Oklahoma Bowfishing Survey

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Oklahoma Department of Wildlife Conservation



Betsey York, Human Dimensions Specialist, Oklahoma Department of Wildlife Conservation Jason Schooley, Senior Fisheries Biologist, Oklahoma Department of Wildlife Conservation

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Executive Summary

- An estimated 24% percent of licensed anglers in Oklahoma have bowfished at some point in their life (n=1,346).
 - Of those that have bowfished before, 38% had bowfished in the previous 12 months.
 - Six percent of active bowfishers had bowfished more often than had fished with other methods.
- Compared to results from the 2019 angler survey (via weighting the results from this survey to the license holder population age structure), bowfishing participation in the previous year has more than doubled (4% in 2018 to 9.5% in 2020). The majority of bowfishers reported that bowfishing was less important than other fishing methods (59%) and less important than other outdoor recreational activities (60%).
- Forty-nine percent of respondents rated themselves as a beginner bowfisher, while 43% rated themselves as intermediate, and 8% rated themselves as advanced.
- The majority of bowfishers (57%) have bowfished for three years or less.
- Most bowfishing overall was done during the day (54%), in the early summer months (May, June, July), and from the shore (49%). Rivers and streams were bowfished most often (67%), followed by reservoirs (53%). Combined write-in responses from both survey groups (random sample and Explore Bowfishing) contained more reservoirs than rivers and streams for bowfishing.
- When bowfishers were asked which species groups, in general, they typically target, 85% of bowfishers selected carps, 74% selected gars, and 36% selected buffalofishes.
 - We followed this question by asking bowfishers which species groups they *preferred* to target. The two most preferred species groups are gars (46% selected) and carps (43% selected).
 - Bowfishers may prefer one species over another, but when asked what they shoot at most often while bowfishing, they selected carps (48%) followed by gars (46%). Due to a limited sample size, no significance was detected.
- Bowfishers reported that after bowfishing trips, they typically used shot fish for fertilizer use/bury (48%), animal consumption (35%), human consumption (32%), or return them to the water (20%). This latter outcome likely equates to the discard of fish carcasses into the fished water body.
- Compared to non-bowfishers, bowfishers reported a wider diversity of acceptable outcomes for fish species caught with any fishing method, particularly the nongame fish that are targeted by bowfishing.
- The majority of both bowfishers (86%) and non-bowfishers (94%) trust the Department to appropriately manage nongame native fishes targeted by bowfishers.
- Thirty-six percent of bowfishers were neutral on their support or opposition to having bowfishing regulations for nongame native species. Thirty-five percent generally oppose and 29% generally support.
- Seventy percent of bowfishers reported that creating regulations on native, nongame fishes would not affect their bowfishing activity, however, 29% reported that they would bowfish less (23%) or quit bowfishing completely (6%).
- Thirty-two percent of respondents that have not bowfished would be interested in bowfishing in the future.

- Participation barriers for non-bowfishers reporting an interest in the sport are lack of knowledge (52%), not knowing anyone who bowfishes (44%), not sure where to go (39%), and lack of time (31%). Many respondents wrote in that they simply don't have the equipment.
- The majority of our sample was male (73%), white (74%), had either an annual/5-year license (46%) or lifetime license (39%), and the average age was 48.

Introduction

Bowfishing is regarded as one of the fastest growing types of fishing in the United States, with a particular focus and heritage in Oklahoma (Schooley and Scarnecchia 2021). Although this growth is viewed positively from the perspective of a state agency recruiting, retaining, or reactivating (R3) license buyers, it has occurred in an absence of regulatory controls to protect native and nongame fish resources. Recent life history research on native species commonly targeted by bowfishers (e.g. buffalofishes and gars) indicates that these species are long lived, may recruit irregularly or episodically, and generally employ a life history strategy requiring the maintenance of larger, older females in the stock (Bennett et al. 2015, Daugherty et al. 2020, Lackmann et al. 2019, Love et al. 2019, Radford et al. 2021, Snow et al. 2020). Unfortunately, it is these mature females often disproportionately targeted by bowfishers while these sensitive species are held in low social regard and have no take protections (such as bag limits or size limits) (Scarnecchia and Schooley 2020).

The Oklahoma Department of Wildlife Conservation (ODWC) has been evaluating the human dimensions of bowfishing to better understand the sport's passionate participants while developing a regulatory framework that provides angler opportunity and conserves native fish resources. The Department performed an in-depth survey targeting both bowfishing participants and non-participants. The survey provided valuable initial perspectives on this under-studied constituency and perspectives on several management challenges presented by the sport: social value of fishes, use of targeted fish, wanton waste, and take limits, or other regulatory options. This survey will be integral to formulating effective campaigns to educate bowfishers and non-bowfishers on the value of native and nongame fishes. Additionally, developing a sustainable management framework for the growing sport of bowfishing that balances species protection with angler opportunity.

Methods

This survey was conducted as a push-to-web methodology. We sent out two rounds of postcard invitations via the mail as only about 54% of our fishing license population database has a valid email address on file. The invitation postcard included a QR code to scan or a URL that could be entered into their browser, both of which took them to an online survey. The landing page asked for a uniquely assigned survey ID from their postcard so that we could track respondents between the two mailings and also ensure that each respondent was only in the final data set once.

Sample selection

The survey was sent to two groups. The first group consisted of 15,000 randomly selected anglers from an altered population of resident fishing license holders. This group included all those with active fishing privileges from January 1, 2020- June 23, 2021. We utilized results of a previous angler survey to inform the development of the altered population from which the survey recipients were selected. In a 2019 survey (York 2019), we asked anglers if they had bowfished in the last 12 months. Four percent of anglers had used this method (n=1,361). We looked at the demographics of this 2019 respondent group and noticed that the average age was about ten years younger than the overall

license population. We also know that overall, younger license holders tend to be more active hunters and anglers (York 2019, York 2020). To get a more active and younger license group that would be more likely to have bowfished in the past, we stratified our population into two groups. Seniors (those 65 years of age and older) and non-seniors (those less than 65 years of age). From here, we pulled a random sample of 15,000 fishing license holders, 1,000 of whom were seniors and 14,000 non-seniors. A true random sample of the database would have set the average age of our sample at 52. The stratified random sample set our average age at 43, matching the average age of bowfishers on the 2019 survey.

For analyses where we compared to previous surveys and/or the general population of license holders, we weighted the data based on age. Because we selected a sample that was younger than the overall license population, we compared the representativeness of our respondents to the overall license holder population based on typical demographic age bins. We weighted each respondent by the factor that was calculated for their age bin. As seen in the below table, the factors that we needed to weight by are low, meaning that our respondent population was relatively representative of the license holder population in terms of age.

	Unweighted Proportion	License Holder	
Age Bin	of Sample	Population Proportion	Weighting Factor
10-24	9.80	11.58	1.181686
25-34	12.84	18.35	1.428754
35-44	18.71	20.07	1.072789
45-54	23.24	17.96	0.772911
55-64	28.06	18.55	0.661028
65+	7.35	13.36	1.81777

The current survey was also separately sent to a second group using an e-mail list of hunter education participants. As part of Oklahoma hunter education training, participants are taught the "Explore Bowfishing" curriculum so that they can implement it in their schools. This list was thought to contain a higher percentage of people who had experienced bowfishing in the past, thus increasing our overall population of bowfishers taking the survey. This was a list of people who had completed the Explore Bowfishing training sometime in the last five years. Because this was an e-mail contact list, this group was only invited to participate via e-mail and did not receive any mailed postcard invitations.

Invitation distribution

The first postcard invitation to complete the online only survey was sent on July 16, 2021, to 15,000 licensed anglers. The second postcard invitation was sent to 14,627 anglers on July 28, 2021. Between the two survey invitation postcards, we sent email reminders to the remaining 8,013 non-respondents on July 27, 2021, and 7,357 non-respondents on August 6, 2021. We also posted on ODWC social media pages about the survey as a reminder on July 28, 2021.

We sent an initial email invitation to the hunter education list of 634 addresses on July 21, 2021. We sent three reminder emails to the remaining lists of 580 (July 26, 2021), 540 (July 29, 2021), and 494 (August 3, 2021) non-respondents.

Statistical analyses and margin of error

Respondent sub-groups were statistically compared (when sample sizes allowed) using a chisquared test of significance or analysis of variance within the R statistical software. Statistical significance was concluded at $\alpha = 0.05$. With the number of responses, at 95% confidence, when all bowfishers are used in an analysis we have a margin of error of 5%-6%, which is accepted in the social sciences, particularly for an exploratory study looking at a new population of anglers that we haven't surveyed before. When subsetting to different groups of bowfishers, and our sample goes down to 100 we have a margin of error of 10%. This means that our sample, at 95% confidence, is predicting the population within plus or minus 10% of what is reported. These can be looked at as trends in data rather than explanatory data, especially if the response categories reported do not differ much from each other. Statistical significance testing was only performed on sample sizes where margin of error remained below 6%.

Results

Response

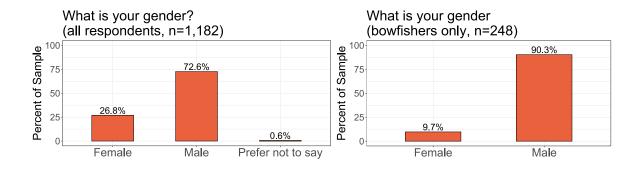
Several survey recipients called saying they do not have access to a computer or the internet. For those that contacted Betsey York, she conducted their survey over the phone. It is likely there were more individuals in the sample that did not have access to the internet who did not call. There were also several spouses who called letting us know the person that we mailed the survey to had passed away. It is likely that there were also more deceased license holders than the ones reported. The numbers reported throughout the rest of this summary are only from the first group of 15,000 anglers. Combining results for the second group (i.e., the Explore Bowfishing group) with results of the first group was considered, but not performed. The samples differed demographically by age, gender, and income. The Explore Bowfishing sample contained more females, was younger, and on average more affluent. We concluded that combining the two groups would not give us responses that could be used to characterize the entire license holder population. There were also very few bowfishers among the second group of respondents, therefore the addition of their responses would not have enhanced the statistical power enough to warrant combining them. The results from the Explore Bowfishing group can be seen in Appendix C.

To ensure accurate representation of the respondent population, care was taken to identify and remove duplicate responses from individuals or responses from individuals not in the original sample. If there were duplicate ID numbers entered, the more complete response was retained, and demographic data were checked against the demographics of the ID number in the original sample from the license database. IP addresses were also analyzed, and duplicates were removed if deemed appropriate. Twenty-six respondents who do not bowfish and seven respondents who have bowfished did not enter an ID number but were retained within the dataset because these respondents passed these quality control measures above.

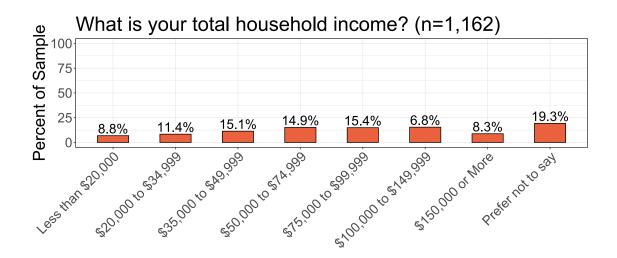
Demographics

The overall respondent population was 73% male and 27% female, which approximates the sex ratio within the population of 901,550 fishing licenses sold January 1, 2020 to June 30, 2021: 72.2% male and 27.8% female. The respondent average age was 48, which is slightly higher than that of the sample (43 years). This does align with the fact that older license holders are more likely to participate in

surveys, although it was thought that a younger demographic would participate in this survey due to it being available online. Only 4% of respondents were senior license holders, whereas 6% of the sample were senior license holders.

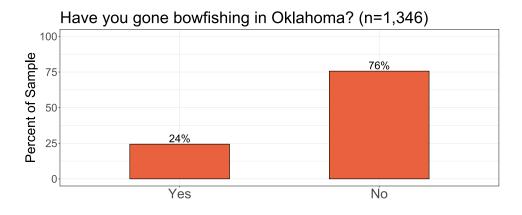


	Bowfishers	Non-Bowfishers	
Percent Male	90%	68%	
License type	56% lifetime	34% lifetime	
	(35% annual)	(49% annual)	
Average Age	45.4	48.24	
Income	No significant difference; X ²⁼ 9.56, p=0.22		
Race/Ethnicity	No significant difference; X ² =7.01, p=0.54		



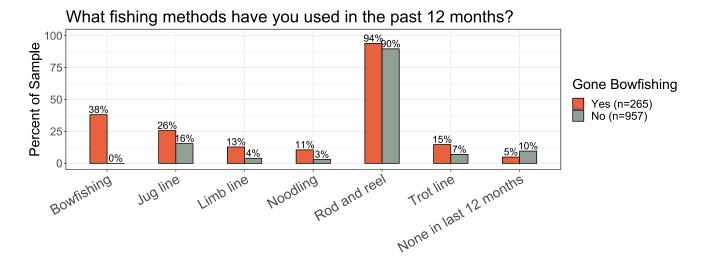
Bowfishing activity

Twenty-four percent of respondents in the general sample had gone bowfishing in Oklahoma at some point in their life.



