

# Possible Alternatives to the Controlled Hunts Application Process

## Introduction

The Oklahoma Department of Wildlife Conservation (ODWC) offers special hunt opportunities by way of random draw through an online portal. For years, this process has remained the same. Hunters are asked to pay a \$5 fee for entry into any 14 hunts of their choosing across 4 categories. These categories entail different types of hunts (deer, elk, turkey, youth). We wanted to test the popularity of alternatives to this application process both in terms of the price offered and what you get for the price of applying. The three formats were:

- (1) keeping it as-is
- (2) moving to a pay per hunt system
- (3) a hybrid version where you pay a base fee for 14 hunts (as before) with the option to pay for as many extra hunts at a pay per hunt rate

We asked each of these formats at different price points to determine if there was a price point that was amenable to hunters. We also wanted to know personal characteristics that may impact their willingness to accept other formats in the application process. To better understand, we asked how many people they typically sign up/pay for with controlled hunts (for example: parents applying for their children). We also asked if they would still be likely to sign up if we did switch to a pay per hunt system and how much they would spend on hunts, income level, land type they hunt and other demographic factors.

*This survey also contained a section on raffle hunts that the Oklahoma Wildlife Conservation Foundation would facilitate. Results were shared with the Foundation and relevant staff and are not included in this report.*

## Methods

### Participant Selection and Invitation Schedule

Survey respondents were randomly selected to take part in this survey from the controlled hunts database of applicants over the last five years. There were 20 total choice sets, and to avoid survey fatigue, we split up the choice sets into four different versions of the survey. Each version was sent to four randomly selected subsets of the sample. Each subset contained 2,000 individuals. Respondents were emailed an initial invitation to the online only survey with two reminders. Due to potential confusion with instructions on the survey that was sent out, it was believed that people may not have understood how to respond to the question sets or thought that they were expected to choose one answer over another. To determine if this was the case, we added an additional 8,000 randomly selected controlled hunts applicants. A breakdown of survey invitation attempts can be seen in table 1.

Table 1: Schedule of emails sent to invite those selected to take part in the survey

Wave	Date sent	
1	12/01/2020	Invitation to survey
	12/04/2020	Reminder to survey
	12/09/2020	Final reminder to survey
2	1/5/2021	Invitation to survey
	1/8/2021	Reminder to survey
	1/13/2021	Final reminder to survey

The four different versions of this survey each contained different choice sets. The sets contained within each version of the survey can be seen in Table 2. In the second wave of the survey, we switched some choice sets to determine if there was selection bias. We ran a discrete choice regression to determine which of the options was selected most often by hunters.

Table 2: Choice sets in four versions of the survey (\*denotes that in the second wave of the survey these options were switched to test bias in the presentation of choices)

Survey Version	Choice A	Choice B
1	ALC \$2.00	As-is \$7.50
1	Hybrid \$7.50, \$2.00	As-is \$7.50
*1	ALC \$1.00	Hybrid \$5.00, \$1.00
1	ALC \$2.00	Hybrid \$5.00, \$1.00
1	As-is \$5.00	Hybrid \$5.00, \$1.00
<b>2</b>		
2	ALC \$2.00	As-is \$5.00
2	ALC \$1.00	As-is \$5.00
*2	ALC \$2.00	Hybrid \$5.00, \$2.00
*2	As-is \$5.00	Hybrid \$7.50, \$1.00
2	As-is \$7.50	Hybrid \$7.50, \$1.00
<b>3</b>		
3	ALC \$1.00	As-is \$7.50
3	As-is \$5.00	Hybrid \$7.50, \$2.00
3	ALC \$2.00	Hybrid \$7.50, \$2.00
*3	As-is \$7.50	Hybrid \$5.00, \$2.00
*3	ALC \$1.00	Hybrid \$7.50, \$2.00
<b>4</b>		
*4	As-is \$5.00	Hybrid \$5.00, \$2.00
*4	ALC \$2.00	Hybrid \$7.50, \$1.00
4	ALC \$1.00	Hybrid \$7.50, \$1.00
4	ALC \$1.00	Hybrid \$5.00, \$1.00
4	As-is \$7.50	Hybrid \$5.00, \$1.00

## Results

### Response Rate

Post analysis showed that there were no differences in the responses when alterations were made to the instructions to account for possible confusion and the choice sets themselves remained consistent in the options that were chosen when they were presented in different orders (no selection bias was detected), so it was determined to combine all data into one large data set. We sent out 15,990 invitations to participate in total. Overall, 1,199 of those invitations bounced, giving us 14,791 deliverable survey invitations. Of those, 4,549 responded for a response rate of 31% (Table 3). Compared to the population of controlled hunts applicants over the last five years, the returned surveys came from a representative group of hunters. The population was 94% male with an average age of 49.26. The respondent group was 94% male with an average age of 49.10. The population of controlled hunts license holders we sampled from was also 74% lifetime license holders and the respondent population was 82% lifetime license holders.

