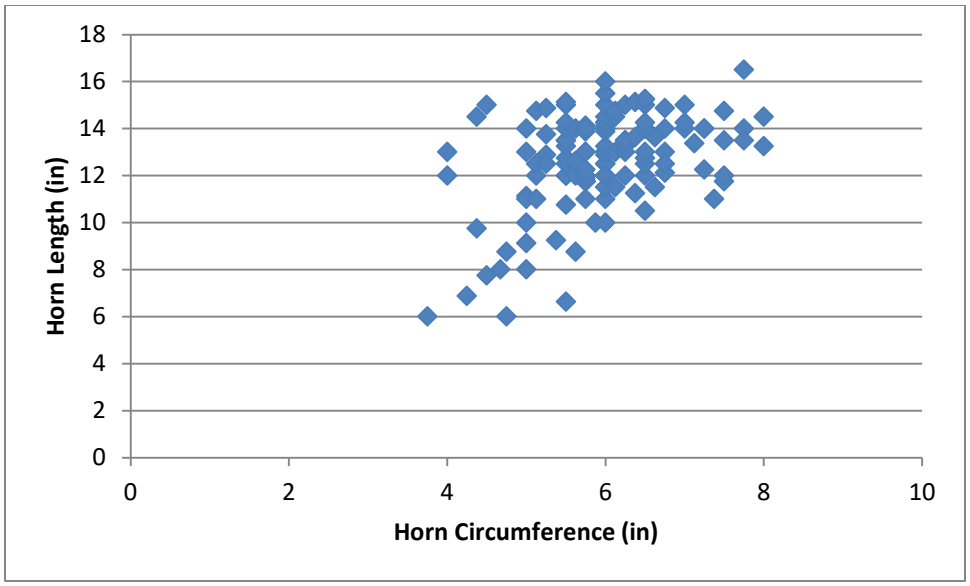

Figure 18. Scatterplot of horn length and circumference of pronghorn harvested in Kansas during the 2017 season.

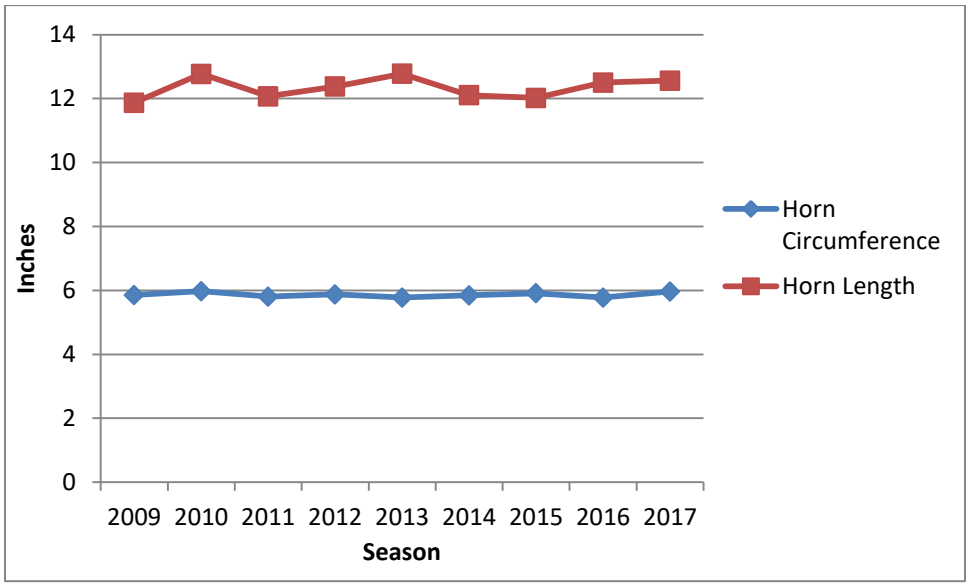

Figure 19. Mean horn length and circumference of pronghorn harvested in Kansas since 2009.

