

2021 Night Vision Equipment Survey

PERFORMANCE REPORT STATEWIDE WILDLIFE RESEARCH AND SURVEYS

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Background & Methods

In August 2020, following an extensive review process with broad public input, the Kansas Department of Wildlife and Parks (KDWP) Commission authorized the use of lights, night vision (n.v.), and thermal imaging equipment (hereafter, n.v. equipment) for hunting coyotes at night within the season dates of January 1-March 31. The use of this equipment was prohibited from vehicles as well as on KDWP managed lands including KDWP Walk In Hunting Areas (WIHA), and hunters were required to purchase a permit for the cost of processing (\$2.50). The purpose of the permit was to allow KDWP to accurately assess participation as well as estimate the harvest and activities of n.v. hunters.

Following the close of the 2021 season, n.v. equipment permit holder names were collected from the KDWP license database. A total of 5776 permits were sold for the 2021 season. KDWP had e-mail addresses for 77% (n=4459). From these, 1000 survey recipients were randomly selected. The survey was web-based and conducted through Qualtrics. The survey is provided in Appendix 1. An initial e-mail invitation including a link to the survey was sent out on April 1, 2021, and a single follow-up request was sent out April 7, 2021.

Results

We received 470 usable responses from 973 deliverable emails for a 48% response rate. Results from these respondents were extrapolated to all permit holders to calculate estimates.

Among n.v. permit holders, we estimated 5063 (87%) hunted coyotes and 4272 (74%) hunted at night using n.v. equipment. Respondents harvested an average of 7.6 coyotes per hunter (range 0-120) including 4.4 using n.v. equipment (range 0-106; see Figure 1) and 3.2 without (i.e. using traditional methods, which probably mostly consisted of daytime hunting, but nighttime hunting without n.v. equipment (i.e. by moonlight) was also legal). These averages yield total harvest estimates of 18,801 coyotes taken by n.v. permit holders with n.v. equipment and 16,202 coyotes taken by n.v. permit holders without.

We recognized n.v. harvest might not be totally additive to traditional harvest due to hunters having limited land access and time to hunt. To better understand the impact n.v. hunting might have on total coyote harvest, respondents were asked how the legalization of n.v. equipment affected their daytime coyote hunting (Figure 2). Forty-four percent of respondents indicated they hunted either a little (19%) or a lot (25%) less during the day since they were able to hunt with n.v. equipment, whereas just 4% indicated they hunted more during the day because of the legality of n.v. equipment. An attempt to estimate the net change in harvest as a result of the n.v. season can be found in the Discussion section.

Over half the coyotes harvested using n.v. equipment were taken during January, and coyote harvest declined with each month of the season (Figure 3). Respondents hunted an average of 13.3 days for coyotes (range 1-212), including an average of 6.3 days using n.v. equipment (range 1-65). Daily harvest was .70 coyotes per calendar hunt day with n.v. equipment and .50 coyotes per day without. Visual

equipment used by night hunters is found in Figure 4. Harvest equipment used by night hunters is found in Figure 5.

Participants were asked how important various potential motives were for their hunting (Figure 6). The three most popular responses had similar scores, and included reducing predation on livestock, reducing predation on wildlife, and for recreation/because I enjoy hunting. Respondents were also asked whether they hunted coyotes at night at the request of a livestock owner specifically for the purpose of predator control. Fifty-eight percent indicated they did.

Respondents were also asked how the ability to use n.v. equipment affected their total coyote harvest (Figure 7). Forty-seven percent of respondents indicated they harvested either a few more (27%) or a lot more (20%) coyotes because they were able to use n.v. equipment, whereas 11% indicated they harvested less coyotes for trying to use n.v. equipment.

Respondents were asked whether they had any issues or concerns with accurately identifying coyotes and differentiating them from other species while using n.v. equipment. Four percent (14 of 336) indicated they did, with dog being the most often mentioned species requiring caution. Respondents were also asked whether they had any issues or concerns about human safety while using n.v. equipment. Just 3% (9 of 335) indicated they did, with the most common explanation being uncertainty about what lies beyond their target. At the end of the survey, respondents were offered an opportunity to provide comments about n.v. hunting. Comments of 217 respondents can be found in Appendix 2.

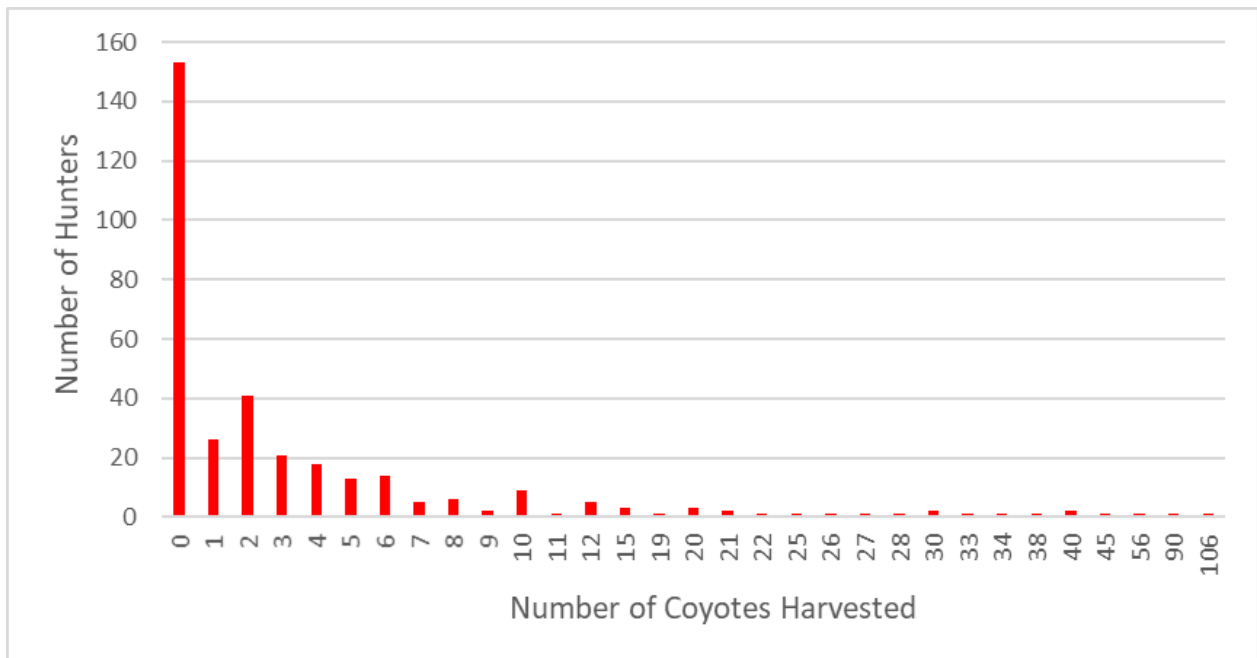


Figure 1. Coyote harvest per hunter while using lights, night vision or thermal imaging equipment during the 2021 season (range 0-106; n=339).

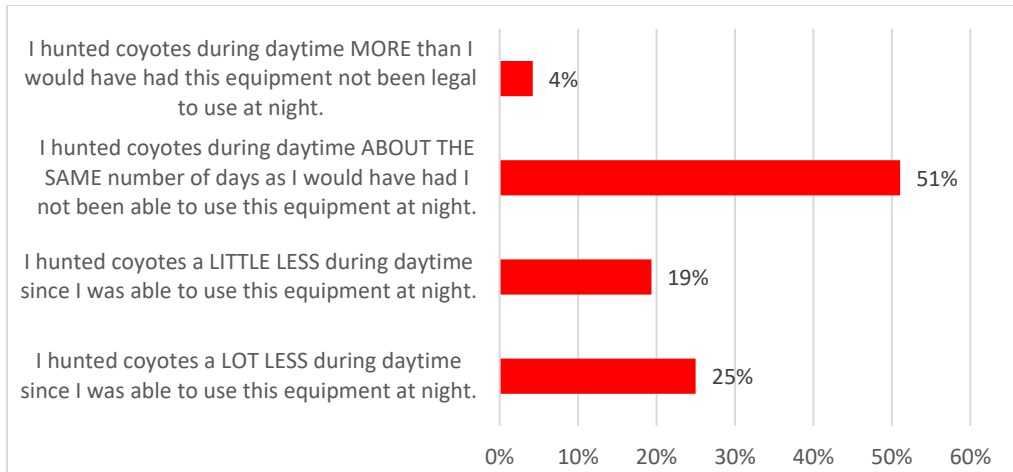


Figure 2. Affect that legalization of n.v. equipment had on daytime coyote hunting.