*Table 3: Response rates for each version of the survey*

Wave	Version	Sent	Bounced	Received	Response Rate
1	1	1,998	134	560	30%
1	2	1,998	165	558	30%
1	3	1,996	139	555	30%
1	4	1,998	161	536	29%
2	1	2,000	138	564	30%
2	2	1,998	146	573	31%
2	3	2,002	162	613	33%
2	4	2,000	154	590	32%
	Total	15,990	1,199	4,549	31%

### Controlled Hunts

We asked about preferences for different formats of hunts, factors influencing their likelihood to participate, and the dollar amount they would be willing to pay in a pay per hunt system. A factor that we thought might contribute to format preference was how many people a hunter typically helps/pays for in the controlled hunts process (i.e., a parent paying for each of their five children to participate in the controlled hunts draw). The average numbers of other people that applicants help to sign up is 1.38 meaning the majority pay for themselves or themselves and one other person. We also wanted to know the likelihood that people would still participate in the application process if we change to a pay per hunt system. The most selected answer was that they would be very likely to participate (Fig. 1).

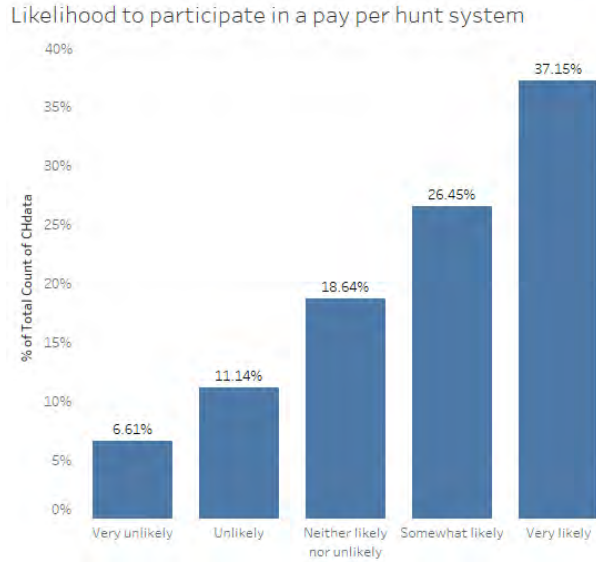


Figure 1: “If the Wildlife Department were to change to a pay per hunt system (rather than the single price system we have now), how likely or unlikely would you be to apply for controlled hunts?” n= 4,083

Under the scenario of a pay per hunt system, we asked how much money respondents would spend on hunt applications. At \$1 per hunt choice, the average amount of hunts they would apply for was 18.49 (spending \$18.49). If we look at this by their likelihood to participate, those very likely to participate were more likely to spend more money on hunt opportunities (Fig. 2). This shows that respondents selecting “very likely to participate”, “somewhat likely to participate”, and “neither likely or unlikely to participate” in a pay per hunt system would all pay more than they currently pay under a pay per hunt system on average.

Average pay by likelihood to hunt

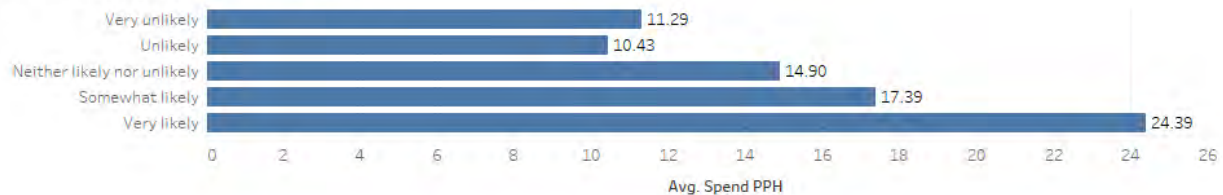


Figure 2: Average amount respondent would spend on hunts based on their response to the question: “If the Wildlife Department were to change to a pay per hunt system (rather than the single price system we have now), how likely or unlikely would you be to apply for controlled hunts?”

The average age of respondents was 49.10 years and had on average been hunting 35.69 years. Most respondents made over \$50,000 with 15.9% making less than \$50,000. The respondent population was 96% male and most respondents had participated in the controlled hunts process each of the last five years. The majority of respondents hunt private land either completely or some of the time (Fig. 3).