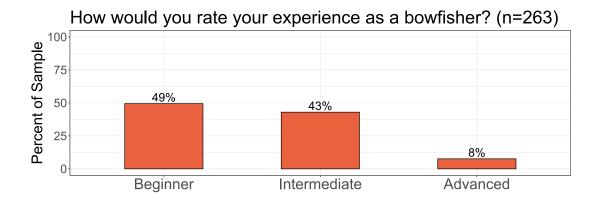
Of those that had bowfished before, only 38% had bowfished in the last 12 months. This means that only about 9.5% of all licensed anglers in Oklahoma had gone bowfishing in the previous 12 months. In the 2019 angler survey, only 4% of licensed anglers reported bowfishing in the previous 12 months (York, 2019). This reported doubling in bowfishing participation could accurately represent the rising popularity of the sport. However other factors must be considered. First, the targeted lower age range may have skewed the response rate for bowfishers in the current survey. Second, an increase in people trying a new sport due to more time because of COVID-19 restrictions may have caused a temporary inflation of bowfishing respondents in the current survey as well as more people buying fishing licenses and being out on the rivers and reservoirs in general. However, based on evidence indicating the nationwide ascendence of the sport (Scarnecchia and Schooley 2020), a doubling of participation in bowfishing from license year 2018 to license year 2020 would not be unexpected.

The most popular method used in the last 12 months by those that have bowfished was rod and reel followed by bowfishing and jug lines. Only 6% of those that selected they had bowfished before had done this most often in the past 12 months. Bowfishers reported using a greater diversity of fishing methods in the course of a year than non-bowfishers.

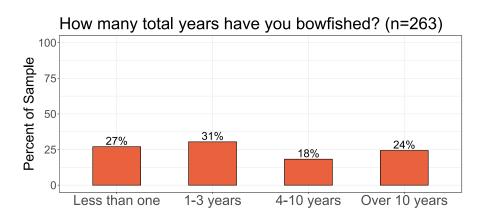


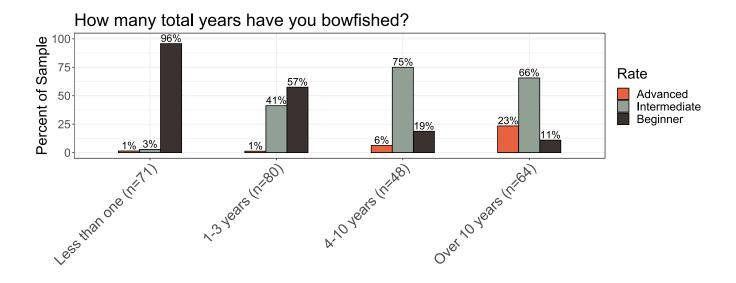
Of interest was examining the self-ratings of bowfishers on participation, experience, and avidity in the sport. This was achieved through several direct and indirect questions. As a measure of avidity or commitment to the sport of bowfishing, we asked how bowfishing compares to other recreational activities. When comparing to other fishing activities, specifically, only 6% of bowfishers said that bowfishing was more important, 35% said equally important and 59% said less important. These numbers tracked when we also asked them to compare bowfishing to other non-fishing related outdoor recreational activities.

When asked to self-rate their skill in bowfishing, only 8% of bowfishers rated themselves as advanced in skill, 43% rated themselves as intermediate, and 49% said that they are beginners. While we asked bowfishers to rate themselves into three different categories, there were not enough respondents who self-rated as advanced to have confidence in prediction from this group. As such, to have more power in our analyses and predictions of the bowfishing population, the remainder of this report will combine advanced and intermediate into an "experienced" category (50.6%) to compare against the beginner category (49.4%).



Years of bowfishing experience was examined as an indirect rating of participation and avidity. The number of years bowfished was evenly spread with 27% reporting having bowfished less than one year, 30% 1-3 years only, 18% 4-10 years, and 24% more than 10 years. When comparing self-rated skill and years fishing, 96% of those who had bowfished less than one year rated themselves as beginners, while only 23% of those who had bowfished more than 10 years rated themselves as advanced. Therefore, it would appear that years of experience bowfishing is not necessarily correlated with a bowfisher's self-assessment of skill in the sport.

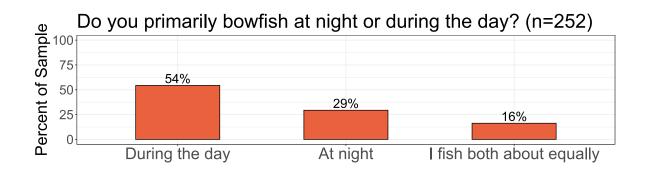


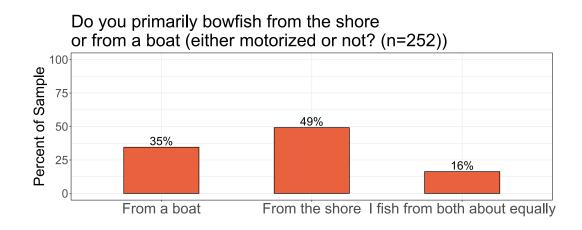


Bowfishers reported participating in the sport an average of 10 days per year, compared to an average of 56 days participating in fishing using ANY method. A similar inquiry was performed in the 2019 angler survey where all respondents reported fishing (any method) an average of 31 days (York 2019). It is not known if the elevated time spent fishing reported by bowfishers is representative of higher generalized participation in fishing activities, an artifact of higher constituent participation overall due to COVID-19, or other potential influences.

Bowfishing participants reported traveling an average of 32 miles one-way for their fishing trips. For comparison, on the 2019 angler survey it was calculated that anglers using any method for any species are on average traveling 44.9 miles one way, possibly indicating that bowfishers participate in the sport closer to home.

Monthly participation followed a bell curve with the peak happening in May, June, and July. Fifty-four percent of bowfishers reported primary participation during the day, with 29% participating at night (16% of bowfishers fish both times about equally). A greater proportion of beginners reported bowfishing during the day (61%) than experienced bowfishers (48%). Forty-nine percent of participants reported bowfishing from the shore and 35% fishing from a boat; the remainder reported bowfishing both about equally. Beginners were more likely to bowfish from the shore (61%) whereas experienced individuals bowfished from the shore or from a boat equally (38%).

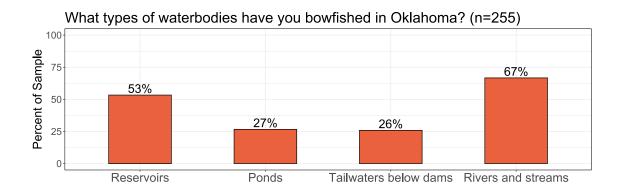




We also asked bowfishers if they primarily bowfished recreationally or competitively. The vast majority (92%) of bowfishers only bowfished recreationally with small percentages bowfishing occasionally for competition (6%) and fishing recreationally and tournaments about equally (3%).

The most popular type of waterbody reported by bowfishers was rivers and streams (67%) followed by reservoirs (53%). Ponds and tailwaters below dams were less popular but still enjoyed (27% and 26% respectively). When responses were examined by waterbody type and time of day, there was a significant difference with more night bowfishing being done in reservoirs and ponds, whereas rivers

were utilized more during the day. Most night bowfishing was done from a boat while most day bowfishing was done from the shore.



Bowfishers were encouraged to write-in the location in Oklahoma that they bowfish most frequently (Appendix B includes locations provided by both the general license holder sample and the Explore Bowfishing sample). A total of 286 bowfishers identified 359 distinct locations. Some responses included multiple locations and a few responses did not include a location. Responses were classified by waterbody as represented in the figure (reservoir, ponds, tailwaters, and rivers/streams). Within this set of write-in responses reservoirs were the most bowfished waterbody type (50%), followed by rivers/streams (32%), ponds (9%), and tailwaters (2%). Six percent of write-in responses were vague and could not be classified. Where possible, locations were secondarily classified by state region, using Interstate 40 and Interstate 35 as boundaries to divide the state into four quadrants (NE, SE, SW, and NW). Locations within the Oklahoma City metro area were classified as Central. The percentage of responses within region by waterbody type are included in the table below.

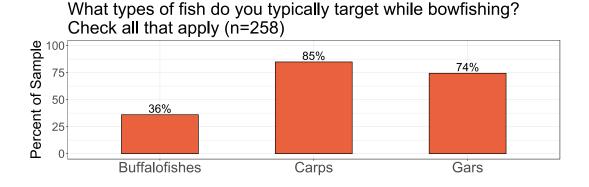
	NE	SE	Central	NW	SW
Reservoir	0.67	0.63	0.83	0.69	0.88
River/stream	0.26	0.34	0.17	0.19	0.13
Pond	0.02	0.00	0.00	0.00	0.00
Tailwater	0.04	0.04	0.00	0.00	0.00
% of total by region	0.51	0.32	0.05	0.06	0.06

A slight majority of response locations were clustered in the NE (51%) and a vast majority of responses were in the eastern half of the state (83%). This is an expected result given the concentration of large reservoirs East of Interstate 35.

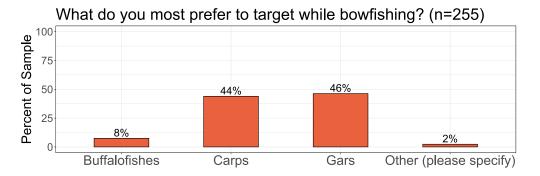
The most popular locations identified by bowfishers were all reservoirs: Fort Gibson Lake (21 responses), Grand Lake (20), Texoma Lake (16), and Eufaula Lake (16). The most popular rivers identified were the Arkansas (13 responses) and the Red River (10). However, many rivers in Oklahoma span multiple regions used here, so the responses could not be categorized by region.

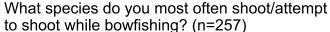
Bowfishing species preference and take

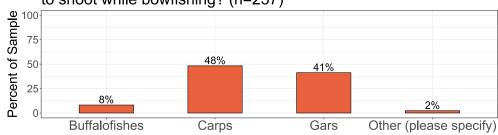
Respondents were asked which species groups (of three groups listed) they typically target while bowfishing (check all that apply). Eighty-five percent of respondents selected carps, 74% selected gars, and 36% selected buffalofishes. Two respondents wrote in responses for drum and one person wrote in catfish.



When asked to only select which species groups they **most prefer to target**, 46% selected gars, 44% selected carps, and 8% selected buffalofishes. A follow-up question asked respondents which species groups they **most often end up shooting/attempting to shoot**. Forty-eight percent selected carps, 41% selected gars, and 8% selected buffalofishes. Results indicate that carps and gars are targeted most often, gars are likely preferred over carps, but carps tend to be shot most often, followed closely by gars.







Experienced bowfishers and beginner bowfishers tended to prefer similar species with beginners slightly preferring carps and experienced bowfishers narrowly preferring gars (see table below, statistically insignificant due to low sample sizes p=0.09). Experienced bowfishers also showed a greater preference than beginner bowfishers for buffalofishes. This apparent difference may be due to experienced bowfishers having higher success in differentiating native buffalofishes from nonnative carp species a misidentification often attributed to less-experienced fishers.

	What do you most prefer to target while bowfishing? Select only one.				Average number of fish taken per
	Carps Gars Buffalofishes Other				trip
Experienced (n=131)	38%	48%	11%	3%	12.16
Beginners (n=124)	50%	44%	4%	2%	5.00

In comparing type of water body and the species group most preferred, gars tended to be more highly targeted in rivers and tailwaters below dams. In ponds and reservoirs, gars and carps were targeted similarly. Carps were more highly preferred by daytime bowfishers whereas gars were more preferred by night bowfishers, a preference potentially driven by the movement patterns and habitat usage of these species groups. Carps actively forage shorelines during daytime and gars often loiter sluggishly near the surface or in shallow water at night. Similar trends are evident in terms of which species groups are targeted (compared to preferred) at night versus during the day.

On a typical bowfishing trip, bowfishers are shooting about 4.03 gars, 4.21 buffalofishes, and 5.14 carps. We also asked them to identify how many unknown (i.e., unidentified as to species group) fish they are shooting, and anglers responded with 1.67 unknown fish. The below table shows trends of how take varies by waterbody type. These are based on smaller sample sizes so can only be interpreted as generalized trends in average take.

				Total Average
Waterbody Type	Gars	Carps	Buffalofishes	Reported Daily Take
Reservoirs	4.18	5.70	4.70	14.58
Ponds	3.62	3.64	3.83	11.09
Tailwaters below dams	4.83	5.20	5.81	15.84
Rivers and streams	4.16	5.23	4.36	13.75
Overall	4.03	5.14	4.21	13.38

Although the total average daily take reported by bowfishers ranged to a maximum of 95 fish, including 45 gars, 35 buffalofishes, and 15 carps, most respondents reported taking far more modest quantities. Thirty percent of respondents reported taking 10 or more fish while 15% reported taking 15 or more fish. Few bowfishers (8%) reported taking more than 20 fish in an average trip and this minority could reasonably be considered the high-harvest component of the constituency. Although the number

of respondents who reported competitive participation in bowfishing was low (n=21), these few individuals reported higher than average take estimates (16.5 fish compared to 8.4 fish for recreational bowfishers) and rated themselves as intermediate or advanced bowfishers.

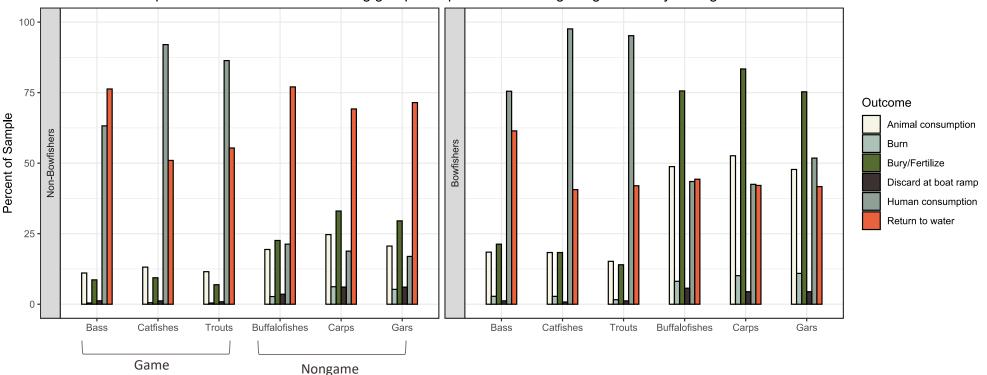
Both bowfishers and non-bowfishers were queried on what characteristics result in a successful fishing or bowfishing trip. Bowfishers were asked about both bowfishing and non-bowfishing trips whereas non-bowfishers were asked only about non-bowfishing trips. Respondents were asked to rank seven proposed factors from 1 (most important) to 7 (least important). No clear trends were evident in the responses, however, "time spent with family and/or friends" was consistently ranked as the most contributing factor followed by "being outside" for both groups. Bowfishers ranked a "challenging fish to shoot" as the reason least likely to contribute to a successful fishing trip. For non-bowfishers, "catching a lot of fish" was the factor related to fish that rated highest while catching a trophy fish was rated lowest. Responses generally indicated that both bowfishers and non-bowfishers prioritized more intrinsic aspects of their fishing activities rather than actual or quantifiable fishing achievements.