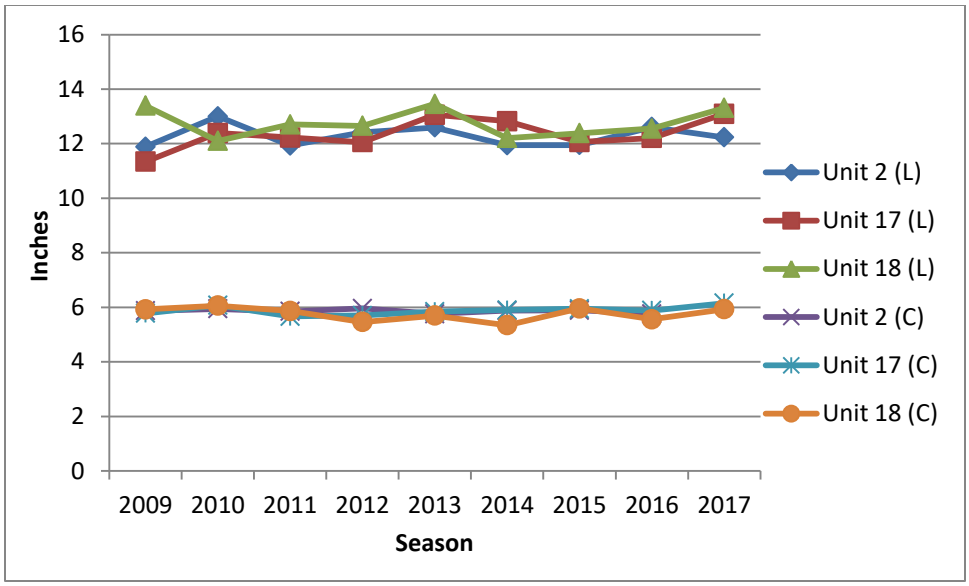

Figure 20. Mean horn length (L) and circumference (C) of pronghorn harvested in Kansas since 2009 by management unit.

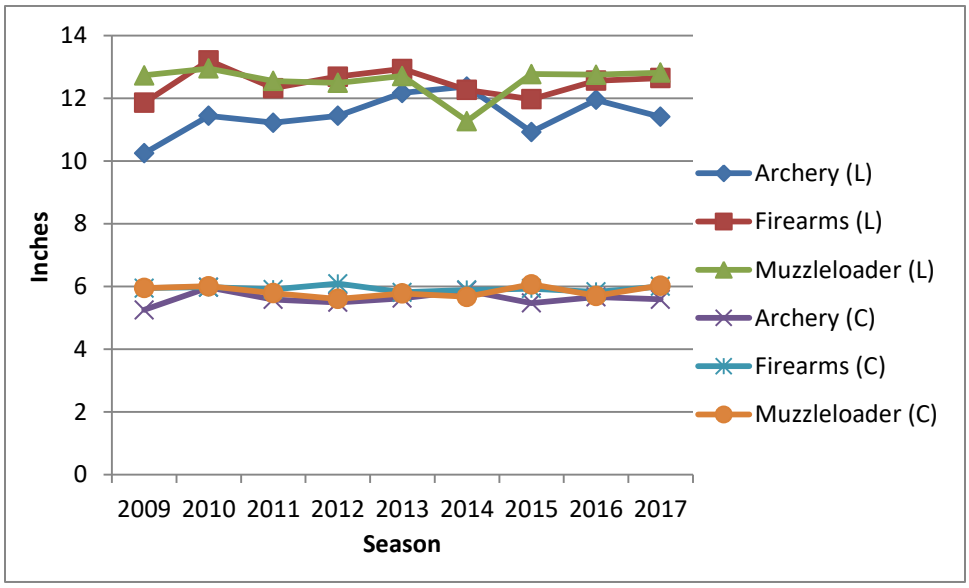

Figure 21. Mean horn length (L) and circumference (C) of pronghorn harvested in Kansas since 2009 by weapon of harvest.

Wounding loss – Hunters are asked how many pronghorn they wounded and didn't recover. Estimated wounding loss was 6 animals (2.7% of the total number harvested). Loss by weapon type was: archery – 4 (10% of archery harvest), firearm – 1 (1% of firearms harvest), and muzzleloader – 1 (4% of muzzleloader harvest).

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Appendix 1.

2017 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	17 LO/T 17 GEN	10 LO/T 58 GEN	0	7		10 LO/T 25 GEN
				1	2		
				2	1	5	
				3		11	
				4		7	
				5		1	
				6		1	
Unit 2	Firearms	61 LO/T 61 GEN	70 LO/T 327 GEN 2 NR TENANT	0	43		59 LO/T 61 GEN 2 NR TENANT
				1	14		
				2	2		
				3	1		
				4		7	
				5	1	39	
				6		10	
				7		2	
				8		3	
Unit 17	Muzzleloader	5 LO/T 5 GEN	0 LO/T 8 GEN	0	1		1 LO/T 9 GEN
				1			
				2		6	
				3		3	
Unit 17	Firearms	22 LO/T 22 GEN	31 LO/T 69 GEN	0	11		22 LO/T 22 GEN
				1	5		
				2	3		
				3	1	6	
				4	1	10	
				5		1	
				6	1	3	
				7		1	
				8			
				9		1	
Unit 18	Muzzleloader	3 LO/T 3 GEN	O LO/T 7 GEN	0	3		3 LO/T 3 GEN
				1			
				2		2	
				3		1	
Unit 18	Firearms	7 LO/T 7 GEN	17 LO/T 34 GEN	0	2		7 LO/T 7 GEN
				1	2		
				2	1		
				3	2	5	
				4			
				5		2	
TOTAL		230	**128 LO/T** **503 GEN** **2 NR TENANT**				231
			633				
Preference points purchased 545							