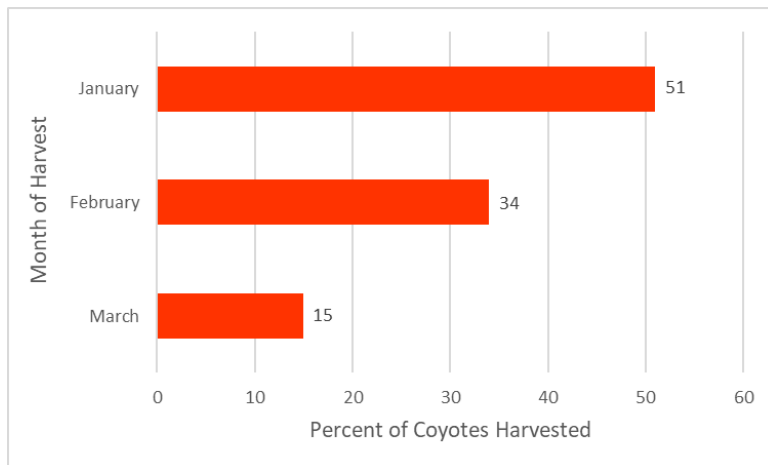


Figure 3. Percent of coyote n.v. equipment harvest that occurred each month of the season.

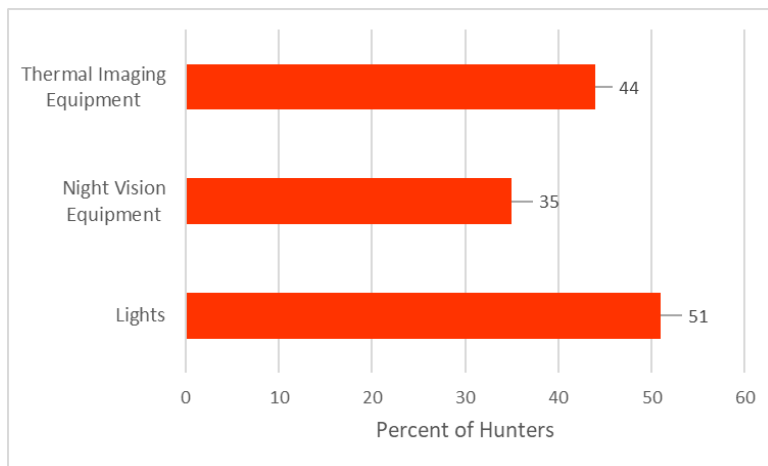


Figure 4. Percent of hunters using each visual equipment type during night hunting (n=338). (Total exceeds 100% because 26% of respondents used more than one visual equipment type.)

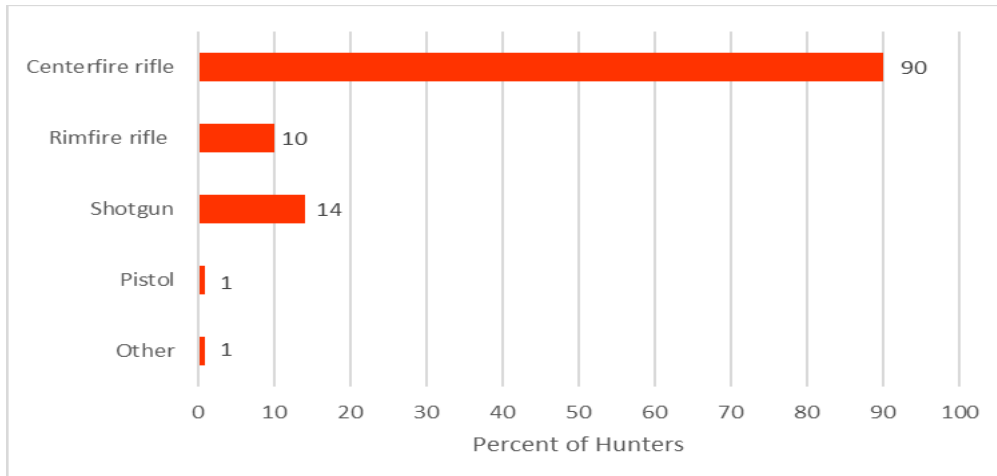


Figure 5. Percent of hunters using each harvest equipment type during night hunting (n=339). (Total exceeds 100% because 15% of respondents used more than one harvest equipment type.)

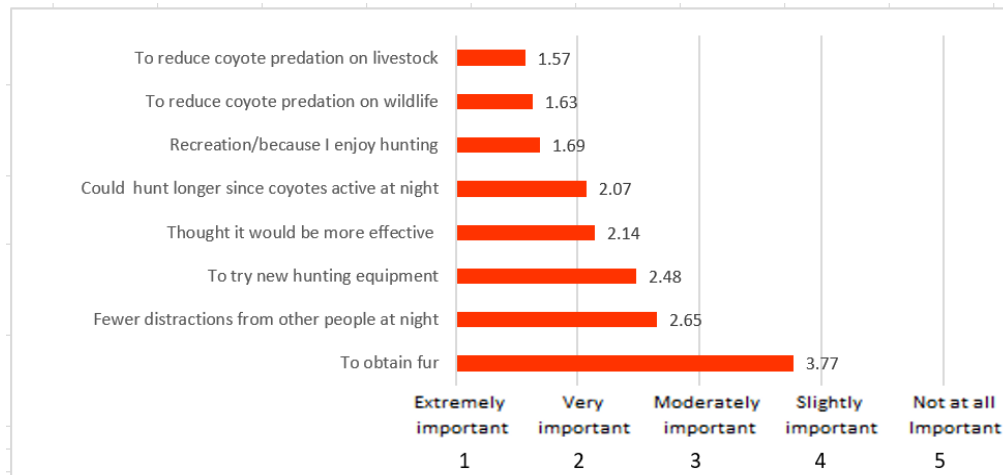


Figure 6. Importance of reasons for hunting coyotes with n.v. equipment.

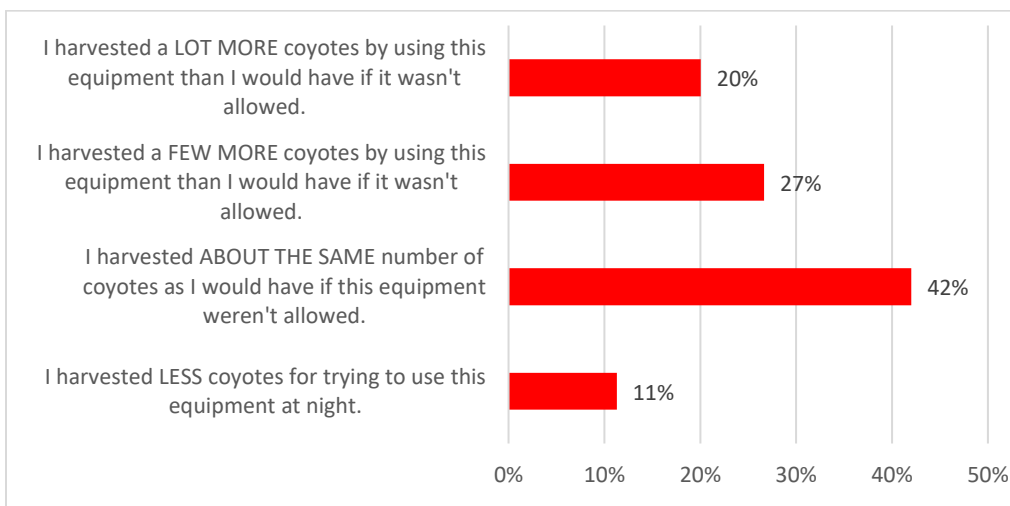


Figure 7. Expected affect that legalization of n.v. equipment had on n.v. hunters' total coyote harvest.

Discussion

For some of the results of this survey to be particularly informative, they must be put into context by comparing with other data collected by KDWP. We've done so below in several instances. We also expanded the discussion to subjects beyond this survey in a couple instances to provide a more complete assessment of the n.v. season.

Participation – The number of n.v. permits sold (5776) and active n.v. hunters (4273) represented 17% and 13%, respectively, of the estimated number of coyote hunters from the 2020 Small Game Hunter Activity Survey (SGHAS; n=34,173; Prendergast 2021). Because some individuals are exempt from having a hunting license and therefore not included in the SGHAS (see Prendergast 2021), the real percentages are likely slightly lower than these estimates.

Total coyote harvest and its impact on the population – Figure 8 provides a comparison of harvest that occurred using n.v. equipment during the newly established season with harvest by traditional hunting methods and trapping from the current season. Total estimated harvest by hunters using n.v. equipment represented 14.0% of the total coyote harvest. However, as indicated in the results section, hunters who used n.v. equipment hunted less without n.v. equipment (see Figure 2) and therefore presumably harvested fewer coyotes by traditional hunting than they otherwise would have (i.e. n.v. harvest was not totally additive). If we adjust harvest by assuming their non-n.v. harvest would have averaged that of 2019 hunters (pre-n.v. hunting affects; see Figure 9), then the actual net harvest was 14,357 coyotes, which would represent 10.7% of the 2020-21 harvest.