Bowfishers- Bowfishing Trip		Bowfishers- Non-Bowfishing Trip		Non-Bowfishers- Fishing Trip	
Factor	Average	Factor	Average	Factor	Average
Time spent with	2.56	Time spent with	2.94	Time spent with	2.72
family/friends ^a		family/friends ^a		family/friends ^a	
Being outside ^b	2.84	Being outside ^b	3.09	Being outside ^b	3.08
Seeing the fish I	3.63	Catching a lot of fish ^e	3.64	Catching a lot of fish ^e	3.63
intended to target ^c					
Seeing any fish ^d	4.04	Catching a large	4.15	Having a good fight	4.20
		trophy fish ^f		with the fish ^g	
Successfully shooting a	4.30	Having a good fight	4.22	Seeing the fish I	4.29
lot of fish ^e		with the fish ^g		intended to target ^c	
Successfully shooting a	4.56	Seeing the fish species	4.40	Seeing any fish ^d	4.40
trophy fish ^f		I intended to target ^c			
Challenging fish to	4.79	Seeing any fish ^d	4.51	Catching a large	4.68
shoot ^g				trophy fish ^f	

Factors contributing to a	successful fishing trip (1=most important,	7=least important)

Outcomes for bowfished species

When bowfishers were asked generally about what outcomes are appropriate for the species targeted during a bowfishing trip, responses generally ranged over several categories- 35% said animal consumption, 33% said fertilizer use, 32% said human consumption, 20% said return of fish to the water, and 15% said burial. Only four respondents said that they burn them or discard them at the boat ramp, the latter being an illegal method of disposal for fish remains. Bowfishers also wrote in that they gave away their shot fish to those that will eat them or use them as cut bait. To explore potential differences in species perception between bowfishers and non-bowfishers, we asked both groups what they generally believe are acceptable outcomes for six different types of fish, including game fishes (black basses, catfishes, and trouts) and nongame fishes (buffalofishes, carps, and gars). Bowfishers typically selected a more diverse spread of acceptable outcomes, particularly for the nongame species targeted by bowfishing.

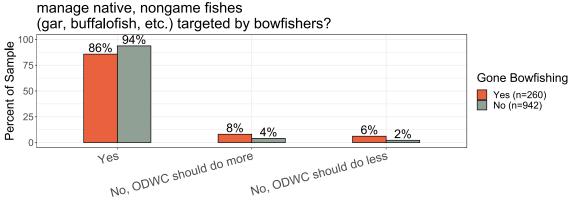


What are acceptable outcomes for the following groups of species after being caught with any fishing method?

Bowfishers and non-bowfishers tended to agree that the acceptable outcomes for black basses, catfishes, and trouts included human consumption or return to water (presumably interpreted as an immediate, live release as is typical in catch and release fisheries). Comparisons utilizing the outcome "returned to water" may have some limitations, however, as it was not specified whether the fish was alive, as would be typical in angling, as opposed to dead or severely injured, which would be typical for bowfishing. Therefore, the respondents may have been reading the questions and selecting their responses using differing sets of criteria, as black basses are targeted via hook and line while buffalofishes are targeted via bowfishing and return to water may be, two distinctly different outcomes for these fishes released by the same respondent. Non-bowfishers reported they were most likely to return nongame fish to the water whereas bowfishers were most likely to bury them or use them for fertilizer. These latter two outcomes were distinct among options on the survey but were pooled for analyses as they may have been interpreted by survey respondents as similar activities. Both human consumption and animal consumption of nongame fish were also more acceptable outcomes for bowfishers than non-bowfishers. Additional caution may be warranted in interpreting responses denoting animal consumption as an acceptable outcome because such responses could represent at least two distinctly different actions. First, animal consumption could be interpreted to mean consumption by pets or other domesticated animals, which could be considered a beneficial use of shot fish. Alternatively, animal consumption could be interpreted to mean wild animals (either aquatic or terrestrial). In this case, the simple act of dumping shot fish carcasses into the water body or on land could be intended to feed scavenging animals such as aquatic turtles or racoons, respectively. This has little distinction from the other outcomes of returning the fish to the water or discarding the fish at the boat ramp or elsewhere. Interestingly, human consumption of black bass was regarded as an acceptable outcome for bowfishers, but less so for non-bowfishers.

Trust, Regulations, and Regulation Impacts

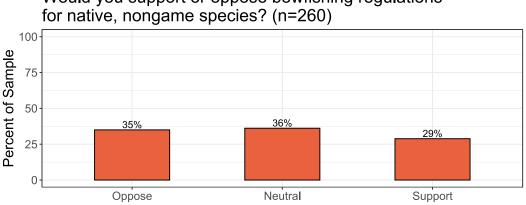
Eighty-six percent of bowfishers said that they trust the Department to appropriately manage native, nongame fishes targeted by bowfishers while 8% believe that the Department should do more, and 6% believe that the department should do less. Of those that do not bowfish, a slightly higher proportion (94%) trust the Department to appropriately manage native, nongame fishes with 4% reporting that the Department should do more and 2% reporting that the Department should do less. Experienced bowfishers expressed slightly less trust (84%) in the Department than beginners (88%).



Do you trust ODWC to appropriately

This survey is the first attempt to understand the growing sport of bowfishing in Oklahoma. Additionally, for the non-bowfishing respondents (as some of the freeform, write-in comments would indicate) to have an opinion on the nuances of bowfishing management may have been an unreasonable request. This limitation aside, both response groups expressed a high level of trust in the Department to manage these native, nongame species.

We next asked whether bowfishers would support or oppose bowfishing regulations for native, nongame species and the most selected answer was that they would be neutral (36%) followed closely by oppose but support (29%) also fell within the margin of error. When looking at this by different species groups, there was no significant difference in support or opposition based on their most preferred species group target. Beginners were more neutral on regulations than experienced bowfishers. Experienced tended to have more opposition towards regulations on native, nongame species. Those that fish more days per year also tended to have stronger opposition to regulations. Finally, those that had bowfished in the last 12 months tended to have stronger opposition with 50% opposing a proposed regulation (n=99). Active participants in the sport are more likely to be aware of a recent rule change proposed (but ultimately withdrawn) by the Department in 2021 to prohibit the act of shoot and release for bowfishing, therefore this knowledge may have skewed the responses of this sub-group.



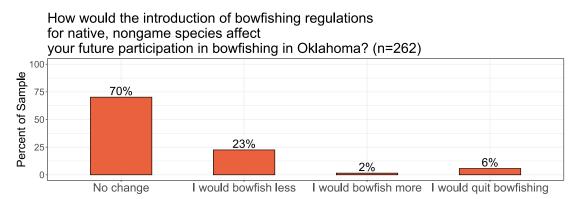
Would you support or oppose bowfishing regulations

The high level of neutrality is potentially due to the vagueness of the question proposed. Without knowing exactly what the regulation would be, it is difficult for survey respondents to have a strong opinion one way or the other. However, it was not in the interest of the Department to create concern or support for a hypothetical regulation change.

When asked how regulations on native, nongame species would affect their future participation in bowfishing, the majority of bowfishers (70%) stated there would be no change in their activity. Regulations would negatively impact more than a quarter of bowfishers, with 23% reporting that they would bowfish less and 6% reporting they would quit bowfishing altogether. The remaining 2% said they would bowfish more. Experienced bowfishers noted a higher level of negative effects as 28% of "experienced" respondents selected that they would bowfish less compared to only 17% of "beginner"

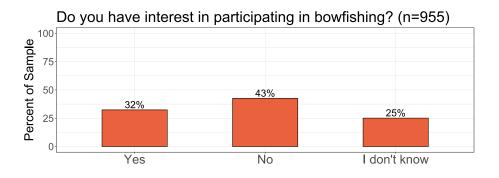
respondents. Of those bowfishers that do trust the Department to manage native nongame fish (n=223, 86% of bowfishers), 33% would oppose regulations for native, nongame species and 20% would bowfish less if there were regulations in place.

Given that the sport receives little to no oversight, that the species targeted have no take limits or protections, and the sport is only minimally regulated in time and space, it may be fair to assume that any proposed regulation will be perceived by a notable portion of bowfishers as detrimental to their participation in the sport.



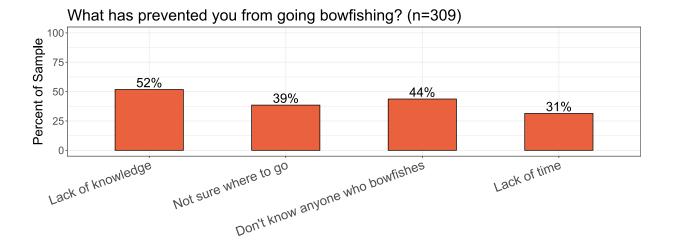
Future of Bowfishing

We asked those that had not been bowfishing before if they would be interested in participating in bowfishing. Thirty-two percent would be interested in bowfishing. This is a substantial portion of the fishing license population that may be interested in taking up bowfishing in the future. Males were slightly more interested in bowfishing, and women indicated that they were unsure more often than men. Interest by license type was relatively similar, except for senior license holders. Seventy-three percent of senior license holders were not interested. Thirty-six percent of annual license holders were interested. Given the fast-paced nature and reputation of this growing sport, as reflected by social media, it may be more appealing to younger constituents.



When those interested in bowfishing in the future were asked what has prevented them from trying it, a lack of knowledge (52%) was the reason most often reported, followed by not knowing anyone who bowfishes (44%), and not knowing where to go (39%). All three of these reported barriers

relate to information and therefore these barriers could be lowered with concerted effort by the Department (e.g. a bowfishing promotional campaign).



However, given the possible rapid growth of the sport (due to significant interest from current license holders), attempts to enhance this growth through promotion must be weighed heavily against the impacts on native, nongame resources, which currently have no take protections. Thirty-one percent of respondents said they lacked the time for bowfishing. Twenty percent selected that there were "other reasons", and the open-ended results can be seen in Appendix B. The most often written-in response was that they lack the necessary equipment. It was not known whether lack of watercraft was regarded as a necessary piece of equipment for many of these respondents, however, the results above indicate that a majority of bowfishers are participating in the sport from shore. We also asked those that are not interested in trying bowfishing in the future why they are not interested, and these open-ended responses can be seen in Appendix B.

There were no apparent differences in barriers to bowfishing by age, but lack of knowledge was selected more often by females, whereas lack of time was selected more often by males. Not knowing where to go and not knowing someone who bowfishes were selected equivalently across gender.

Discussion and Management Recommendations

New insights

As this was the first in-depth survey of Oklahoma bowfishers and potentially one of the largest surveys of recreational bowfishers in the United States to date, we had little basis from published literature for anticipating what responses to expect. While it was expected that bowfishers would primarily be comprised of white males in their 40's, several aspects of the survey results provided new insights into this constituency. Contrary to assumptions, the survey revealed that more bowfishers participate in the sport during daytime and from the shore than at night and from boats. It was generally and perhaps mistakenly assumed that this constituency was a difficult one to survey in the field (creel) because bowfishing was primarily a nocturnal pursuit. New knowledge of bowfisher preferences and selected locations may provide opportunities for enhanced creel surveys of this constituency.

The number of current active bowfishers as well as the high rate of interest from those that have not bowfished provides a strong indication that this survey and other efforts related to native, nongame species targets of the sport are appropriately timed. While only 24% of respondents had ever bowfished and only 9.5% were active participants (i.e., had bowfished in the past year), nearly a third of the non-bowfishing respondents indicated an interest in trying bowfishing. It is likely that bowfishing will continue to grow in Oklahoma, although the rate of growth cannot yet be predicted. In alignment with a growing sport, many bowfishers surveyed were new to the sport (57% have bowfished fewer than three years) or rated themselves as beginners (49%).

Bowfishers, as a constituency, appeared to have a higher participation level in fishing overall than non-bowfishers. Not only were they twice as likely to use their license privileges in the previous 12 months, but they reported participating in a wider diversity of fishing activities- at times 2 to 3-fold that of non-bowfishers (e.g. limb lines, noodling, trot lines). Deeper analyses of the license buying histories of bowfishers and non-bowfishers may provide insights on whether bowfishers are indeed more active and committed to all types of fishing in Oklahoma. Our superficial examination revealed that more bowfishers than non-bowfishers were lifetime license holders- a characteristic that is potentially indicative of a greater commitment to fishing. The creation, management, and promotion of sustainable bowfishing opportunities in Oklahoma may be a viable means by which the Department could recruit fishing license buyers that are pre-disposed for higher retention. Further, focusing these efforts and the sport's innate harvest power on nonnative, invasive fishes would provide additional benefit.