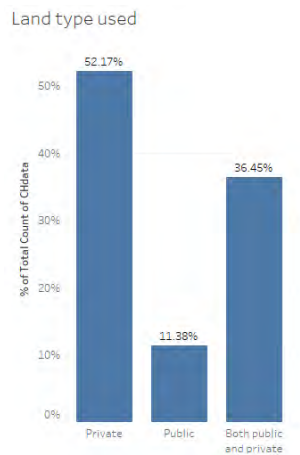


Figure 3: What type of land do you typically hunt on? n = 3,874

To know if we were receiving a representative sample, we asked home zip code of the respondents. The geographic representation is seen in figure 4.

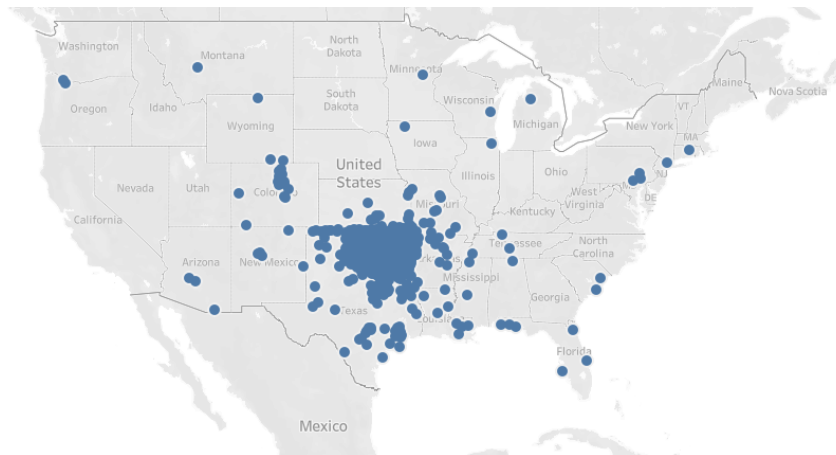


Figure 4: What is your home zip code?

### Preference for the proposed alternatives

We ran a discrete choice regression to understand the different preferences for the three application format types presented and with varying price points. When looking at the entire population, the preference was highest for the hybrid option of a \$5.00 base rate with the option to additionally purchase hunt opportunities at \$1.00 each. When comparing to the agency's \$1.00 per hunt option, hunters were 1.5 times more likely to choose this hybrid option. Keeping the format as-is and one of the alternative hybrid options of a \$5.00 base rate with \$2.00 per additional hunt were preferred almost twice as much as the \$1.00 per hunt option. The only option that was preferred less than the \$1.00 per hunt was the \$2.00 per hunt. The rest of the options presented were somewhat equivalent. Table 4 displays the factors by which respondents preferred certain options more or less than the \$1.00 pay per

hunt option. To read this table, the odds ratio is the likelihood of future respondents choosing that option over a \$1.00 pay per hunt option (above 1 is more likely to be chosen, below 1 is less likely to be chosen compared to the \$1.00 pay per hunt option).

*Table 4: Odds ratio from discrete choice conditional logit model (full respondent population)*

<b>Format and Price</b>	<b>Odds ratio</b>
<b>Pay per hunt \$2.00</b>	0.68
<b>As-is \$5.00</b>	1.94
<b>As-is \$7.50</b>	1.11
<b>Hybrid \$5.00, \$1.00</b>	2.56
<b>Hybrid \$5.00, \$2.00</b>	1.98
<b>Hybrid \$7.50, \$1.00</b>	1.32
<b>Hybrid \$7.50, \$2.00</b>	1.12
<b>Neither option</b>	0.32

If we run this same analysis on subsets of the population, the preferences remain somewhat similar but with some understandable differences. For those that said they were somewhat or very likely to participate in a pay per hunt system, the most preferred format was the hybrid version with a base rate of \$5.00 and \$1.00 per extra hunt. The next most preferred were the hybrid \$5.00 base with \$2.00 pay per hunt and the as-is \$5.00 format. Comparing this to a subset that said they would be unlikely to participate if the format changed to a pay per hunt system, respondents who said they were unlikely to participate were five times more likely (compared to those that were favorable of a pay-per-hunt option) to choose the as-is \$5.00 option when presented with different choices. They were almost four times more likely to choose the hybrid version of a \$5.00 base rate with the availability of the \$1 per hunt option included. As a reminder, to read this table, the odds ratio is the likelihood of future respondents choosing that option over a \$1.00 pay per hunt option (above 1 is more likely to be chosen, below 1 is less likely to be chosen compared to the \$1.00 pay per hunt option).