Some individuals have expressed concern about the impact this equipment could have on coyote populations. While questions about the impact of a new harvest technique on a species are reasonable, data indicates our coyote numbers are high relative to long-term Kansas population indices as well as our harvest in Kansas compared to other states. Our most important survey of coyotes in Kansas shows a coyote population index that has substantially increased over the past 25-30 years (see Figure 10; Peek 2019), and Kansas currently supports one of the highest documented coyote harvests in the country per the U.S. Furbearer Harvest Statistics Database (<http://furbearermanagement.com/furbearer-reports/>).

Other individuals stressed the need to better control coyotes. This was a frequent comment at KDWP Commission Meetings leading up to the legalization of the n.v. season, and the post-season survey also indicated addressing concerns about coyotes was the most important motive for hunting with n.v. equipment (see Figure 6).

KDWP recognizes the merit of both positions. Coyotes are an important species to Kansans for a lot of reasons, and as with all native species, we strive to maintain healthy and viable populations. We also recognize there is a social carrying capacity, and that coyotes can be problematic. In these cases, removal of the specific problem animal(s) is usually the best course of action, and n.v. hunting may facilitate these efforts. Based on this first season's data, we do not believe this level of increase in harvest will be detrimental to our coyote population, but we will continue to monitor the coyote population and harvest so future decisions about coyote management can be based on the best available science.

Human safety and target identification – The vast majority of survey participants did not report specific issues or concerns about human safety (97%) or target identification (96%). We also did not document any specific verified incidents of either during our first season. Most of the concern expressed about

human safety has been related to bullets traveling a great distance beyond the target, potentially hitting people or houses great distance away. An extensive review of online videos of coyote hunting using lights, night vision, and thermal imaging equipment prior to the establishment of the season didn't turn up a single shot where the landscape wasn't visible as a backdrop to the coyote. It's worth noting that coyotes present a target only about 18 inches off the ground, and most shots are downward due to both hunter preference of higher vantage points and the height of a sitting hunter. In general, it seems the perception of bullets traveling a great distance beyond the target is not a common reality.

Target identification, particularly associated with free-ranging farm dogs, may be a more realistic concern. However, the number of survey participants who expressed concern about target identification was also low. We expect this is because most hunters recognize this potential, and let the animal get closer until a positive identification can be made. Among the basic rules of hunter safety are know your target and what lies beyond. Both are applicable here, and both apply to hunting with n.v. equipment the same as they apply to all other types of hunting.

Association with illegal activities – There has been a lot of speculation on the impact a n.v. equipment season might have on poaching, trespassing and other illegal activities. This subject was not specifically addressed in the survey, but we did conduct a review. Most notably, the KDWP law enforcement division was queried after the season. They did not report any specific incidents of illegal activity associated with n.v. hunting. In addition, we used existing bobcat and swift fox pelt tagging data to assess this subject as well. Both species are susceptible to predator calling, and both must be pelt tagged, at which time KDWP collects method of harvest. Their harvest season (the furbearer season) was open for the first half of the n.v. season. If hunters using n.v. equipment illegally harvested many bobcats or swift foxes and then got them pelt tagged, which they would have to do if they were going to sell the pelt or get it tanned, then hunting as a percentage of harvest would have increased. Per Figure 11, there is no indication that it did. In sum, we did not document any evidence of increased illegal activity associated with the n.v. season.

Fair chase – One of the challenges of assessing fair chase is that an assessment of what is "fair" is based on one's values. As a result, the conclusion about the issue in question is often subjective and debatable. (How far of a shot is too far? Should you be able to hunt a given species over bait? Is hunting at night less sporting than hunting from a vehicle in the day?) This makes it difficult to arrive at a meaningful consensus on many issues. However, if the subject can be framed in such a way that the issue in question is measurable, then data can be collected upon which to base decisions more objectively. In the case of hunting coyotes with n.v. equipment, the question of fair chase was framed as whether the technology provided a significant advantage over a coyote's natural ability to detect danger. That is, is harvest greatly simplified with this equipment, or is a level of skill still required such that the coyote still has a fair chance of escape? We expected the answer to this question to be found in data associated with harvest rate. If the skill required to successfully harvest coyotes was far less than traditional techniques, then we would expect harvest per day and total season harvest per hunter to be higher for hunters using n.v. equipment.

Figure 12 shows the average coyote harvest per day by different harvest types. In practical terms, in 10 calendar days of participation (a reasonable season average considering the results of several different surveys), the n.v. hunter would only harvest one more coyote than the traditional hunter and one less than a trapper. In terms of total season harvest (Figure 13), the average n.v. permit holder harvested about the same number of coyotes using this equipment as the traditional hunter (4.4 vs 4.2), both about ¼ that of a trapper (18.1). Referring back to Figure 1, 91% of permit holders harvested 10 or less

coyotes while using n.v. equipment. Though a few were very successful with this equipment (3% harvested 30 or more coyotes, and maximum reported was 106), this type of harvest distribution is typical as some participants are better at it, work harder, spend more time, or have better places to hunt than others. An example of a very similar harvest distribution by traditional coyote hunters is found in Figure 14. In sum, the metrics mentioned above do not identify an obvious violation of fair chase based on harvest rates. Hunting with n.v. equipment does not appear to be significantly more effective than other legal harvest techniques. It does appear to be a little more effective than traditional coyote hunting, but a little less effective than trapping on average.

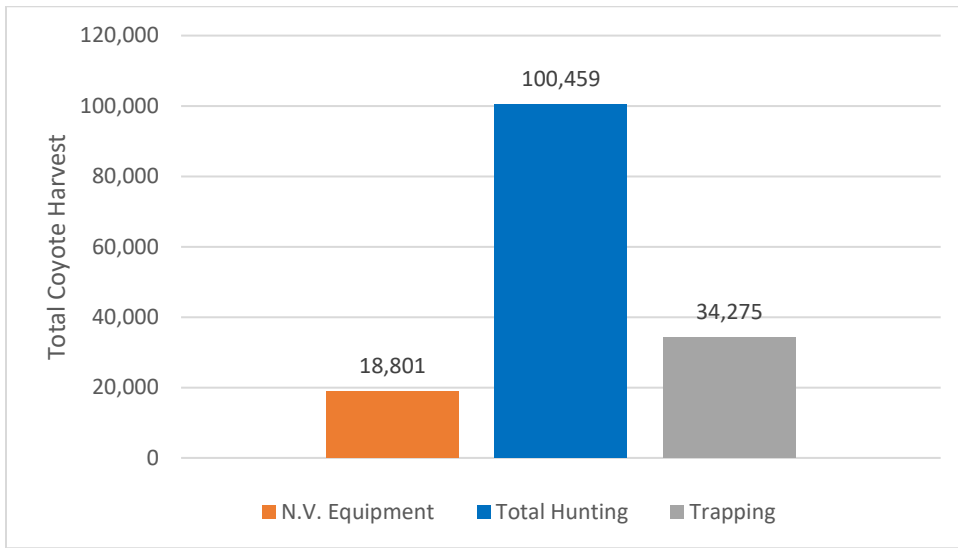


Figure 8. Estimated coyote harvest that occurred during 2020-21 with n.v. equipment, total hunting harvest (which includes n.v. equipment harvest), and trapping. (Traditional Hunting harvest source: Prendergast 2021; Trapping harvest source: Peek 2021)

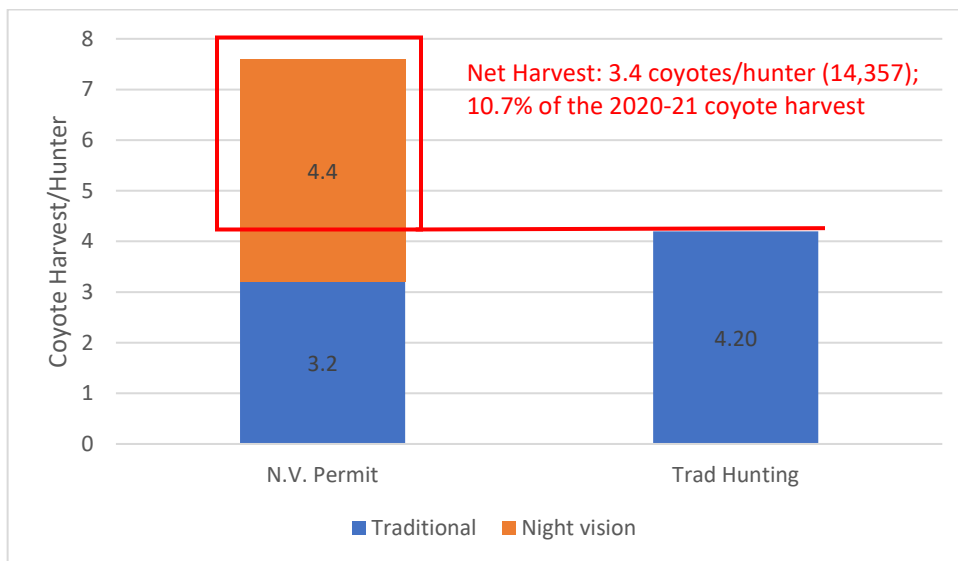


Figure 9. Total season harvest by n.v. permit holders while using (Night vision) and without (traditional), compared to the total season take by traditional hunters as reported in the 2019-20 Small Game Hunter Activity Survey. (The 2019 SGHAS (Prendergast 2020) is used here for comparison due to the potential impacts of the n.v. hunting on the 2020 SGHAS data.)