Value of native, nongame fishes

A fundamental objective of this survey was to explore the social value perceptions and opinions of Oklahoma anglers, with a particular comparison of bowfishers to non-bowfishers. While an examination of bowfisher opinions expressed in social media postings would indicate that bowfishers generally hold native, nongame fish in low regard, the survey results revealed some new insights on this topic. Perhaps due to low exposure in the field to the native, nongame fishes highlighted in survey questions, non-bowfishers expressed less recognition of nongame species as fit for human consumption. Bowfishers were twice as likely to view native, nongame fishes as edible when compared to nonbowfishers. However, their responses indicated that they are more likely to bury native, nongame fishes or use them as fertilizer than they are to eat them.

Educational campaigns by the Department with the objective to educate constituents and raise awareness or appreciation for native, nongame species should be considered to address two perspectives. First, there is a long-held perspective held by some (including some bowfishers and anglers, alike) that native, nongame fishes are of low value. These species are often referred to as "rough" fish or "trash" fish, and it is thought that their eradication is beneficial for other more-preferred or higher-value game species. The second perspective, potentially held by non-bowfishers, is lack of knowledge and/or exposure to native, nongame fish. Awareness campaigns can address both perspectives by demonstrating that native, nongame fishes are valuable and play important roles within their aquatic communities and that their removal with the aim to benefit other, more preferred species, is harmful rather than helpful. Further, these species are edible when taken in a responsible and sustainable way.

One specific regulatory action that the Department could take to change the perceived low value of native, nongame fish, as shown in social media comments and in this survey (Appendix

B), would be to create regulations preventing the immediate release of shot fish. Unlike the documented low mortality rate of catch and release angling for multiple game species (e.g. black basses), immediate release of shot fish presumably does not have a similarly high survival rate. If the Department placed a more significant value on the beneficial use and/or survival of native, nongame fish by not allowing shoot and release bowfishing to occur, public opinion could be swayed (currently 20% of bowfishers see returning to the water as an appropriate outcome for shot fish). By allowing the shooting and immediate release of native, nongame fishes, a large majority of which will presumably die from those wounds, the Department is demonstrating a low value on the use or viability of these species, likely driving the 20% of bowfishers that see this as an acceptable outcome. The Department has a responsibility to ensure the sustainable take of native, nongame species and/or require the use or disposal of any remains in a legal and ethical manner.

Strategies for monitoring the sport

Though many respondents (26.7%) reported bowfishing on ponds, which are typically private waters, a larger segment of this constituency reported bowfishing on public waters (reservoirs, rivers, streams, and tailwaters) where the Department can potentially monitor the sport and its impacts via access point or roving creel surveys. Among these location types where the Department may have the greatest initial success are tailwaters due to their finite quantity and spatial restrictions. Bowfishing is not universally permitted in tailwaters, therefore further defining the potential locations to interact with bowfishers.

Results of this survey indicate that complete, unbiased creel censuses of bowfishing would require a mixture of tournament and non-tournament sampling. Tournaments would likely be inadequate as a primary source of data collection for bowfishing monitoring. Only a very small portion of Oklahoma bowfishers participate in the sport competitively, with 92% reporting recreational participation only. Therefore, tournament data likely does not accurately represent the recreational majority of the constituency, their take impacts, or their preferred time/location/methods for participating in the sport. However, tournament sampling remains an important aspect of stock assessment and management of bowfisheries. Data on numbers and types of nongame species taken are a critical component of monitoring efforts that is most simply performed in a tournament setting due to a concentration of bowfishers and a common location for disposal of fish remains. Fish taken in bowfishing tournaments, which in some cases can number in the thousands of native, nongame fishes, are a valuable source for life history data on these species (Scarnecchia and Schooley 2020). Acquiring these data via traditional fisheries collection techniques would require capture and sacrifice of many fishes, therefore, the aggregated tournament take, even if later buried, could provide a beneficial use. Additional avenues should be explored to gather similar data from recreational bowfishers either through individual cooperative arrangements, through effectively designed creel surveys, or using a topdown approach with local or statewide bowfishing organizations. All of these avenues require the development of effective communication channels between the Department and bowfishers.

At minimum, it would be prudent for the Department to repeat this or an abbreviated, targeted survey in 2023 and on a biennial frequency in the absence of a more effective means to track and estimate the growth of bowfishing in Oklahoma. As the survey culminated, respondents were given the opportunity to submit their contact information to be included in future focus groups on bowfishing management in Oklahoma. This group of constituents will be a valuable resource for the Department to fill any knowledge gaps through targeted surveys, collaborate with constituency leaders, and develop ways to enhance data collection methodologies from non-tournament bowfishers.

Regulations and their impacts

A large majority of bowfishers (86%) and non-bowfishers (94%) indicated they trust the Department to effectively manage native, nongame species targeted by bowfishing, however, bowfishers revealed some concerns regarding regulations and their impacts on sport participation. Currently, bowfishing is largely unregulated in Oklahoma. The species commonly targeted (both native, nongame and nonnative, invasives) do not have daily bag limits or size limits. The potential result of this is that given the right circumstances such as timing, habitat, and species behavior, the take of large numbers within a single bowfishing outing is not only possible, but completely legal. Glorification of these high-take bowfishing outings can be observed on social media, often in a similar, heroic manner as the take of a single trophy fish, with numbers of fish used as a substitute for fish size.

While unlimited take of nonnative, invasive species is likely beneficial for native aquatic communities and habitats, unlimited take of native, nongame fishes likely has a detrimental impact on local stocks. Although new research on life history of native, nongame species suggests that bowfishing take should be limited in many cases, little such evidence has yet been derived from Oklahoma waters and the impacts of bowfishing on Oklahoma native, nongame species is not well-understood. However, there appears little reason to assume that the life history traits of extreme longevity and episodic recruitment described from research on buffalofishes and gars in other states would not equally apply to these species in Oklahoma. Results from this survey provide insights on what potential regulatory measures may be effective and how they will potentially impact bowfishing trip results in the aggregate daily take of about 13 fish per shooter within a regulatory framework that allows for unlimited take of these species. Therefore, should a bowfishing aggregate bag limit be considered (if justified), an effective limit would take into account the impacts of the individuals responsible for higher than average take.

Without being provided any details about a hypothetical regulation change (or changes) for bowfishing and native, nongame species, a notable portion of bowfishers (35%) generally opposed the concept of regulations and (29%) responded that regulation changes would impact their participation in the sport. Although experienced bowfishers noted high trust in the Department (84%), this metric was slightly lower than that of beginners. Similarly, experienced bowfishers expressed greater opposition to regulations than beginners. Meanwhile, experienced bowfishers reported more than twice the average take (12.16 fish, combined, per trip) than that of beginners (5.00).

Given the potential rapid growth of bowfishing in Oklahoma and the accompanying high rate of interest in the sport, the results demonstrate that a substantial portion of participants have a low take impact, whereas the experienced minority have a higher take impact. Therefore, the impacts of any bag limits considered for native, nongame target species or, alternatively, for the fishing method (i.e. an aggregate native, nongame daily limit for bowfishing) would be disproportionately felt by the higher-harvest, more experienced few. However, such limits would not include nonnative, invasives such as the carps. Therefore, a more nuanced examination of a particular regulation's impact that excludes take of carps would be warranted.

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Appendix A: Survey Instrument

Oklahoma Bowfishing Survey

Hello, please enter your unique survey ID number to be taken to the survey.

Your unique survey ID number can be found above your name and address on the front of the postcard that was mailed to you. If you are responding via an email link, you may leave this blank and proceed to the next page.

1. Survey ID Number

Oklahoma Bowfishing Survey

Bowfishing is a method of fishing that uses specialized archery equipment to shoot and retrieve fish. Fish are shot with an arrow that is attached with special line to a reel mounted on the bow. Bowfishing is a legal method of take in Oklahoma for both native nongame and non-native invasive fishes.

Your answers to this survey will remain anonymous and will only be shared as pooled results. Your participation in this survey will assist fisheries biologists with better managing fish in Oklahoma.

2. Have you ever gone bowfishing in Oklahoma? Yes No

Oklahoma Bowfishing Survey

For the following questions related to your fishing experiences, please think only of the times that you have gone in Oklahoma

Rod and reel	Bowfishing
Trot line	Noodling
Limb line	
Jug line	
Other (please specify)	
I have not fished in the last 12 months	
4. What fishing method have you use Please select only one.	d <u>most often</u> in the past 12 mont
C Rod and reel	Bowfishing
C Trot line	Noodling
C Limb line	
🔾 Jug line	
Other (please specify)	
I have not fished in the fast 12 months	0
5. Compared to your other fishing act	ivities
Obowfishing is less important	
bowfishing is equally important	
hould be hims in more instantion	
	tivities (camping, hiking, sports, e
 Compared to your other outdoor ac bowfishing is less important 	ctivities (camping, hiking, sports, e
6. Compared to your other outdoor ac 	ctivities (camping, hiking, sports, e
6. Compared to your other outdoor ac	ctivities (camping, hiking, sports, e
6. Compared to your other outdoor ac 	

8. How many total years have you bowfished?

Less than one

- 4-10 years Over 10 years
- 1-3 years

9. Do you primarily bowfish recreationally (for fun) or competitively (in tournaments)?

- I ONLY bowfish recreationally
- I bowfish primarily for recreation and occasionally for competition
- I fish both about equally
- I bowfish primarily in competitions and occasionally for recreation
- I ONLY bowfish for competition

10. Approximately how many days per year do you bowfish in Oklahoma?

11. Approximately how many days per year do you fish using any method in Oklahoma?

12. How many miles (one-way) do you typically travel to bowfish in Oklahoma?

13. What months do you typically bowfish? Check all that apply.

July
August
September
October
November
December

14. Do you primarily bowfish at night or during the day?

At night

During the day

I fish both about equally

15. Do you primarily bowfish from the shore or from a boat (either motorized or not)?

From the shore

From a boat

I fish from both about equally

16. What types of waterbodies have you bowfished in Oklahoma? Select all that apply.

E	Reservoirs
Ē	Ponds
C	Tailwaters below dams
(T	Rivers and streams

17. What location in Oklahoma do you most frequently bowfish (e.g. Red River, Fort Gibson Lake, private ponds, etc.)?

For the following questions, we will be referring to the following species:

For more information on fish identification you can visit the Wildlife Department's Fish Identification Website

18. What types of fish do you typically target while bowfishing? Check all that apply.

	Gars
	Buffalofishes
	Carps
	Other (please specify)
11	

19. What do you most prefer to target while bowfishing	?
Please select only one.	

	Carps		
	Other (please specify)		
Ī	-		

0	Gars		
Q	Buffalofishes		
Q	Carps		
ð	Other (please specify)		

21. How many of the following types of fish do you typically shoot per day? If you do not shoot that kind of fish, please enter a zero.

Sars	
3ultalofishes	
Carps	
Insure of species	
Dther	
Check all that apply.	Return to water
Animal consumption	Discard at boat ramp
Fertilizer use	Burn
Bury	
Other (please specify)	
	T.

23. Do you trust the Oklahoma Department of Wildlife Conservation to appropriately manage **non-game native** fishes (gar, buffalofish, etc.) targeted by bowfishers?

- Yes
- No, the Wildlife Department should do more
- No, the Wildlife Department should do less

24. Would you support or oppose bowfishing regulations (e.g. bag limits or size limits) for **non-game native** species (i.e. buffalofishes, gar, etc.)?

- Strongly oppose
- Oppose
- Neutral
- Support
- Strongly support

25. How would the introduction of bowfishing regulations for **non-game native** species affect your future participation in bowfishing in Oklahoma?

Similar to the above question, this might mean bag limits or size limits for Oklahoma native species such as gar, buffalo fishes, etc.

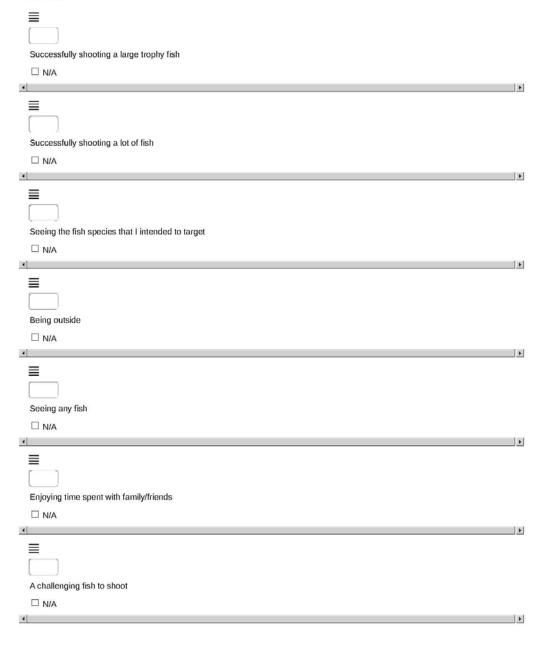
- I would quit bowfishing
- I would bowfish less
- No change
- I would bowfish more

26. In your opinion, what are acceptable outcomes for the following groups of species after being caught with any fishing method?

Select all that apply.

	Human consumption	Animal consumption	Fertilizer use	Bury	Return to water	Discard at boat ramp	Burn
Black Basses							
Buffalofishes							
Carps							
Calfishes							
Gars							
Trouts							

27. Please rank the following aspects in terms of how much they contribute to a successful **bowfishing** trip with 1 being most important and 7 being least important. You may select NA for any aspects that do not contribute.



Oklahoma Bowfishing Survey

For the next question, we would like you to think about fishing methods other than bowfishing.

28. Please rank the following aspects in terms of how much they contribute to a successful **fishing** trip (non bowfishing) in your mind with 1 being most important and 7 being least important

 \equiv Catching a large trophy fish □ N/A 4 • ≣ Catching a lot of fish 🗆 N/A 4 • \equiv Seeing the fish species that I intended to target 🗆 N/A 4 • ≣ Being outside □ N/A 4 • \equiv Seeing any fish N/A 4 + ≣ Enjoying time spent with family/friends □ N/A 4 F ≣ Having a good fight with the fish □ N/A 4 F



Oklahoma Bowfishing Survey

As a bowfisher, we would like to know a little bit more about the sport and those that participate in it ...