*Table 5: Odds ratio from discrete choice conditional logit model (subset respondent population)*

<b>Format and Price</b>	<b>Likely to participate in PPH- odds ratio compared to \$1.00 pay per hunt</b>	<b>Unlikely to participate in PPH- odds ratio compared to \$1.00 pay per hunt</b>
<b>Pay per hunt \$2.00</b>	0.68	0.66
<b>As-is \$5.00</b>	1.35	6.45
<b>As-is \$7.50</b>	0.87	2.49
<b>Hybrid \$5.00, \$1.00</b>	2.13	4.96
<b>Hybrid \$5.00, \$2.00</b>	1.76	2.88
<b>Hybrid \$7.50, \$1.00</b>	1.23	1.80
<b>Hybrid \$7.50, \$2.00</b>	1.03	1.11
<b>Neither option</b>	0.17	1.47

Younger respondents (those less than 50 years old) were like the general respondent group in that they preferred the hybrid version 1.7 times more than the pay per hunt at \$1.00 option. Those over 50 were also similar, meaning there was little difference in preference based on age of applicant. A difference between the younger and older audiences was that younger audiences more highly preferred hybrid options and the older options were favorable of as-is formats. Comparing residents to non-residents, non-residents did not have a strong preference for one of the presented options like other subset populations had.

**Overall, no matter the subset, the most preferred option was the hybrid version at the lower price: \$5.00 base rate for 14 hunts with the ability to pay an extra \$1 for each additional hunt you would like to apply for. The recommendation based on these survey results is either to leave the controlled hunts application process as it is now, or institute this additional option to pay for more hunts at a \$1 per hunt rate. This will allow the process to remain unchanged for those that are sensitive to price and format changes and will encourage them to continue applying year after year but will allow the department to create a new revenue stream by way of additional pay per hunt opportunities.**

Appendix A: Survey Instrument (first five questions presenting choices were simply switched out in the different versions of the survey)

Preferences for Wildlife Department Controlled Hunts

The Oklahoma Department of Wildlife Conservation (ODWC) is considering changing the process by which hunters apply for controlled hunts. Your input is a critical part of this process. (No official changes have been made to the controlled hunts process at this time. These options are for consideration only.)

First, we would like to ask you about the format in which you apply for controlled hunts and the price you pay. Currently, you can pay a flat rate of \$5 and apply for up to 14 hunts (5 deer, 3 turkey, 3 elk, 3 antelope). We are considering changes to the application process such as price and the number of opportunities you can apply for.

The application process WILL NOT CHANGE in terms of licensing requirements, preference points, and once-in-a-lifetime hunts.

For each of the following questions, you will be presented with two options- "Choice A" and "Choice B". Please choose which of the two options you would favor and, if neither, select "I would not choose either option".

Preferences for Wildlife Department Controlled Hunts

If you are completing this survey on a smart phone, turning the phone horizontal will make the choices larger on your screen.

	Choice A	Choice B
Application Format	May apply for any of the 177 hunts offered- one entry per hunt. No category restrictions.	One application fee, may ONLY apply for 5 deer, 3 elk, 3 antelope, 3 turkey
Price	\$2.00 for each hunt you apply for	\$7.50 for 14 hunts across 4 categories

1. Out of the above options, would you choose choice A, choice B, or neither option?

- Choice A
- Choice B
- I would not choose either option

Preferences for Wildlife Department Controlled Hunts



	Choice A	Choice B
Application Format	One application fee for 14 hunts- may apply for more at an additional fee.	One application fee, may ONLY apply for 5 deer, 3 elk, 3 antelope, 3 turkey
Price	\$7.50 application fee for 14 hunts, \$2.00 for each additional hunt selected	\$7.50 for 14 hunts across 4 categories

2. Out of the above options, would you choose choice A, choice B, or neither option?

- Choice A  
 Choice B  
 I would not choose either option

Preferences for Wildlife Department Controlled Hunts

	Choice A	Choice B
Application Format	One application fee for 14 hunts- may apply for more at an additional fee	May apply for any of the 177 hunts offered- one entry per hunt. No category restrictions.
Price	\$5.00 application fee for 14 hunts, \$1.00 for each additional hunt selected	\$1.00 for each hunt you apply for

3. Out of the above options, would you choose choice A, choice B, or neither option?

- Choice A  
 Choice B  
 I would not choose either option

Preferences for Wildlife Department Controlled Hunts

	Choice A	Choice B
Application Format	May apply for any of the 177 hunts offered- one entry per hunt. No category restrictions.	One application fee for 14 hunts- may apply for more at an additional fee.
Price	\$2.00 for each hunt you apply for	\$5.00 application fee for 14 hunts, \$1.00 for each additional hunt selected

4. Out of the above options, would you choose choice A, choice B, or neither option?

- Choice A.
- Choice B.
- I would not choose either option.