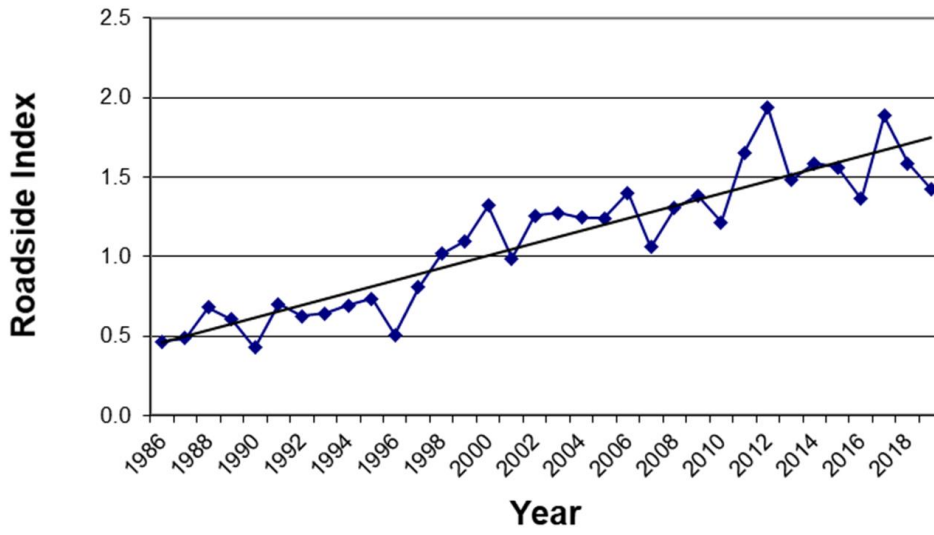


Figure 10. Index of coyote abundance based on the annual KDWP Roadside Furbearer Survey (Source Peek 2019).

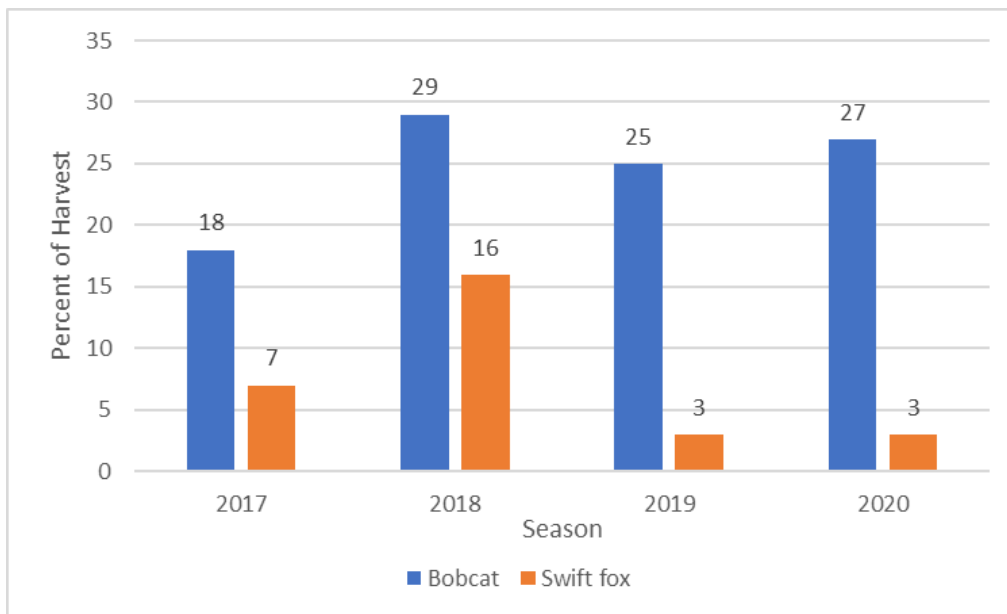


Figure 11. Percent of bobcat and swift fox harvest by n.v. permit holders that occurred by hunting during the 2017-2020 furharvesting seasons.

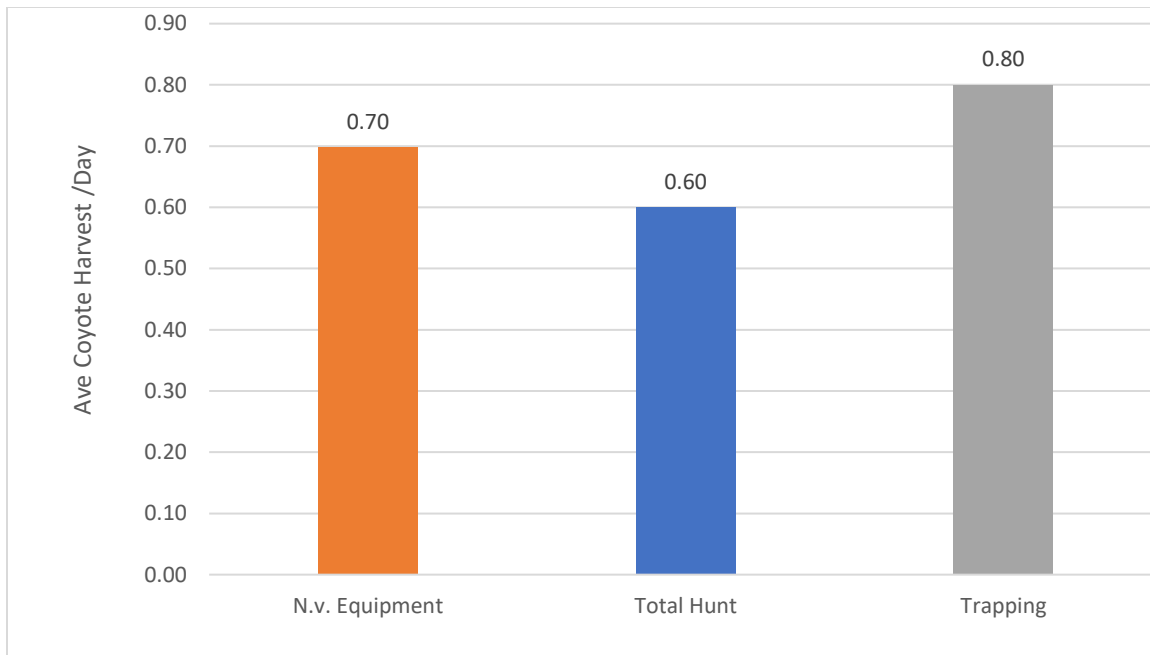


Figure 12. Average coyote harvest per day by hunters using n.v. equipment, traditional hunters, and trappers. (The source of the traditional hunting harvest was the 2019-20 Small Game Hunter Activity Survey (pre n.v. hunting effects). The source of the trapping harvest was the 2020-21 Furbearer Harvest Survey.)

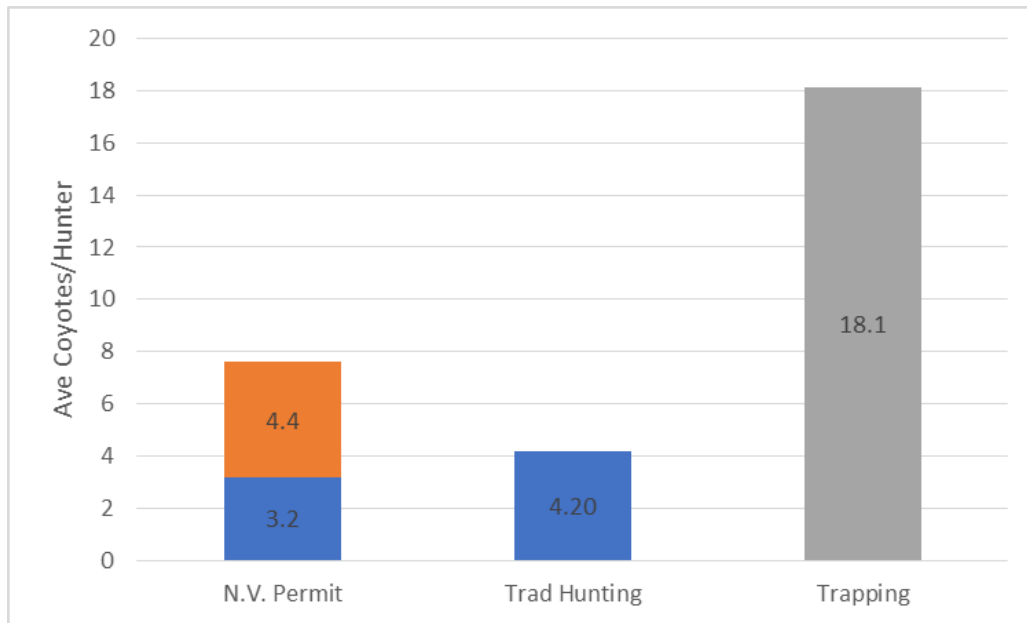


Figure 13. Average total coyote harvest per hunter by n.v. permit holders, traditional hunters and trappers. (The source of the traditional hunting harvest estimate was the 2019-20 Small Game Hunter Activity Survey. The source of the trapping harvest was the 2019-20 Furbearer Harvest Survey.)