29. Would you be willing to participate in a bowfishing focus group? If so, please leave your email address here and we will contact you.

Your email will only be used to contact you about a focus group, it will not be tied to your responses to the rest of the survey.

30. Please share with us what you most enjoy about bowfishing

Oklahoma Bowfishing Survey

Although you have not gone bowfishing, we are interested in your other fishing activities and your thoughts related to bowfishing and certain fish species.

31. What fishing methods have you used in the past 12 months?

Rod and reel	Jug line
Trot line	Noodling
] Limb line	
Other (please specify)	

32. What fishing method have you used most often in the past 12 months? Please select only one.

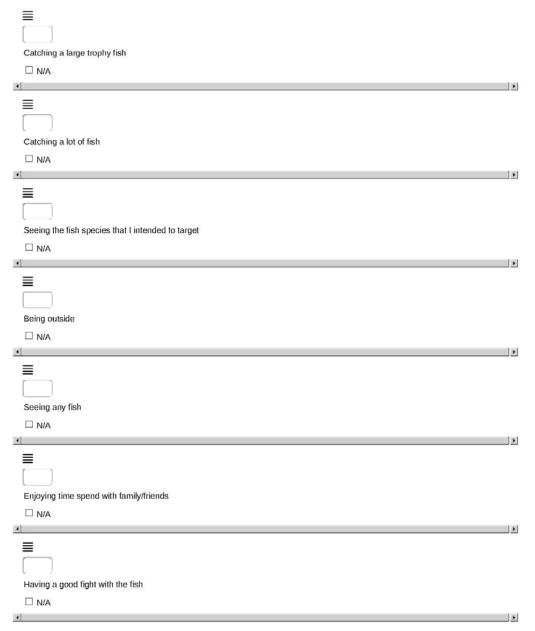
Noodling

33. In your opinion, what are acceptable outcomes for the following groups of species after being caught with any fishing method?

Select all that apply.

	Human consumption	Animal consumption	Fertilizer use	Bury	Return to water	Discard at boat ramp	Burn
Black Basses							
Bullalofishes							
Carps							
Callishes							
Sars							
Trouts							

34. Please rank the following aspects in terms of how much they contribute to a successful **fishing** trip (non bowfishing) in your mind with 1 being most important and 7 being least important



35. Do you trust ODWC to appropriately manage **non-game native** fishes (gar, buffalofish, etc.) targeted by bowfishers?

Yes

- No, the Wildlife Department should do more
- No, the Wildlife Department should do less

36. Do you have interest in participating in bowfishing?

- Yes
- I don't know

Oklahoma Bowfishing Survey

37. What has prevented you from going bowfishing?

- Lack of knowledge
- Not sure where to go
- Don't know anyone who bowfishes
 - Lack of time
 - Other (please specify)

Oklahoma Bowfishing Survey

38. Why are you uninterested in bowfishing?

Oklahoma Bowfishing Survey

39. Have you heard of the Oklahoma Department of Wildlife Conservation's Explore Bowfishing program?

Yes
Yes

No

40. What is your gender?

- Female
- Male
- Prefer not to say

41. What type of fishing license did you have in the past 12 months?

- Annual/5-year
- Senior
- Lifetime
- Tribal compact

42. Do you belong to any fishing organizations?

- Yes
- No

If yes, what angler organizations do you belong to?

43. What is your race or ethnicity?

0	Asian
0	Black or African American
0	Hispanic of Latino
27	Middle Eastern or North African
D	Multiracial or Multiethnic
Q	Native American or Alaska Native
D	Native Hawaiian or other Pacific Islander
10	White
2	Another race or ethnicity, please describe below
Sell-d	escribe below:

13

44. How old are you?

45. What is your home zip code?

46. 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

Prefer not to say

47. Do you have any other thoughts or concerns about bowfishing/fisheries management you would like to share with the Wildlife Department?

14

Appendix B: Open-ended Responses

17. What location in Oklahoma do you most frequently bowfish?

- Creeks feeding Mt. Fork and Mt. Fork
- Oologah
- Deep fork river
- Ft Gibson hudson
- Texoma
- Texoma
- Private lake
- Private pond
- Grand river
- Private ponds, streams
- Fort Gibson
- Lakes
- Canadian River
- Texoma
- Private flood control lakes
- rush creek
- Private pond
- Fort Gibson Lake
- Eufaula
- Creeks and rivers around wellston
- Tenkiller
- Illinois river, lake tenkiller
- Webbers falls area
- Eufaula Lake and Webber's Falls
- Oolagah Lake
- Spring River, Neosho River
- lake ellsworth
- Skiatook, Grand
- Broken Bow Lake
- Deer creek
- Salt Fork
- Tenkiller
- hudson lake
- Grand Lake
- Private ponds
- hudson lake
- Grand Lake
- texoma is where I did it once
- Private, Illinois River, Oologah lake, Gibson Lake
- North Canadian river

- Lake texoma
- Private ponds
- Washita River
- Eufala, Texoma, Arkansas River
- Lake Humphreys, Beaver Creek
- Tenkiller Illinois River Private lakes/ponds
- Skiatook lake
- Lake Euphala
- Keystone Lake , as a beginner an the few times I have gone bow fishing its usually Gars or Carps that you see on the surface and not easy to cook , need a pressure cooker from the recipes I found on the internet
- Konowa, sooner lake
- Arkansas river
- Fort gibson
- years ago in barrow fork
- only bowfished once and it was at a river coming out of Lake Atoka
- Private ponds
- Local streams and rivers
- Red River
- Canton, North Canadian, Wolf Creek, Fort Supply
- River
- Streams and private pinds
- Lake Thunderbird
- Broken Bow
- Canton lake
- Grand Lake
- Red river
- Cimarron river
- Fort Gibson
- Spaniard creek
- Walnut creek
- Red river
- Heyburn lake spillway
- Private
- Eufaula Lake
- Private pond
- Oologah lake
- Ponds
- Canton Lake and private streams
- Private pond
- Private
- Wister Lake
- Rivers salt fork and keystone

- Broken bow and pine creek
- Cimarron River
- North Canadian river
- Hugo lake, Kiamichi River
- private ponds
- Grand lake
- Waurika lake
- Deep fork
- Private ponds
- Ponds creeks
- keystone lake
- Broken bow lake and glover river
- Salt fork of the ark.
- Lake Eucha
- Hudson, Eucha, Grand
- Private
- Texoma
- North Canadian River
- Lake Euche and Illinois River
- Neosho river
- Lake Eufaula
- Oologah Lake
- None in the past 35 years
- Hominy creek, boar creek
- Robert s Kerr Arkansas river
- Red river
- Red river
- eagle chief creek
- Ft Gibson
- Grand, local streams
- Okmulgee County
- Twin Bridges area and private ponds
- Eufala
- Private ponds
- Copan, cotton creek, caney river
- River
- None
- I tried bow fishing a few times in a creek in SW Oklahoma, many years ago. So, I don't frequently bowfish, in fact not at all in the last 15 years.
- Grand river
- Lake Texoma
- Beaver Creek Lake Altus Chickasha Lake Private ponds Fort Cobb
- Arkansas River below Kaw Dam

- Rivers
- I don't.
- Lake Tenkiller
- Hudson Lake
- Cimarron River
- Steed
- Cache creek private ponds
- Broken Bow fort Gibson
- Local lakes
- Ft Gibson damn
- Eufula Thunderbird konawa
- Lake Texoma
- Private ponds
- Lock & Dam 17 at Chouteau
- washita river
- Lake Eufaula and feeder creeks
- Fort Gibson
- Private ponds.
- Private ponds
- Neosho River
- Oolagha
- Fort Gibson
- Ft Gibson Lake Eufaula Lake. Private creek
- northeast
- grand lake
- Below fort gibson dam
- Grand Lake
- Ft. Gibson Lake
- deep fork river
- North Canadian
- fort gibson
- Arkansas River
- City lakes
- Lake
- Private ponds
- Private ponds around tulsa
- private
- Arkansas river
- Gibson
- Eufaula lake
- Ft Gibson
- Quapaw Creek
- Arkansas River

- South Canadian
- Shawnee twin lakes over flow
- River
- oologah, caney river
- Lake Overholser
- When I used to bowfish, Washita River
- Red river
- Oolagah
- Waurika
- Salt plains lake/river
- Private lake in Dover, OK or Sooner Lake
- Grand Lake
- Lake Texoma
- Fort supply
- Cabin creek
- Lake Texoma
- Arkansas river
- Kerr
- Lake Eucha
- Grand
- Fort Gibson
- Tenkiller
- Canadian river
- Kerr
- Private pond
- Arkansas river
- Heyburn lake, Keystone lake, Eufala lake
- Thunderbird
- CIMARRON RIVER
- Arkansas River, Grand Lake
- Spavinaw , Hudson
- Keystone
- Red river kiamichi pine creek
- Red river
- Private ponds
- Arkansas river
- Cimarron
- Private pond
- River
- Eufaula and ft cobb
- Canadian river
- lakes
- Eufaula

- Grand lake and big creek
- Eufaula
- Canton lake
- Private Ponds
- Tom Stead
- Canadian River
- Texoma
- Lake Eufaula
- Grand Lake
- Grand Lake
- Private pond
- Texoma
- Afton landing recreation area
- thunderbird
- Private ponds
- Oologah
- Foss lake
- nortwest OK
- Geand
- Eastern side of Oklahoma
- Fort Gibson
- Ft. GIBSON
- Red river and private
- little river , mountain fork, Glover
- Broken Bow Lake
- salt fork
- Ft cobb
- Tenkiller
- Keystone
- Keystone
- Arkansas river
- Hulah
- Eufaula tailwaters
- Heyburn
- Private ponds, creeks
- Ft Cobb and Lake Murray
- Kaw Lake
- Private ponds in Park Hill, OK
- Broken Bow Lake
- ponds
- Lake Texoma
- Arkansas river, south canadian, north Canadian, Oklahoma rivers
- Cache Creek

- Private ponds
- Creeks on private land
- Sallisaw Creek
- Central ok rivers/streams
- Ponds
- Olagah
- Elk River
- N. W. Oklahoma, Beaver River
- Private pond
- North canadian river, canton lake
- Thunderbird
- private
- private pond
- Canadian River
- Ft cobb foss private lake free
- Red River
- Ft Cobb, local ponds
- Hugo lake
- Private
- Washita River
- Oologah lake, verdigris river
- Texoma
- Grand
- Fort Gibson
- Ponds and Lakes
- Fort Gibson, Oologah, Ark River, Cimarron River
- Lake texoma
- Cimarron River
- Hudson lake (markham ferry)
- Thunderbird
- Grand lake
- Fort Gibson lake
- Thunderbird
- private pond

30. Please share with us what you most enjoy about bowfishing?

- A chance to use archery skills in a different environment.
- Being outside
- Fast action. Enjoy taking people that have never been to expose them to a new method of fishing.

- Using archery equipment and having lots of shot opportunities. Size limits would be hard, you can't measure a fish in the water.
- Just getting outside and being challenged.
- I enjoy watching my niece bow fish. She is the bow fisher in the family. She bow fishes in the river and is very good. She targets gars and carp and probably bow fishes numerous times in the summer and fall.
- Spending time with close friends
- Spending time with friends and family. Also educating about being a responsible fisherman
- The challenge of a different way of fishing
- The stalk!
- Spending time relaxing and enjoying time with my kids/family
- Combo of archery and fishing
- Being out in the summertime. Shooting my bow, and fried gar nuggets after a successful harvest.
- Trying not to miss
- Experiencing the activity
- I enjoy getting jr high school aged boys addicted to bow fishing the most.
- Spending time on the boat with my husband, trying something out of the ordinary fishing trip.
- I enjoy hunting and it feels like hunting for fish. When you see them, you can go get them. You don't have to try to get the right bait, hope they bite, etc. Its on you as the hunter to go get them.
- the challenge of being able to hit my target and secondly the fight of the fish.
- Fun with friends
- I enjoy most spending time with family and learning new things.
- Time with my son
- The challenge
- Time with friends and family
- Allows me to bow hunt more often. Excellent introduction to bow hunting for kids and adults. It's fast paced enough to keep kids entertained and enjoyable for adults and kids at any skill level
- Spending time with friends and family
- trying something new
- The challenge
- Shooting fish
- Seeing a bunch of fish to shoot
- A straight shot and a true arrow.
- Stalk/hunt
- My son likes to go. I go just because he likes it. I am not that interested in bow fishing
- Bowfishing
- Just getting out on the Lake at Night during the spring & fall when I seem to catch the most fish on rod & reel when the water temp changes
- dont bowfish no longer
- Only been one time. Enjoyed it, but I am more of a shore/boat fisherman, trotline and yoyo.