Preferences for Wildlife Department Controlled Hunts

	Choice A	Choice B
Application Format	One application fee, may ONLY apply for 5 deer, 3 elk, 3 antelope, 3 turkey	One application fee for 14 hunts- may apply for more at an additional fee.
Price	\$5.00 for 14 hunts across 4 categories	\$5.00 application fee for 14 hunts, \$1.00 for each additional hunt selected

5. Out of the above options, would you choose choice A, choice B, or neither option?

- Choice A.
- Choice B.
- I would not choose either option.

Preferences for Wildlife Department Controlled Hunts

6. If you had the ability to apply for unlimited controlled hunts (up to 177) costing \$1 each, how many hunts would you likely apply for? (Example: 15 hunts = \$15 to apply)

7. If the Wildlife Department were to change to a pay per hunt system (rather than the single price system we have now), how likely or unlikely would you be to apply for controlled hunts?

- Very likely
- Somewhat likely
- Neither likely nor unlikely
- Unlikely
- Very unlikely

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8. Not including yourself, how many additional people do you personally pay for to apply for controlled hunts?

Preferences for Wildlife Department Controlled Hunts

Oklahoma Wildlife Conservation Foundation Hunts

The Oklahoma Wildlife Conservation Foundation (OWCF) was formed in 2018 to encourage private support to the Oklahoma Department of Wildlife Conservation. The Foundation's vision is to enable all outdoor enthusiasts to actively enjoy our state's wildlife and wild spaces.

We would like to ask you about your preferences for special Conservation Foundation opportunities that may be offered in the future through the sale of raffle tickets.

These opportunities will all occur within Oklahoma and raffle tickets will all cost \$15.

For more information please visit the Foundation's website: <https://www.okwildlifefoundation.org/>

9. Please rate your level of interest in purchasing a **\$15 raffle ticket** for each of the following opportunities:

	Not Interested	Somewhat Interested	Very Interested	Don't know
Bear cub research excursion: Hochatown, OK, up to 5 participants; lodging <b>NOT</b> included	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Red Slough birding tour: Idabel, OK, up to 5 participants; lodging and licensing <b>NOT</b> included	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Red Slough birding tour: Idabel, OK, up to 5 participants; 1 night lodging and licensing included	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Red Slough Alligator Viewing Excursion: Idabel, OK, up to 5 participants; lodging and licensing <b>NOT</b> included	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Either Sex Elk hunt (1 animal): Meers, OK, one participant with one non-hunting companion; up to 3 nights lodging and licensing included	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Either Sex Elk hunt (1 animal): Meers, OK, one participant with one non-hunting companion; lodging and licensing <b>NOT</b> included	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Youth Deer Hunt for 2 deer (1 buck and 1 doe or 2 does): Nash, OK, one youth and one mentor/guardian; lodging and licensing <b>NOT</b> included	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spring Turkey Hunt: Halls, OK, one hunter and one nonhunting companion; lodging and licensing <b>NOT</b> included	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Resident lifetime hunting and fishing combination license	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Central Oklahoma Spring Turkey Trip: Central Oklahoma, one participant and one nonhunting companion; lodging and licensing <b>NOT</b> included	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spend a day with an ODWC field employee (paddlefish surveying, geese banding, electrofishing survey, game warden ride along, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
World record paddlefish Snagging Experience: Keystone Lake, OK, up to 3 adults; lodging and licensing <b>NOT</b> included	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. What other suggestions do you have for hunting, fishing, or wildlife watching trips that you would like to see the Wildlife Foundation offer as a raffle prize?

Preferences for Wildlife Department Controlled Hunts

A little bit about you...

11. What is your total household income?

- Less than \$20,000
- \$20,000 to \$34,999
- \$35,000 to \$49,999
- \$50,000 to \$74,999
- \$75,000 to \$99,999
- \$100,000 to \$149,999
- \$150,000 or More

12. How many years have you been hunting?

13. What years have you participated in the controlled hunts application process?

Check all that apply.

- 2020
- 2019
- 2018
- 2017
- 2016

14. What is your gender?

- Female
- Male
- Prefer not to say

15. How old are you?

16. What is your home zip code?

17. Where do you typically hunt?

Please click on the map of Oklahoma where you typically hunt most often.



18. What type of land do you typically hunt on?

- Public
- Private
- Both public and private

19. Do you have any comments/suggestions for the Wildlife Department?