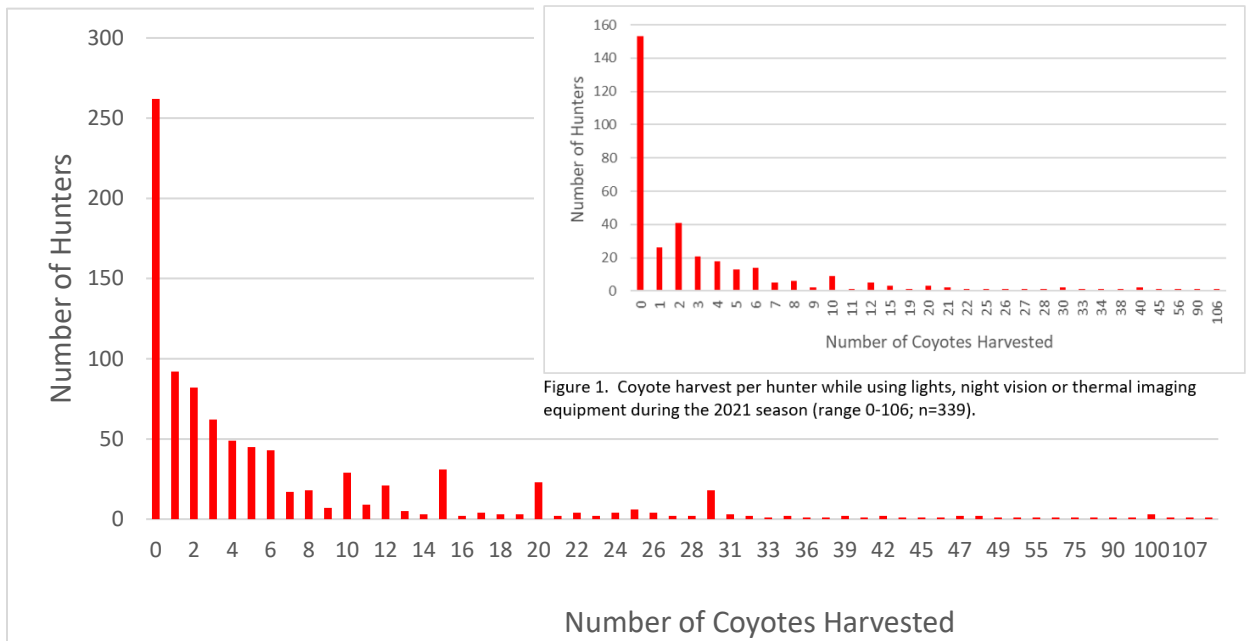


Figure 1. Coyote harvest per hunter while using lights, night vision or thermal imaging equipment during the 2021 season (range 0-106; n=339).

Figure 14. Comparison of the traditional hunting harvest of coyotes from the 2019-2020 Furbearer Harvest Survey (pre n.v. hunting effects; range 0-200 coyotes, n=890; Peek 2020) with the coyote harvest by hunters using n.v. equipment (Figure 1).

Conclusion

Kansas was one of the last states in the Midwest states to allow some form of recreational¹ night hunting for coyotes with lights or other visual-enhancing equipment (Appendix 3). Informal surveys and discussions with state furbearer biologists and in some cases, law enforcement personnel, from these states prior to the enactment of our own n.v. season indicated this type of hunting has been compatible elsewhere. These states have not reported declines in coyote populations associated with night hunting or incidents associated with safety or illegal activities that exceed those for other hunting types.

This appears consistent with our own findings. We did not document any major issues indicating the season was problematic that would lead us to recommend discontinuing it. While some n.v. hunters are already pressing for more opportunity, we also feel that a single season is an inadequate sample size for making changes, and in combination with the level of concern that has been expressed about this hunting technique by some, that it would be reasonable to proceed with the current regulations for the time being. Barring some unforeseen development, our current plan is to proceed with the season as is for two more seasons, then reevaluate all aspects of the season.

¹N.v. hunting was already legal in Kansas for landowners experiencing damage per state law and by licensed Wildlife Control Permit (WCP) holders. We estimated that approximately 1/3 of all WCP holder (80-90 individuals) obtained the permit with the intent of being able to hunt with n.v. equipment, and that these individuals were doing so without issue.

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Appendix 1.

2021 Night Vision Equipment Survey

2021 Night Vision Equipment Survey

Q1 Did you hunt for coyotes in Kansas using any legal method (day or night) between Sept. 1, 2020 and Mar. 31, 2021?

- Yes
- No

Q2 How many total coyotes did you harvest and calendar days did you hunt using all legal hunting methods (day or night) in Kansas between Sept. 1, 2020 and Mar. 31, 2021?

_____ Total coyotes harvested by hunting (1)
_____ Total days hunted (max 212 days) (2)

Q3 Did you hunt for coyotes in Kansas using lights, night vision, or thermal imaging equipment during the 2021 season?

- Yes
- No

Q4 What kind of visual equipment did you use to spot or shoot coyotes while hunting in Kansas at night? (check all that apply)

- Lights
- Night vision equipment
- Thermal imaging equipment

Q5 What kind of harvest equipment did you use to hunt coyotes in Kansas at night? (check all that apply)

- centerfire rifle
- rimfire rifle
- shotgun
- pistol
- Other

Q6 How many coyotes did you harvest in Kansas while hunting at night with lights, night vision, or thermal imaging equipment during the 2021 season? (This is only your Night Vision Permit harvest.)

_____ Coyotes harvested

Q7 Of those coyotes from the question above, how many were harvested during each month of the season?

_____ January harvest
 _____ February harvest
 _____ March harvest

Q8 How many total calendar days did you hunt coyotes in Kansas at night using lights, night vision, and thermal imaging equipment during the 2021 season? (Maximum 90 days; Jan. 1-Mar. 31)

_____ Days hunted

Q9 When you think of why YOU went hunting at night with lights, night vision, or thermal imaging equipment, how important were each of the following as a motive for YOU?

| | Extremely important | Very important | Moderately important | Slightly important | Not at all important |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| To try new hunting equipment | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| To obtain fur | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Recreation/because I enjoy hunting | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| To reduce coyote predation on livestock | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| To reduce coyote predation on wildlife | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I thought night hunting would be more effective than daytime hunting | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I could effectively hunt for longer since coyotes are more active at night | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| There are fewer distractions from other people at night | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q10 Did you hunt coyotes at night at the request of a livestock owner specifically for the purpose of predator control?

- Yes
- No

Q11 How did the legalization of lights, night vision, and thermal imaging equipment affect your daytime coyote hunting?

- I hunted coyotes a LOT LESS during daytime since I was able to use this equipment at night.
- I hunted coyotes a LITTLE LESS during daytime since I was able to use this equipment at night.
- I hunted coyotes during daytime ABOUT THE SAME number of days as I would have had I not been able to use this equipment at night.
- I hunted coyotes during daytime MORE than I would have had this equipment not been legal to use at night.

Q12 How did the legalization of lights, night vision, and thermal imaging equipment affect your total coyote harvest?

- I harvested LESS coyotes for trying to use this equipment at night.
- I harvested ABOUT THE SAME number of coyotes as I would have if this equipment weren't allowed.
- I harvested a FEW MORE coyotes by using this equipment than I would have if it wasn't allowed.
- I harvested a LOT MORE coyotes by using this equipment than I would have if it wasn't allowed.

Q13 Did you have any issues or concerns with accurately identifying coyotes and differentiating them from other species while using lights, night vision, or thermal imaging equipment at night?

- Yes
- No

Q14 Please describe these issues or concerns about coyote identification using this equipment.

Q15 Did you have any issues or concerns about human safety while using while using lights, night vision, or thermal imaging equipment to hunt coyotes at night?

Yes

No

Q16 Please describe the issues or concerns you had about human safety while using this equipment.

Q17 If you have comments about hunting coyotes with lights, night vision or thermal imaging equipment, please include them here.

Appendix 2.