- The challenge
- Being out with friends, try to shoot a fish and have fun doing it weather fish are taken or not
- The time spent with my family
- Being out with friends
- Just the challenge of hitting the target in water.
- Being out on the water looking for fish with family and friends is relaxing and fun
- I haven't been in about 10 years. I enjoy the focus and quick action that is required to take fish with a bow.
- I'm just being introduced to it
- It's fun and challenging
- To be out doors and to get rid of invasive species.
- The people im with
- Being outside and spending time with friends and family
- Being outdoors
- I don't do it a lot so I enjoy the challenge of it as well as spending time with the people I go with. Catching the fish is just an added bonus.
- Being outside enjoying the great outdoors
- Time with family and friends and the challenge.
- Being outdoors
- The challenge, good fight, fun to try and cot out blackstrap.
- Spending time outside and practicing for bow season.
- The thrill of being able to stick a fish thru water
- being outdoors with nature
- The thrill of shooting and fighting big fish
- Time spent on the water
- More challenging than rod and reel
- Challenge
- the sport of getting a few of the trash fish out of the waters
- More of a sport and skill
- I haven't bow fished in years, but when I did I enjoyed the challenge bow fishing presents.
- The memories made
- Enjoying the lakes without the heat and crazy pleasure boaters everywhere at night with my family! Shooting fish is a bonus but the memories are the trophies.
- I haven't in years, but enjoyed the challenge, just got turned off do to the waste of killing.
- Shooting the bow, getting plenty of fish and giving the fish to people that eat them!
- Just being outside and fishing
- Haven't done it for many years, since I was a child. Hence so many blank answers in my survey
- It has been a very long time since I did any bowfishing but I loved getting outdoors and pursuing the fish.
- Just hanging out with my friends while doing it.
- hunting and fishing at the same time. doing both of what I love.
- Being outside and the challenge
- All of it

- Hitting the target
- Skill
- Like being on the water and don't care if I get a fish or not.
- I quit bow fishing 25 years ago. The department should strictly regulate noodling to protect flathead catfish.
- Time out with friends
- Haven't bow fished in many years
- Exciting!
- The challenge
- I don't
- Chance to shoot a lot of fish, while spending good quality time with friends and family.
- Being outside with friends!
- Being out in nature relaxing and having fun with family and friends.
- Getting out fishing and archery in one
- Challenge
- Being outdoors
- The most enjoyable thing is it is far more challenging then any other method of fishing there is and it's run and fun style of fishing unlike traditional fishing that is fun but not as fast paced that is what makes bowfishing fun
- Enjoy the stalking of fish, aquatic form of deer hunting
- Being outside, on the water!
- being outdoors
- Being outdoors and and spending time with friends and family
- Day in the outdoors
- I haven't done much. But the times I have gone it's a lot of fun.
- Practice
- The camaraderie with your buddies are family exercise because I bought fish from the bank the wildlife you see other than the fish
- Spending time with my husband. The excitement when we see the fish and like having the challenge of shooting the fish.
- Being outdoors on the water shooting a bow
- Reeling in 20 + pound fish.
- Challenge to see fish.
- I no longer bowfish
- Challenging
- Being with family and friends
- Everything lol It's like fishing and hunting got together and had a baby (Bowfishing) how can that be bad
- Being outside
- A fun way to feed my family
- It is an interesting way to fish that I haven't exactly done a lot of, but would probably be interested in doing more one day in the future.
- best of both shooting and fishing sport

- The challenge
- Just being out by the water and scanning the water also the challenge of aiming to hit the target fish below the water
- Just being outdoors
- Time outdoors with family and friends in wonderful Mother Nature!
- Time outside
- getting out and practice before archery season
- Time in the outdoors no worries
- It's just a fun time to get out with friends and do something most people don't ever get to.
- its more primitive and challenging. Keeps me sharp with other bow sports
- It provides another angling opportunity that is not rod and reel fishing. It is challenging and combines the sport of fishing and archery.
- Shooting the fish
- It's a different method of fishing and I like having the option to do so.
- Being in the outdoors
- Challenge
- Just getting out in the outdoors
- Well, I love bowfishing because it's a great alternative for the hunting season. I can keep my anchor point with my bow so I can just pick it back up during hunting season.
- Targeting
- Being able to take archery to the water and a unique way to catch fish.
- Overall experience
- Being outside and on the water
- Getting big gars
- Watching my friends and family Watching/taking new bow fishers
- I just enjoy being outdoors
- I enjoy it, but prefer tradition fishing methods more.
- Challenge of it
- I've only been a couple times and it was several years ago
- Passing along the skills to our next generation
- The skill n challenge
- It's fishing
- trying to learn how to do it correctly
- Challenging, fun
- I enjoy the challenge. Something different and a bit faster paced than regular rod and reel fishing
- Time outside
- Is challenging in deeper , fast water.
- Being out in nature
- Being outside
- The challenge
- Bowfishing is really fun especially if you catch a fish standing the whole time is a little rough on the back

- long distance catch
- Just spending time w/ my bow
- the great freedom of the outdoors
- The fun of watching a kid not on an iPad and being outside with friends
- Way more active than poll fishing spend more time with my 11 year old boy. The excitement of getting a big fish. The things you see in the water at night. It's more than a hobby it's an obsession for my family
- Being in the outdoors.
- The family fun and atmosphere with friends
- being with friends and family
- Very rarely bow fish, haven't bow fished in a long time.
- Enjoying time with family and friends While the lakes and parks are not as crowded
- Seeing all the fish
- The time spent with family's&/or friends & the conversations
- Being outdoors with friends
- What I enjoy most about bow fishing, is the difficulty, and the satisfaction of shooting a fish.
- It's like hunting and fishing combined.
- The combination of multiple hobbies and disciplines, in a fun and challenging environment.
- exciting and fun with friends
- Being outside exploring places iv never been, the challenge of sight fishing in daylight, and the abundance of fish not targeted by others, nongame species are perfect table fare if prepared the right way
- Fun outdoors
- No
- The challenge
- Time outside with nature.
- I don't blowfish I don't know why I have to take this survey
- I only did this to help control spotted gar and carp in the pond behind the house.
- Spending time with family an friends. The anticipation of shooting just like bow hunting deer. A good fight from fish an sence of accomplishment when shooting accuracy is dead on a moving target.
- I like that it is different than rod and reel. It's also more of a challenge.
- Challenge
- Spending time with my kids and doing my part keeping non game fish species in check
- Doing something my ancestors did back before the white man took our land!
- This is a family sport for us. Myself, my husband, and our girls enjoy our time together bowfishing. It's always a little competition as to who can shoot the most or biggest fish. It's such a fun and unique sport that we are always trying to get others involved in.
- The challenge and it's downright fun if you enjoy archery and fishing.
- Wading streams and being in the outdoors.
- Challenge
- The fun
- Something different than rod and reel.

• Challenge

38. Why are you uninterested in bowfishing?

- A bow will do a lot more damage than a hook in the lip if I accidentally catch one I didn't intend to catch.
- Too old and too much trouble.
- Not my idea of fishing
- Don't have a bow and I live in the Oklahoma Panhandle.
- Too busy with work, family and other hobbies to have time for it.
- Just prefer rod and reel.
- Don't care about doing it
- Would rather use rod and reel...not set up for it
- I have no interest in doing bowfishing, I prefer fishing with a rod and reel
- Not my thing!
- It dont seem fair to me as an angler
- Just not my thing.
- I don't have any interest in bow fishing. Like to throw my line in the water and relax.
- No interest
- It is a interesting sport.
- I like to bass fish personally
- Not interested in bow fishing
- no reason just not interested
- Not my way to fish
- Like rod and reel fishing.
- It is a lot of equipment, and I don't want to put in the time to practice archery. If I already did bowhunting or archery in general, I would be interested, though.
- I prefer rod and reel
- Don't have the time
- To kill fish for the sport doesn't interest me.
- I am not interested in bow fishing
- Don't own bow
- I like to use a rod and reel.
- Ehy
- Would rather catch largemouth bass, smallmouth bass, spotted bass, and striper with a rod and reel.
- Just not interested
- None of your business. I don't have to justify or explain my preferences to you.
- No reason, just not interested.
- I'm not
- Because you have to harvest the fish and most of the time I would prefer to catch and release.
- Never used a bow. I bank fish woth grandkids. Mostly I untangle lines

- NEVER HAVE BOWFISHED
- Kills the fish. Catch and release is what makes for more fish.
- Just not my thing
- Just never thought of it, I have seen it done but looks difficult
- Other things more important. I have no desire to take a fish I will not eat unless it is ok to use it for fertilizer.
- Not interested in fishing for trash fish
- It's not fishing it's fish hunting should be banned
- I like to use rod and reel. If I catch a fish I don't plan to eat, I throw them back. Bowfishing kills the fish, and I don't plan on eating the fish typically killed while bowfishing.
- Not sure
- I only flyfish for game fish.
- To much work
- Bow fishing is like hunting and for that I'm not interested. The surprise of catching fish, especially catching fish you inten, is the sport of fishing to me.
- Never wanted to
- Doesn't appeal to me.
- No desire for it
- Just don't want to
- No interest
- Don't own a bow
- Just does not appeal to me
- What am I going to do with a bunch of carp
- Cost of material and supplies. Potentially dangerous without proper boat
- Do not like shooting bows. Do like fishing with a rod and reel.
- Have never tried it
- At the moment family fishing is important and I feel bow fishing would have more hazards than a traditonal today and reel with younger children
- I rarely go fishing; when we do, I am only interested in rod and reel fishing.
- I don't want to have to buy more equipment. I don't think it would be as fun.
- Never had an interest in it
- because there are many injured fish in the water and dead fish people abandon them
- Expense
- am not strong enough to pull back bow
- No bow
- Terrible shot with a bow
- Haven't ever and don't plan to in the future.
- Never had a desire to try it
- I don't own a bow and probably won't be buying one.
- doesn't appeal to me at all
- I prefer catch and release fishing.
- Physically unable

- I would be terrible at it plus I dont think it's fair to the fish unless you intend to eat it. I always release my fish.
- Not really sure
- Don't have a bow
- Not my thing
- I prefer rod and reel
- I don't shoot a bow and I like to fish rod and reel
- More equipment to buy.
- Not my thing
- I don't know what to do
- Not a tool I've considered. My son has expressed interest in bowfishing
- Don't have the equipment
- not interested
- never tried it and don't care to learn
- never used a bow to fish and fish I seeks cannot be obtain by that manner....crappie, bass , and catfish are my main objectives respectively
- Kinda of cruel
- carp and gar aren't fish i like to catch
- My husband and other family members bowfish, and I've just never had the desire to. I might try it some time though.
- Like traditional fishing
- Don't know how
- Cost of investing in equipment for a specialized type of fishing.
- Sounds hard
- Too old to pull a draw string
- It just doesn't appeal to me
- Waste of time
- Gotten to old
- Don't know how to use a bow.
- Never done it before
- Not as relaxing as rod and reel fishing
- Not appealing
- Waist of time just to go kill something that doesn't benefit anything.
- I quit fishing
- One way to control rough /non game fish
- Never thought of it as a sport. Fish has no chance.
- No desire to fish for or to eat nongame species.
- Disability
- Seems like too much work
- Can't afford equipment
- I have arthritis in my left shoulder .
- I'm not

- I am 100% disabled and my shoulders are in no shape to draw back a bow. A rod and reel are just fine with me.
- The dead fish are left along the banks and create a terrible odor.
- See last question you knucklehead.
- Do not own bow equipment and have no interest in obtaining any of same.
- No
- Do not own the equipment and practice only catch and release. We try to avoid killing any fish since we do not want to clean and prepare for cooking. We eat mostly sea food.
- Not able to use a bow.
- No interest
- No desire to fish with bow
- I don't have a bow and I would not fish that way
- Never have had equipment or real interest.
- Not interested
- Too old & lame
- I would rather fish rod and reel.
- Did it as a young person. No longer have interest in it.
- in my opinion only, it ain't real fishing
- No strength in my arms for the bow.
- No desire
- I don't have a bow and I really enjoy rod and reel fishing.
- I don't have a bow.
- Not my idea of fun fishing.
- Not interested
- I don't have a bow, prefer rod & reel
- Unable to shoot bow
- Rod and reel kind of guy. Can't pull a bow.
- I've never shot a bow, too old and I have trouble getting around
- Would rather use rod/reel
- Just not interested
- If I fished I will use a rod/reel.
- I enjoy rod and reel fishing
- Trout Fisherman rod & reel
- just prefer rod and reel
- Just no desire
- Never thought about it.
- Not interested in shooting a bow and arrow at all.
- I just never considered doing it.
- I enjoy rod and reel fishing. Bowfishing would not be fun for me
- I am a rod and reel person
- Not interesting to me
- Hitting a fish with an arrow isn't a sport to me.
- I like to fish with rod and reel exclusively.