Comments from the 2021 Night Vision Equipment Survey

| Comments |
|--|
| 2 of us hunted together. We saw no other hunters at any point. We hunted in Kiowa county. There are a lot of misconceptions about the ability to ID animals or to know what lies beyond the target. We use OnX hunting app to keep track of where we are. We also scout the area in the daylight to get familiar with any land we don't know super well. Every land owner we spoke to invited us to hunt. |
| A hunter should be required to check in with the Sheriff's Office and/or local warden before being allowed to night hunt with any equipment. |
| All of above |
| Allowing night hunting was a Great decision the state made. Coyote population is very high that needs controlled. It is very safe. Thank you for allowing us to do this it is a sport I love to do. |
| Although I was unsuccessful in my night hunt, I had A LOT of vocalization from coyotes nearby. |
| Appreciate the opportunity and will utilize in the future |
| As a livestock producer I only hunted on my own property. Last year had two calves guts and ears eaten off before I could get to them in early morning. None this year. I think that even the report of a centerfire rifle at night helps. Completely in favor of keeping this tool at our disposal. |
| As a resident of Iowa, where thermal is legal, I was very happy to see Kansas open a nighttime season. I would not have hunted coyotes in Kansas if I couldn't have hunted at night. Thermal hunting is very safe as I have used it in Iowa for 5-6 years and have never had a problem or complaints. I urge you to retain this opportunity to harvest coyotes in Kansas. All of the farmers we asked for permi. |
| Been hunting with thermal around the USA for Six years. Need to allow use of high racks. Much safer, gets hunter up above the ground and they are looking down down. |
| being a lifetime holder, there should not be a fee. |
| Best idea the states ever had! I hope it continues in the years to come. |
| Big learning curve this year. Will definitely be more efficient next year. |
| Coyote hunting at night was awesome and much more effective. Hoping that it is opened up to coons and other animals to help with pheasant and turkey populations |
| Coyotes are still the same old educated coyotes at night as they are during the daylight. |
| Coyotes responded to calls more at night providing for good identification and better shot opportunities. |
| Did not have time to go. Too busy with my current job. |
| Didn't get a chance to go. Wish I would've |
| Didn't get time to hunt |
| Didnt have time but i like to try it next year. |
| Even tho you've opened the season after whitetail season is over, I'm sure there was multiple deer poached due to this. I believe in thinning the coyote population, yet the legalization of the night hunting gives the dishonest hunters a scapegoat. |
| Extend the season to year round |
| Glad KS finally got up to speed with other states |
| Good day. Don't own night vision. But I did notice more activity on roads and in the snow truck tracks. And did see more dead deer carcass laying in fields. Just saying. People not having permission Just driving around looking for yotes after dark. One driver. One spotter. Guess if I'd run my traps after dark I'd see for myself the action of others hunting. Guess start a night shift |
| Good program, hope to hunt more next yr. to help control population. We have a cow/calf operation and had a sick calf ate this winter by coyotes. |
| Great additional season! |
| Great experience |
| Great opportunity to hunt safely and effectively. |
| Hunting at night in the winter is cold. Not worth it. Probably won't buy permit in the future. Season should include April.. |
| Hunting coyotes at night is very beneficial. And allows more time for other people who work during the day to be able to get out and help reduce predator numbers which helps our deer and Turkey population |
| Hunting with night vision / thermal is as safe as daytime hunting and should be allowed year around. |
| I am a cop, I work nights. Allowing me to huntbon my nights off was really nice. Allowed me to keep my same sleeping schedule. |
| I am happy to see this allowed in Kansas. I did buy the permit but did not fit in a night hunt this year. I look forward to doing it in the future though! |
| I am very interested in hunting at night, but did not get the equipment to do it, yet. |
| I appreciate the opportunity and feel this is a positive program overall |
| I appreciate the opportunity to be allowed the way of hunting. And the land owners I hunt with are thankful |
| I believe that the use of lights, night vision and thermal imaging should be legal for coyote hunting throughout the year except for deer and turkey season. I also believe they should be allowed on public property. |
| I believe the night hunting season should be year round. Some people say no to keep poachers from killing deer. Poachers are going to poach no matter what!! They do not follow the laws anyway. Should not penalize good ethical hunters because of unethical killers!!! |
| I bought the night vision hunting permit without investigating the termination date. I was wanting to do some coyote hunting when I come in for turkey season in a few weeks. It was only after purchasing that I realized It expired at the end of march. |
| I bought the permit thinking I may hunt at night but talked to a local wildlife officer and was still too concerned to break the law it was not explained very well on restrictions online or in the book and did not want to risk getting in trouble for it |
| I called in zero at night and killed zero at night...so i'm sure there is a learning curve to it |
| I did not obtain my thermal and IR equipment until mid march of this season. I would have hunt a lot more if i had equipment sooner. Id like to see season extended from December through March. |
| I didn't get the chance to hunt out. |
| I do believe it is a good tool to help manage coyotes that have been educated to day time hunting |
| I don't have a lot of time to hunt during day but thermal gave me more time to hunt with my son. Truly enjoying hunting at night, nobody is out. Still have to understand your surrounding even more than daytime. We spent way more hours watching animals move, including our livestock. |
| I enjoyed be able hunt coyotes at night. I think as far as safety is concerned you naturally put more thought into your surroundings and gun safety hunting in the dark. |

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| I enjoyed the night hunting and hope it will continue. |
| I feel it is nice to be able to use night hunting for coyotes but worry about that it is making it easier for poacher to take advantage of other game a little easiers. As a livestock producer the coyotes are a problem |
| I found that you need specific gear for calling at night. Mainly a tripod with a vice device on top to keep your hands free to run they call/light. I found smart coyotes to be equally as tough to get called in at night as they can be during the day. It really just allows you to call different areas than what you Normally would based on night time movement |
| I got the permit just speculating I might go hunting someday. |
| I have just purchased the license and will attempt to utilize it this year. I am excited about the opportunity. The cost was reasonable enough for me to add it to my regular purchases. |
| I hope this season continues for years to come! It was fun and is very effective on coyote control! |
| i hope we can keep hunting them at night |
| I know many people that have done this and I cant wait to go next year. |
| I like that you gave us the chance to try hunting coyotes at night. If we have more years of it I will look at purchasing a night vision or thermal scope. |
| I like the idea nad the opportunity. Just got to busy at work and couldnt get back out. |
| I like the new rule |
| I like the season not being during deer season but I do feel the season could go longer. Possibly into the spring strictly for population control. |
| I live in Colorado and can hunt at night year round. I think you should be able to do the same in kansas |
| i only hunted nights with snow and a lot of moonlight and only planned on using my light when making a shot. i would have hunted more if i could afford thermal or night vision |
| I only wish thermal equipment were more cost friendly. Nothing Ks can do about that. |
| I purchased my permit with the intentions to hunt at night, but have never taken advantage of the opportunity due to lack of proper personal equipment and lack of desire to invest money in this venture. |
| I purchased the permit in hopes I would have time to go but the season is during my works busy period and I was out of town almost all of it. If the season was longer I would be able to go for sure. |
| I really enjoyed hunting coyotes at night, but I think it would help if the season for night hunting would be extended. |
| I really enjoyed the versatility of being able to hunt at night with lights. |
| I think being allowed to hunt at night was great! I don't have time during the day to go. Being a livestock farmer I've seen what happens to newborn calves from coyotes. I hope the state of Kansas leaves night hunting for coyotes in place. It is so peaceful to go out at night under the stars and hunt. |
| I think hunting with night vision was what got me hunting again. Im a disabled vet and hadnt hunted for over 10 years. The night vision got me back outdoors. I wish the season was longer. Even though i did not shoot a coyote it was fun being out there. I hope this style of hunting continues!! |
| I think it is a great idea for keeping the population in check. |
| I think it is a great opportunity and i will be participating. I haven't gotten a night vision system setup yet so i haven't had a chance to go. This is encouraging more spending for hunting equipment so it benefits the state in other ways too. |
| I think it is awesome and hope that we are able to keep doing it. |
| I think it is great that Kansas finally allowed the use of lights, night vision, and thermal equipment for a season. I do think that this season should be opened year around though because coyotes numbers seem to be increasing and they seem to be growing a little bolder. Coyotes try to prey on our chickens and have been hanging around a friends cattle, especially during calving season. |
| I think it should be limited to short range equipment. No centerfire rifles ,maybe only shotguns |
| I think it should be year round and we shouldnt pay for it. Legalize recreational marijuana and let resident's hunt free |
| I think it will help keep the population down and help the deer and bird population. |
| I think it will save more fawns then hurts poached deer. Worried about the herd take away the doe tag for non residents. They can't tell button bucks from does so lots of unnecessary deer shot. |
| I think it's a great thing at night just getting adjusted to hunting them at night thought would be better.the coyotes are very populated and could use some thinning out very hard on other species and livestock! |
| I think it's a great thing to be able to hunt at night |
| I think it's great that we are allowed to do this. I wish I was able to hunt more than I did Season should be longer |
| I think its an important tool to get the coyote population back in check. |
| I think it's great that Kansas is allowing night hunting. The longer the season, the better. Hunted for a landowner because yotes had been killing and attacking her cats. |
| I think landowners should be able to hunt there own ground at night for a little longer or something. |
| I think night hunting should be legal year around. Coyote numbers are very high. |
| I think that based off the responses you receive, starting the season a month earlier would be nice. People are going to poach whether or not you say night hunting is illegal, but this way you have other hunters out during that time to report poachers |
| I think the night hunting should continue. The only people I heard any complaints from were the guys that use greyhounds to hunt but that didn't bother me much since everyone around here is sick of those guys running through everyones property anyway. |
| I think the season for night hunting should be longer but not open during any of the deer seasons |
| I think this is a good thing for reducing coyote populations. When I can afford it, I will purchase thermal equipment for coyotes. My main purpose is to reduce the impact on cattle, wildlife, and pets. |
| i think this was fantastic my cows and deer hearsds sure appreciate it!!! |
| I think we need to put bobcats on this list too |
| I thought it would be easier. Coyotes are very smart animals. If anything it just made them smarter. |
| I tried night hunting so that I could better understand it. I personally don't like it. I do not think it is safe due to not being able to see anything but your target, in order to execute a safe shot I think you should be able to see what is beyond your target |
| I use a day night scope on my rifle , so the option of continuing to hunt after dark was great. |
| I very much appreciate the new night hunting options. It will take time to get better at it through experience. |