- rod and reel is the best way. Bowfishing I think would take away the thrill of the fight.
- I don't own a bow or interested in it
- I am very accident prone, and have caught myself with my own fishing hook so I don't want to tempt fate by trying to bowfish.
- Seems like a lot of hassle and difficult and expensive. Prefer rod and reel and don't need any extra gear laying around.
- I don't feel like getting into it.
- I don't know how to shoot a bow. I prefer a rod and reel!
- I used to bowfish commonly in Texas during mid 1970s, but I decided I did not like to kill animals simply to provide sport. I only kill animals that I eat or those that threaten to cause harm to me or my property. The only exception is I would choose to kill common, black, silver or other invasive carp that harm native ecosystems.
- Too old and feeble now.
- I have no interest in the sport
- Prefer rod and reel
- It's not my thing. I don't want to shoot with a bow. I have fun just being on the water.
- Never used a bow
- Just not my thing
- I fish to provide a meal for us.
- Wrong
- Equipment needed is expensive ie a boat
- I am not big into fishing my husband is, I prefer to fish with the classic bobber and worm.
- I prefer trout fishing above all
- I enjoy rod and reel fishing.
- I dont own a bow
- No particular reason
- bad hand
- Not my cup of taet
- Don't have equipment.
- I do not kill any species, fish, bird, spider, or otherwise.
- Not interested.
- don't have the equipment
- Just like rod and reel
- Not something I have ever wished to try.
- Not sure. Never interested me
- Not really a bow type of person
- I have enough trouble catching fish with roof and reel.
- I have no interest in killing for fun
- Don't shoot a bow
- Like fishing not hunting, Need special equipment,
- I don't fish at all
- Bad Shoulders
- i am not

- I prefer rod and reel fishing
- It's a new sport that would require learning and equipment
- Not fun and not relaxing. No challenge and excitement of reeling a catch in.
- Health issues, could not pull a bow back and a second secon
- I like to bowhunt but not for fish
- It's not a sport I'd like to participate in. Bow fishing does not seem relaxing to me. We like to Bass fish, catch and release. It's relaxation for us, not sport.
- I have a pile of rods I already don't use as often as I'd like, I don't need more equipment gathering dust. Also I don't feel like fishing is suffering from a lack of projectile weapons
- time money and to old
- Just not interested
- I just haven't done it
- Never tried it and do not know anyone within my circle that does it. Don't think it would be fun doing alone
- Never been and cost
- never tried it.
- The cost of maintaining the equipment and keeping the tradition of regular reel and rod fishing that I've known all my life.
- Never considered it...
- dont shot a bow
- It's rare where I live to see fish to shoot
- I'm not
- I'm not. I like striper.
- I'm just a rod and tackle man.
- Rather use a rod and reel
- It's just not my thing.
- Just not what I call fishing
- Na
- I'm just not
- Never thought about bow fishing
- I don't like archery.
- Species you take don't eat them
- Would rather fish with rod and reel.
- i am not interested
- never tried it.
- I don't shoot a bow.
- Just old fashion.
- Most of fish that you shoot you don't eat and don't feel that it's right to kill a animal or fish that your not gonna eat.
- Rather use a pole
- I enjoy rod and reel fishing. If I had the opportunity I would probably give bowfishing a try.
- Don't really have any interest in it
- It just never had interest in a bow

- Not that interested in fishing overall.
- disabled. needs to sit and relax
- just not interested. don't like to kill things just for sport. if i am going fishing I am going to eat them. catfish crappie walleye
- Don't have a bow
- I like rod and reel and line fishing better.
- I live in a group home for developmentally disabled adults bows are not allowed
- Don't care to use a bow.
- Not for me
- I would rather bass fish
- dont want to pay for the equipment
- Don't have the equipment for bow fishing and no interest in bow fishing.
- Not my style of fishing!
- Not
- I like the old fashion rod and reel. I also have extreme arthritis and I can't pull a bow
- Think that gar and carp play a key role in the ecosystem and think from my experiences the fishing for other species have went down hill since bowfishing has increased over last 10 years and I see less of those species than I did 10 years ago. Im no expert but unlike other methods, could see bowfishing tend to have a higher success rate especially during the spawn when the carp are in inches of water and lead to over harvest.
- Never tried it and would only want to use/adapt my crossbow for it. Don't want to buy a bunch of new equipment.
- just not something i want to do
- It looks really fun
- Rod and reel is enough for me
- I believe in the old ways to catch a fish, which to me, is using a reel and rod.
- Would rather use a fishing pole.
- I want the option to catch and release without seriously wounding the fish.
- Not my thing
- I Don't own a bow and have not been interested in archery.
- Can't use a bow
- Bow fishing is not a catch and release sport. When I go fishing (1-3 times a week) I release 95% of the fish I catch. I do not feel that killing for sport is an appropriate tactic.
- Not enough time with other things that I do
- Don't ever go. Who wants to be up early morning
- I'm disabled
- I have no boat. I don't know anyone with a boat. And the last thing anyone needs is for me to have a sharp pointy thing flying all over the place.
- Never done it and have no desire to do it
- Don't care for shooting a bow
- I don't think it's a humane way to fish.
- What little time I have I want to enjoy catching. Not a bow hunter.
- Just not interested

- I believe that bow fishing is a cruel and unsportsmanlike activity
- Inhumane. Every now fisherman I've ever met kills for sport only and discards the remains into the lake.
- Don't want to purchase the equipment
- Never have tried it
- Perfer rod and real and I kayak fish
- Have parcanson
- I don't swim. I would rather fish from the bank.
- I don't know how. I like the rod and reel method of fishing.
- Like rod and reel
- Equipment need
- I do not know anything about bow / arrow use.
- Not my interest
- I don't have the time or the equipment.
- lack of skills and knowledge on where to fish
- Just no interest in that part of the sport
- I'm not.
- I like rod and reel
- Do not have the equipment and where I fish at Tishomingo, bow fishing is not allowed, even though it needs to be, the gar are so bad you can't catfish in the summer time.
- I'm just not. I only fish with rod and a reel.
- lack of time and never done it
- I like to eat what I catch.
- I just don't think I'd be good at it.
- Disability
- I do not like to eat the nongame fish that are bowfished. Most do it for fun and leave carcasses.
- It seems more difficult that using a rod and reel and I don't own the correct equipment.
- I've never had any interest of doing it.
- Not interested
- My grandfather invented the Zebco reel, so that's all I use. I know Zebco came up with a bow fishing rig, but I never got into it.
- I like setting with a pole and enjoying my family
- Just not interested
- Not an archer
- Never tried it, don't have the equipment
- I like fishing with a rod or cane pole.
- Don't care for it
- It's just not my thing.
- Prefer using rod and reel. It's just how my family and I fish.
- Can't afford the equipment
- don't have the proper gear
- I don't have a place to bowfish
- I prefer catch and release or fly fishing for trout.

- Just not my thing.
- I don't like whit brow
- Don't have equipment
- Not my kind of fishing I'm interested in , I grew up with a rod and reel in my hands setting out by the water with family enjoying the weather and company ...
- Too difficult
- Access
- Too many other activities I'm involved in.
- None
- To many bugs at night bow fishing
- No comments
- Would rather fish for something I want to eat
- not really
- I am a catch and release person.
- I don't have much time to fish these days, so when I do get a chance, I like to do it the old fashioned way with a rod and reel.
- Can't shoot a bow good
- I dont eat fish. It's just a hobby
- I have bad aim with a bow.
- No boat
- I'm not
- I don't shoot a bow.
- It's just not something I have ever been interested in. I would take a rid and reel any day over bow fishing.
- just not really interested.. I would think it would be hard to find a fish to target.
- Just not interested
- Not into hunting just to kill, and I won't eat carp
- I don't fish to many snakes
- Don't have a bow as probably won't get one
- No interest in rough species, only carp by rod and reel because they are extremely intelligent.
- Lack of time!
- Just never had interest in it
- I Think It Would Be Boring.
- Just not
- Don't have time, or a place to go
- Idk never really tried, I dnt bow hunt so I dnt think I would enjoy bow fishing
- Seems cruel
- I don't fish for what I don't eat
- Im an old woman
- Lack of time and equipment
- Damage to the fish
- I can't shoot a bow. Shoulder injury
- MY age and medical issues.

- Primarily interested in stripers hybrids and walleye
- expense of equipment and not really good at casting rod and reel yet.
- Bad neck, can't pull bow
- Doesn't interest me
- Don't like bows
- I enjoy rod and reel. Don't have the equipment to bowfish.
- no equipment, dont' want to be out in the dark
- no time no boat
- not on my list of priorities

47. Do you have any other thoughts or concerns about bowfishing/fisheries management you would like to share with the Wildlife Department?

- Make more lake roads acessible
- TRASH FISH SHOULD BE CULLED OUT OF THE WATERS, TO ALLOW MORE HABITAT FOR EDIBLE, SPORTING FISH
- Please introduce Tennessee smallmouth to Grand Lake. I and most other fishermen don't know the difference between a Neosho or Tennessee. Furthermore introduce Florida strain largemouth as well.
- I would love to go try it one day I love bow hunting!
- Please do not let a few bad apples ruin fun for everyone else. Punish them and leave the rest of us alone.
- I support bag limits on nongame fish
- Bo
- Fort Sill is infested with corrupt wildlife managers, changing regulation to often, favoring some hunters, banning others. How can they make you purchase hunting license to hunt post when you already have lifetime license?
- I don't have a real interest in killing something that I don't intend to eat unless it is a nuisance or invasive species
- Lifetime hunting license holders should not be charged a fee for bears or any other species
- As a non sport fish (fishing), I rarely see people bow fishing, but I am sure it helps other species of fish that compete for the shad as Keystone Lake ranks 7th in the nation tonnage of shad per acre plenty of food for the catfish that tastes the best other the crappie
- No added concerns. I think the ODWC is doing a great job in efforts.
- Hate the parking at state parks it's crazy to pay for parking for hour of fishing but you pay for the day that's crap
- I would love to be involved with any educational opportunities!
- I always thought it was for non game fishing
- Let them shoot all they want and offer them the ability to drop the fish at a fertilizer factor.
- Inforce crappie length limit
- As the interest in being outdoors and fishing increases we need to support DOL initiatives.
- Stock more Walleye at Lake Hefner!!
- I believe that native species should be managed I the same way that game fish are.

- It is just another great opportunity to get outdoors and introduce new comers to the sport of fishing.
- Looks good to me
- No but this survey keeps messing up on me
- My only concern would be with size limits on bow fishing. Would the bow fisher be ticketed for misjudging the size of a fish?
- Thank you
- No but with regards to paddle fish if you're going to limit two a yearWhich I have no problem with you should allow those two to be caught in one day and any day of the week
- It might be fun
- put the size limit of the crappies in the overholser
- Keep up the good work!
- Game wardens have far to much authority
- Why does income matter on a wildlife survey?
- Bowfishers should respect other anglers in the area if they were their first.
- Nope doin great
- All for it
- It would be really nice to know more.
- More trout please 🙂
- Just keep it fair with the fish having a slight advantage ;-)
- I prefer that nongame fish NOT have a limit or regulations.
- I think there ought to be bowfishing tournaments. awards giving to biggest gar, buffalo and carp caught.
- I think it's awesome to have an organization that takes great pride in improving and protecting our natural resources in the state . Thank you .
- I don't like the idea that there are "fishing guides" that people pay to bow fish. There is too much wanton waste with this type of sport. It is not good in the eyes of the public and I think social media is to blame for that.
- I would like information about bowfishing and where to go
- Cleaning up banks along stream and rivers so fishermen could explore more areas.
- algea(sp) management
- Enjoy seeing ODWC engaging with the youth in fishing programs. I've had the fortune to grow up fishing & it's still enjoyable to this day.
- No, I trust the Wildlife Department's judgement on bowfishing and nongame management.
- The only complaint I have has to do with the camping at lakes. I do not care for the new reserve on line, we have not got to camp in over a year because of the new ways.
- Need more public bank-fishing opportunities for children (and old folks like me) who love to fish but cannot for many reasons fish from a boat.
- Respect all wildlife & the waters
- I would love more information on bow fishing.
- I hate to see fish killed for no reason.
- i dont think any more regulations are necessary
- I have no problem with the bow fishing sport, but it's just not my thing.

- Nothing regarding bowfishing. We do appreciate the fish stocking programs for the city parks.
- It would be nice to open up bow fishing in the WMA the gar reack havoc on crappie and catfishing in these areas. No control
- Mr. James Baldwin of Wilburton, OK has been deceased since January of 2014. Please remove his name & address from your data bases. Thank you.
- no thanks
- Safety for the bow fisherman and others.
- Doing a great job. Keep it up.
- I think that bow fishing is slowly killing all of the fish and it should only be allowed on trophy fish and certain days
- When fishing for trout at the Blue River in Tishomingo Ok. when stocking the fish need to be bigger like 3/4 to 1 lb.
- Need more trout fisheries
- No, but I have plenty of thoughts on managing trout fisheries...
- I prefer we limit bowfishing to nonnative nongame species and or to fish species that bowfishermen are willing to process and eat.
- We appreciate all that you do.
- would like to be acknowledge
- I feel if bag limits are implemented it would negatively affect the sport of bow fishing and that would impact the amount of game fish the lakes of Oklahoma can support
- Bow fishing for Nongame should be left alone as long as it is just NON GAME fish they are taking like the Asian carp.
- It's a fun sport just wish there was more people using the fish for something besides turtle food after being shot they are doomed to die. A new style arrow that gave the fish a better survival rate would be nice
- Will let my husband do this. Also our son in law likes to bow hunt
- You need to stock a lot more trout
- How to properly dispose of the fish is the biggest issue.
- Do you have any programs offered to elementary/middle schools?
- I had not heard of bowfishing til this survey. Thank you for bringing it to my attention.
- raining too much
- Improper disposal of less desirable fish.
- Please work hard to promote fishing to youngsters
- I never catch anything a draper lk. Why is that?
- Making the laws and regulations easier to find for Bowfishing. Open Bowfishing up in more areas like the Illinois river why? There is some areas that allow Bowfishing during the day but not at night why? Tell us why the areas are Red zones
- I am in favor of bow fishing even though I do not participate. There should be some regulation to insure that fish are not over harvested.
- No , just want to thank them for all there hard work for humanity and wild life
- Less regs
- nope, just make sure the resource is here for our future generations.
- Need to keep numbers down because gar and other rough fish help clean the streams.