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| I wanted to hunt with night vision this year but I never got around to buying any equipment. Looking forward to getting serious next year. I do a lot of coyote calling competitions but honestly didn't have much luck this year. |
| I was able to observe more movement at night than normal day time hunting. Learning curve with my new equipment hampered I ability to harvest. |
| I was losing calves over nite and was able to sit out with them at nite and get the coyotes before they got to the livestock because they didn't show during the day. |
| I was unable to get out and hunt. Life was way to busy this year. I will be obtaining another night vision permit and using it. This is an absolute great thing for this great state. |
| I was using lights, I will likely upgrade to thermal next season. I have neighbors that have proved thermal to be very effective in managing coyotes among their livestock. |
| I was very happy kdwp allowed us to hunt at night, I hope this law stays in effect, would be nice to have more months to hunt with the cost of buying night equipment. Thank you |
| I wish u could use thermal or night vision year round |
| I wish we could go longer in the spring. |
| I wish we had more time to night hunt coyotes till now I haven't had the time yet to hunt at night I would have more time over December than from January to April |
| I would like the use of night vision extended to all year. But I could understand not allowing it during deer firearms seasons |
| I would like to see the legalizing of truck bed blinds. It elevates you, if you are concerned with safety then hunting from an elevated position is hands down the safest place to shoot from. |
| I would like to see the night hunting with night vision or thermals extended. I was not able to make it out to hunt at night due to extreme cold multiple days and prior work commitments. |
| I would like to see the season be longer. Stay away from deer season but go Jan-May |
| I would like to see the season open year round. |
| I would love to use my night vision but just didn't have the time this year. Please extend the dates you can use night vision on Kansas!! |
| I would say i just dipped my toe in the water this year. I plan on doing more next year, because I will have more equipment and will plan ahead. |
| I would've tried night hunting coyotes, but Covid-19 kept me apart from my hunting camp and hunting partners. |
| I'd like to see the season extended and raccoons added to the legal harvest. |
| I'm extremely grateful Kansas passed this. I live in the country and coyotes are always in my yard messing with my dog and coming right up to my house. This is an excellent thing for ranchers and folks who do not live in town. |
| If the season is longer next year then I will be upgrading from red lights and getting some thermal scopes to help my night hunting be more effective! Glad its finally legal and I hope it stays legal as long as you don't see issues with the deer poaching increasing because of the night coyote hunting. |
| If we were allowed to hunt WIHA that would be great. Have it like the others where the landowner can opt in or out for allowing night hunting. |
| In my opinion it's much safer to hunt at night using these means but my trip was still a bust unfortunately. |
| include public land and walk in hunting |
| It is way harder than hunting them during the day. But more of a thrill |
| It should be legal year round |
| It should be legalized year around |
| It should have been used for years , I've been calling coyotes for 40 years people who aren't very good coyote callers get a lot better guys that have been good for years it's another good tool in the toolbox |
| It should not cost any extra and the use of lights/thermal should be allowed all year. Coyotes need to be thinned out and with the extreme weather this year it made several days virtually impossible to sit out especially at night. |
| It was a lot of fun and hope that it stays around. I do wish it would be year around. |
| It was a lot of fun. I work all day so at times its tough to get out before the sun goes down. But with night hunting being legal it made it easier for me to hunt more. I hope the state of Kansas continues to do this for coyote hunting. |
| It was fun but a bit challenging. Red lights seemed to work better than green. Harder than I expected but was just fun to go out and hunt. |
| It was fun to try something different. Maybe someday I'll get a little better at coyote hunting. |
| It was fun, hope it will continue |
| It was great kids had a blast, darkness really helped conceal them with all their movement. Can't wait for next season. |
| It was interesting hunting at night, but I did not see that much of an advantage at night. And certainly could not appreciate the beautiful Kansas landscape at night. Maybe like all hunting, just need to learn more about it. I will also say it was amazing at the number of deer we saw at night.... As far as night hunting, I can take it or leave it. |
| It was really fun. Thanks |
| It was very beneficial and a huge help to minimize the loss of new calves this year. I hope this can continue on in the future |
| It was/is unclear on whether it is legal to hunt from the bed of a pickup while the vehicle is not running or occupied. If calling/shooting was defined as legal while using an unoccupied vehicle as an elevated platform I, and my friends, would have hunted additional nights. |
| It would be great if we could use them year-round! |
| It would be great if you would open it up to all year I like to hunt coyotes more in the fall and early Winter.. I'm not really after the fur, I hunt for enjoyment and to help the local ranchers also a few guys that are trying to raise bird population |
| It would be nice if the night season was year round so that we can do more population control threout the year and give us non resident hunters more chances to hunt kansas at night |
| it would be nice if the season would open December 1 |
| It would be nice to have a longer season, do to the fact that the equipment is expensive. |
| It would be nice to see the season be longer, as must in our area are still in the heart of calving season. Also the access to hunt public land. I know it was of some concern for safety. But we not once ran into another night hunter thru this season. Thank you for the opportunity for us to do this. If for no other reason than for livestock purposes |
| It would be nice to use night vision on public grounds. I bought the permit but didn't get to use it because it's not legal on public hunting and I don't have access to any private land of my own to hunt. |

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| It's a great addition to predator control and added entertainment |
| It's a great thing I hope to see it again & add all predator animals. |
| Just getting set up with night scope, didn't have opportunity to hunt. |
| Just need to know your ground and where things are! Most important thing |
| Keep it legal! |
| Lights are not very effective at night for coyotes. They know something is going on. Thermal/night vision is needed. |
| Longer season would be nice |
| Longer season. Good compromise would be open all but deer season |
| love the ability to use thermal scopes at night hunting coyotes |
| Make it legal to use year round for coyote hunting. It's gets so cold at nights in Jan and Feb that it's hard to hunt when it's 0 degrees out. After dark. Also in January and February it's harder to call in coyotes cause they r starting to pair up to breed and they don't respond near as good to calls like they do in November and December |
| Make the night coyote hunting season year round. |
| Make the season all year. |
| make the season longer |
| Most of my hunting at night with light was unsuccessful didn't see any coyotes kind of new to the sport |
| Needs to be a longer season or year round. |
| Nice option for coyotes, especially around the farm. Keep it up thx |
| Night hunting allowed us to monitor lots of cattle and pick the coyotes off without worrying about some idiot thinking we are spotlighting deer |
| Night hunting is a far more effective way for predator control. the equipment is expensive and is going to limit some from getting involved bit it should substantially increase the numbers of wildlife by decreasing predation |
| night hunting was great was able to see several several more coyotes at night even tho some would not commit and give opportunity to harvest seen alot more than daytime |
| Night season is definitely a better way of coyote population control. Looking ahead for next season. Thanks |
| Ok definitely like it. Always hunted before with full moon and snow, but that combo is hard to come by. I didn't have the chance to get out much this season, I plan on doing it a lot more next season. |
| Open it up for year around hunting way more fun and effective |
| Our Night Timing hunting was extremely limited this year due to all of the Rain. The fields were very muddy and Jan-March was very limited on when we could walk the fields and get setup. We use thermal and Night Vision which is 100% safer than the current regs of night hunting with just a full moon and no proper way to identify a target. Please consider extending the season. |
| Part of being a safe hunter i know all of my surroundings at the properties i have permission to hunt and also communicated with land owners to make sure they felt comfortable with me hunting at night. I however dont believe the llights made much difference and actually spooked most of the coyotes and i went to usi g moon light and snow cover when the weather was ideal. I really enjoy the choices. |
| Please change law to allow pcp air rifles for coyote hunting |
| Please continue night hunting for coyotes. There are so many and I have lost pets to them. I would have hunted more but didn't get my gear till later in the season and Feb was super cold. |
| Please continue to allow this :-) |
| Please keep this legal |
| Please make thermal legal year round |
| Please open night hunting with NVs or thermals year round. |
| Predator hunting with thermal equipment is the most efficient way to harvest predators. Identifying what you see through a thermal scope is not an issue at all so long as you have quality equipment. I believe all states would benefit from allowing thermal predator hunting. |
| Residents only! |
| Safety is a major key with hunting at night, and all parties must know that hunting at night can be very dangerous and all precautions must be taken. |
| Should open up more for coons, opossums and bobcats. |
| Smart move making it legal. |
| So glad it's legal now |
| Something I believe Kansas needs to continue. Every landowner with livestock I spoke with gave me permission tonight hunt because they feel there are too many coyotes that need to be managed |
| Still unclear why you charge to buy a permit to hunt at night, but im glad we can |
| Thank you for allowing it! |
| Thank you for giving up some time to night hunt. Anything is better than nothing, but you need to open the timeframe to year round like other states. The main problems for coyote in our area is in the summer with cattle. I answered your questions correctly based on the dates you asked, but my real numbers are higher in the summer. Jan to Feb is not the ideal time. |
| Thank you for letting us hunt at night . |
| Thank you so much for opening up night hunting for coyotes. It has turned my favorite pastime into a fun change with my friends. I will continue to hunt at night as allowed. Once again thank you! |
| Thanks for allowing us to hunt at night. It was very fun. |
| Thanks for making the adjustments. |
| Thanks. This offered a great opportunity. |
| The coyote population has increased dramatically in the last year. Don't know why but hunting at night helps for sure. I've found numerous wild turkey kill sites related to coyotes. |
| The night permit allowed me to harvest a coyote outside of my house near our chicken coop at night. I used it as an option to defend my animals/pets. |
| The night season allowed the call to bring the coyotes in to shorter distances than daytime hunting, I believe this allows for safer more ethical shots to be taken. My opinion is that the season should be opened back up from July to September to allow the harvesting of coyotes during the fall calving season. |

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| The season should be year round, allowing for more time for predator control and better timing for fur buyers. Night hunting as given hunters another option and it is great. Also not every winter is conducive to good day hunting but night hunting is always good |
| Thermals and night vision should have no impact on human safety It is actually easier to pick out man made structures at night with this equipment. There's no guarantee you're going to kill coyotes with them either. |
| This equipment makes it SAFER to hunt at night. You have to protect live stock no matter the conditions; proper equipment makes this safer, not just more effective. |
| This is a great thing! I just didn't get out like i wanted to. |
| This is by far one of the best steps Kansas could take to effectively reduce the predator population. Farmers are happy and deer and turkey numbers should increase with the reduction in predators. |
| This is new to me and would like to continue to get better at this type of predator hunting. I like the challenge of a new sport. |
| This is one of the best new laws the kdwp has ever implemented, the ability to shoot these calf killing pests while they are active is wonderful. I didn't get much hunting done this year because I kept forgetting it was legal and I had the permit to do so. The one I did get lit up and killed was 50 yards off my deck hunting my wife's cat. I would like to see this extended to year round |
| This is very important to ranches and farmers in my area, the coyote pressure doing day time has the coyotes educated. Night vision hunting helped the ranches calf this year tremendously. Farmers are still calling me to hunt them, I would like to see the season go into the summer. To help the spring calf's. |
| This should be allowed in WIHA areas. Hunters can be required to wear infrared strobes or IR reflective vests that can be seen easily with nightvision and lights. |
| This should be year round season |
| This was a great opportunity and I hope the misconceptions about this form of hunting can be correct through proper education, data, and facts. I do have 2 issues though. Hopefully the season dates where a trial. 2 issues, late season start means less quality and fur buying time. 2, different calving seasons makes it harder to protect livestock with current season dates. Still Thankful!! |
| This was a great step for Kansas and I hope to continue to hunt coyotes at night for years to come. Thank you for allowing us to do so! |
| This was a welcome change in Kansas. Our coyote population was too high and this was the best method to correct it. |
| This was my first attempt at coyote hunting, AND night Vision equipment. I hope you continue the night hunting seasons in the future as it was a lot of fun even though we didn't see anything! |
| This was my first attempt at hunting at night. The first day I called them just to watch and didn't get any to come in. The next day I was able to call one in but missed my shot as it was already running. |
| This was my first time ever hunting coyotes, so some of the questions I this survey are answered as best as possible. I don't have any other hunting events to compare to for fewer, more, same as prior hunting. I was only able to make it to hunt once. It was primarily to get the experience and try new equipment as a new hunter. |
| This was the best thing that has happened to Coyote hunting |
| Today's equipment it is so much better & safer than even 5 years ago. Effectiveness of killing has increased at 4x+. I saw 8x the # yotes hunting than during the day. Please continue to allow us to help control the population at night to help protect livestock & wildlife year round. At least from Dove season until March 31st. I live out of state & want to hunt when I visit during hunting seasons. |
| Tons of fun in an effective way to hunt coyotes. My only concern is that the technology and season could be another poaching tool. I'm hoping that the state finds a good way to police this season and keep everybody honest. |
| Use gun safety to the highest when using night equipment |
| Used high end Thermal and no issues identifying coyotes. Would be a little concerned with IR at longer distances. |
| Was really happy with the legalization of night vision equipment in Kansas. I have hunted in Nebraska for years using night vision equipment. I prefer the hunt at night. |
| We can't shoot worth a darn. Called dozens in, unable to make any hits. Night hunting was extremely fun and we were more than able to do it safely. Really enjoyed the experience. Night hunting (thermal) can be completed safely and is highly entertaining. |
| We need to legalize it year round. |
| We should be able to protect livestock all year round from coyotes with good thermal imaging on private property. There is no issue identifying the difference between coyotes, Deere, or livestock with good thermal imaging. |
| We should be able to shoot bobcats at night during furbearer season. There is no limit on bobcats for trapping so why can't we shoot them at night. If you are concerned with over harvest, then make a bag limit of 5 for night hunting. |
| What little I was able to go due to work was great. I'm very familiar with night vision and thermal hunting in Texas hunting pigs and coyotes. Its fun and exciting. |
| While I would prefer the artificial light portion of the season to run longer, I understand the initial reasoning behind it. |
| Wish permit was good all year long for night vision. |
| Wish we could extend the season time frame to year round. Fresh air was amazing. |
| Would do more with longer season |
| Would like to have it start in November because the fur is losing its prime by the middle of January. I just don't like to see a renewable resource go to waste. |
| Would like to see it opened up to harvesting raccoons, opossums and skunks. Not enough people trapping them anymore is leading to the decline in Turkey populations. |

Appendix 3.

Summary of night hunting regulations of 15 Midwest and select states as of August, 2020

| State | Lights, night vision and thermal imaging equipment allowed for recreational calling? | species | land ownership restrictions | firearm restrictions | vehicle use | Coyote Season Dates | # of Regs Fields Similar With KS |
|---|--|----------------------------|-------------------------------------|--|-------------|------------------------------------|----------------------------------|
| 1 Oklahoma | not allowed | | | | | | 0 |
| 2 Wisconsin | lights only | coyote, fox and raccoon | none | none | prohibited | year-round | 2 |
| 3 Colorado | lights only | coyote and furbearers | none | none | prohibited | year-round | 2 |
| 4 South Dakota | yes | coyote & some furbearers | private land only | bullet <.225" dia | allowed | year-round | 2 |
| 5 Indiana | spotlight only | coyote and fox | none | none | prohibited | Oct 15 - Mar 15 | 3 |
| 6 Michigan | yes | coyote and some furbearers | some public lands (PL) prohibitions | .269 caliber or smaller | prohibited | year-round | 3 |
| 7 Minnesota | yes | coyote and fox | none | shotgun-only | prohibited | Jan 1 - Mar 15 | 3 |
| 8 Illinois | yes | coyote and furbearers | none | Rifle restrictions on state lands | prohibited | Nov 10 - Mar 15 | 3 |
| 9 Iowa | Infrared light only | coyote only | none | none | prohibited | year-round (except during FA deer) | 3 |
| 10 Texas | yes | coyote and furbearers | private land only | none | allowed | year-round | 3 |
| 11 North Dakota | yes | coyote and some furbearers | none | none for coyote/fox, .22/.410 limit for raccoon | prohibited | Nov 25-Mar 15 | 3 |
| 12 Ohio | yes | coyote only | none | none | prohibited | year-round (except during FA deer) | 4 |
| 13 Kentucky | yes | coyote only | some PL prohibitions | 6.5 Creedmore or smaller from Dec 1-Mar 31, shotgun-only on PL | prohibited | Dec 1-May31 | 5 |
| 14 Missouri | yes | coyote only | none | none | prohibited | Feb 1-Mar 31 | 5 |
| 15 Kansas | yes | coyote only | some PL prohibitions | none | prohibited | Jan 1 - Mar 31 | 6 |
| # of States with Regs Similar with Kansas | 10 | 5 | 5 | 8 | 12 | 7 | |