- Regulate noodling to conserve flathead catfish.
- You guys are doing a great job
- Habitat and food source management for game species fish.
- Maybe since I'm disabled and on a fixed income, I'd like to see a reduced fee for a license every year.
- Loosing arrows in water
- This is something I rarely participate in anymore, but it is a lot of fun. I want to feel as though I am not just killing for fun though so there needs to be a purpose behind the sport. Something to do with the fish rather than just put the dead fish back in the water. Or if they are over populating a specific place it would be good to know because then there is a purpose.
- You guys do a great job. Thank you for all of it.
- You need to lower the daily limit on crappie into single digits. You need to do more to improve the number of minority fisherman.
- There seems to be plenty of "rough" fish for the bowfishers so they aren't abusing our fisheries. I have more concerns about the Striper guides at Skiatook Lake raking in bag limits for their paying customers every day. It seems to me that the size of the Stripers that we catch are smaller than just five years ago. Maybe there are plenty of fish for everybody.
- Ma
- The build up of trash in creeks and lakes
- My only issue is when fishers dump on the bank or ramp instead of taking them back out on the lake then dumping
- I'd approach the topic cautiously and with sound biology at the core of any decision making. Don't follow any path based on politics or opinions. Texas has successfully ruined a large source of revenue and recreation with their bowfishing regulations, without the support of biology. And for the people who enjoy the sport, it only serves to alienate them from the departments that regulate the pastimes they enjoy. If you want to legitimize bowfishing, set take limits on all species and make it a legal means of take for all legal fish. But keeping it open to non game fish only, is why it has attracted some of the less conservation minded outdoorsmen, who often generate bad press. Which I'd be willing to bet is why you are feeling pressured into regulating it, hence this survey.
- Encourage other organizations such as OSU (Carl Blackwell) and Lake McMurtry to open up bow fishing invasive species. There's a bow fishing desert in Payne County minus part of the Cimmaron River. Great survey, keep up the great work!
- No you keep up the good work keep are hunting and fishing strong in this state O there is one thing I don't like is the parking permit that I now have to buy it was a pain in you know what to figure out how to buy it for a year pass and it charged me for a out of state person so if you can fix that then I may visit those lake again thank God the wildlife land I don't have that thanks for y'all hard work again
- Where do you find the correct bow & arrows? Can you join to help the ODWC? If so in what area & when?
- Keep up the amazing work!
- Keep up the good work
- I think the ODWC for the most part does a great job trying to get oklahomans outdoors and make use of our beautiful resources and im proud to call this state my home.

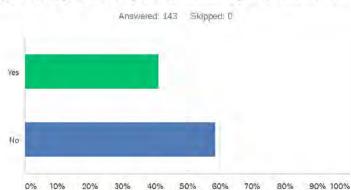
- need to sit outside. work on promoting the outdoors to kids. annual license for \$25 would get more people out for a cheaper price. don't need a license on private property.
- No, if they want to shoot fish let them do it.
- God made nature to remain beautiful for people to enjoy. Lets all help to keep it as he made it. More severe penalties for littering.
- people who bow fish to just throw them to the side should not be legal to fish at all,
- If Oklahoma has an invasive species of fish, I would like to see Oklahoma let anyone bow fish for free, like our feral hog regulation.
- Just need more information, on bowfishing
- Oklahoma needs management on all wildlife, invasive species need to be targeted more than any other with incentives or other means, we as a state need to lead the nation in preserving our natural wildlife species for future generations to come, and we need more programs to incentivize the population to conserve our nature wildlife
- Would love to see greater introduction of flordia strain largemouth bass stocking in particular in the lakes around OKC where the quality is currently good but numbers are low and spawning habitat isn't the best.
- Where do I get more info
- Is it allowed to go at night?
- Yes, please lower the cost of your fishing license's.
- They should offer programs to the schools for youth to be able to learn or maybe a league for kids. My 9 year old son would absolutely love this.
- I would love to see the huge alligator gar like my grandad used to catch when he was young
- Would like to know more about this bowfishing program.
- I think game fish with the appropriate limits should be allowed for bowfishing
- Why is the first ever survey about bowfishing?
- I would just like more info. Sounds interesting! Also do Veterans get a break on The price of fishing lisense? Thank you.
- Proper game management and promotion of safe practices, especially since many bow fishing excursions happens at night.
- Just love fishing with wife when have the time
- Game wardens doing faults emergency signals to trap and search boats
- Thank you for reaching out for the survey! It's neat that you guys care to even ask.
- Do not regulate bow fishing these species destroy our waters ecosystems by how fast the repopulate and how fast they can eat
- Just thanks and good work, y'all
- I think it is a good sport. I choose not to do it, but it is a good sport.
- Go Fishing!!
- when growing up, we had family that would can carp and buffalo to eat latter. if there could be a place to take these to be used to feed others i would drive there and would go out more
- I don't boefish
- I think we have enough rules and regulations already
- The website was not taking my response to the questions 1-5
- I dont think ANY game fish should be noodled. Including Bluecats.

- Would like to see juglines and trotlines banned for public waters. Too many abandoned in place to detriment of environment.
- I would not mind seeing more game rangers. I know this is something that probably won't be able to happen.
- I think if there is a problem us bowfishers as a community usually do a good job managing each other there are a few people that make us look bad but we are a growing sport and that type of stuff is going to happen
- Fishing on Illinois River is limited and private float businesses do not allow general public use their areas but fill public access to minimal available area for general public.
- I haven't seen bowfishing
- Stock more catfish!
- I am getting more into 3-D shots now will not be doing much if any bow fishing now.
- What makes bow fishing fun is shooting the large non game fish. I wouldn't take issue with bow fishing game fish if it were allowed especially catfish.
- I am concerned about the perception of the sport and how negative publicity or public sentiment hurts the future growth of the sport.
- Bow fisherman taking way too many native non game fish and hurting populations
- I would like it to be left the way it is right now.
- I would like to see some really nice trout fishing streams in Oklahoma.
- No the state is doing a good job.
- State park parking at boat ramps should be discontinued.
- Just as long as whomever bowfishes doesn't leave their catch to rot on the bank line.
- None that I can think of. Thank you kindly for asking.
- Keep up the good work!!!
- My Husband and I enjoyed the Wildlife Aquarium in Medicine Park in the Spring. Thank You!
- I would love to be notified or know where to find the info on when and where trout are stocked during the year.
- Organize volunteers to take kids bowfishing to get them interested in the sport. I know several kids that want to go but I no longer have a boat.
- Quality of bass in most of the Osage county lakes are way down from years past. Most fish caught are under 14". Pawhuska, Bluestem and Shidler particularly.
- fish should not be left on the banks if you catch you take care of whichever method.
- I do not think it is a good idea to promote bowfishing
- Chance for a bow fishing kit giveaway for participating in a survey. :)
- good sport, nothing wrong with it.
- I want to say how much I appreciate your department and what you all do to preserve and conserve nature.
- no doing a fine job. more free fishing days to get people interested. more money if more people interested.

Appendix C: Explore Bowfishing Sample Responses Total Responses: 143

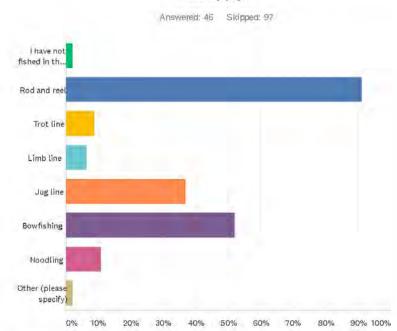
Oklahoma Bowfishing Survey

Q1 Have you ever gone bowfishing in Oklahoma?



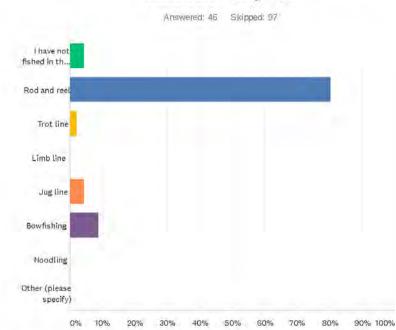
ANSWER CHOICES	RESPONSES	
Yes	41,26%	59
No	58.74%	84
TOTAL		143

Q2 What fishing methods have you used in the past 12 months? Check all that apply.



ANSWER CHOICES RESPONSES		RESPONSES	
I have n	not fished in the last 12 months	2.17%	1
Rod and	d reel	91.30%	42
Trot line	e	8,70%	4
Limb lin	ne	6.52%	3
Jug line	e	36.96%	17
Bowfish	hing	52.17%	24
Noodling	ġ	10.87%	5
Other (p	please specify)	2,17%	1
Total Re	espondents: 46		
#	OTHER (PLEASE SPECIFY)	DATE.	
1	Snagging	7/21/20	21 5:42 PM

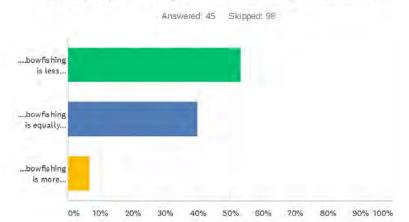
Q3 What fishing method have you used most often in the past 12 months? Please select only one.



ANSWER CHOICES		RESPONSES	
I have n	not fished in the last 12 months	4.35%	2
Rod and	d reel	80,43%	37
Trot line	e	2,17%	1
Limb lin	ne.	0.00%	0
Jug line	a	4.35%	2
Bowfish	ning	8.70%	4
Noodling	g	0.00%	0
Other (p	please specify)	0.00%	0
TOTAL			46
#	OTHER (PLEASE SPECIFY)	DATE	
	There are no responses.		

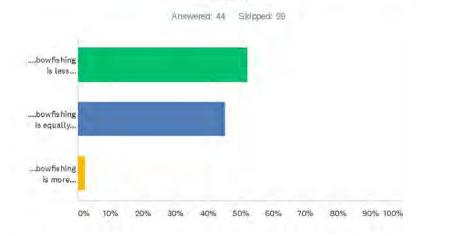
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Q4 Compared to your other fishing activities



RESPONSES	
24	
18	
3	
45	

Q5 Compared to your other outdoor activities (camping, hiking, sports, etc.)....



ANSWER CHOICES	RESPONSES	
bowfishing is less important	52.27%	23
bowfishing is equally important	45.45%	20
bowfishing is more important	2.27%	1
TOTAL		44

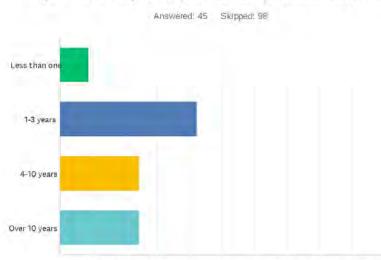
Answered: 45 Skipped: 98 Beginner Intermediate Advanced

Q6 How would you rate your experience as a bowfisher?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

ANSWER CHOICES	RESPONSES	
Beginner	46.67%	21
Intermediate	46.67%	21
Advanced	6.67%	3
TOTAL		45

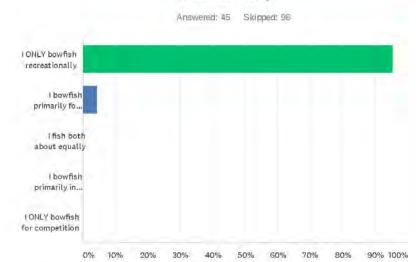
Q7 How many total years have you bowfished?



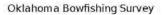
0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

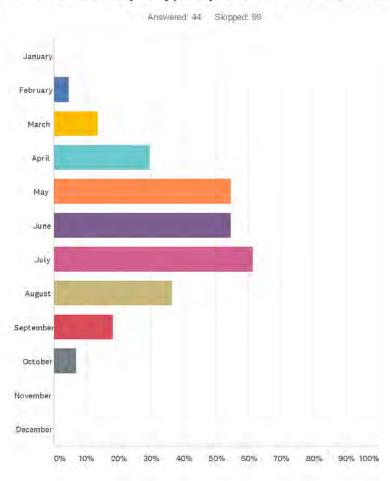
ANSWER CHOICES	RESPONSES	
ANSWER GROICES		
Less than one	8.89%	4
1-3 years	42.22%	19
4-10 years	24.44%	11
Over 10 years	24.44%	11
TOTAL		45

Q8 Do you primarily bowfish recreationally (for fun) or competitively (in tournaments)?



ANSWER CHOICES RESPONSES 95.56% 43 I ONLY bowfish recreationally 4.44% 2 I bowfish primarily for recreation and occasionally for competition 0.00% 0 I fish both about equally 0.00% 0 I bowfish primarily in competitions and occasionally for recreation I ONLY bowfish for competition 0.00% 0 TOTAL 45

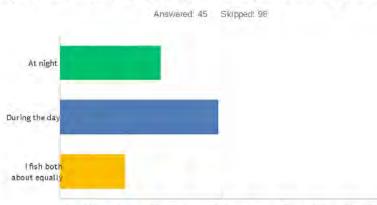




Q12 What months do you typically bowfish? Check all that apply.

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ANSWER CHOICES	RESPONSES	
January	0.00%	0
February	4.55%	2
March	13.64%	6
April	29.55%	13
May	54.55%	24
June	54.55%	24
July	61.36%	27
August	36,36%	16
September	18.18%	8
October	6,82%	3
November	0.00%	0
December	0.00%	0
Total Respondents: 44		

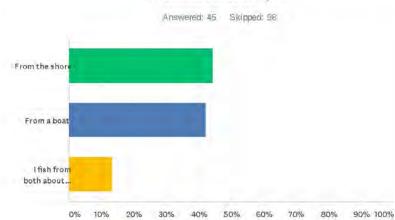


Q13 Do you primarily bowfish at night or during the day?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

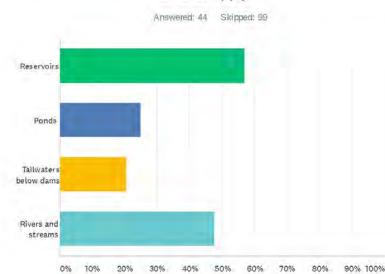
ANSWER CHOICES	RESPONSES	
At night	31.11%	14
During the day	48.89%	22
I fish both about equally	20.00%	9
TOTAL		45

Q14 Do you primarily bowfish from the shore or from a boat (either motorized or not)?



ANSWER CHOICES	RESPONSES	
From the shore	44.44%	20
From a boat	42.22%	19
I fish from both about equally	13.33%	б
TOTAL		45

Q15 What types of waterbodies have you bowfished in Oklahoma? Select all that apply.



ANSWER CHOICES	RESPONSES	
Reservoirs	56.82%	25
Ponds	25.00%	11
Tailwaters below dams	20.45%	9
Rivers and streams	47.73%	21
Total Respondents: 44		

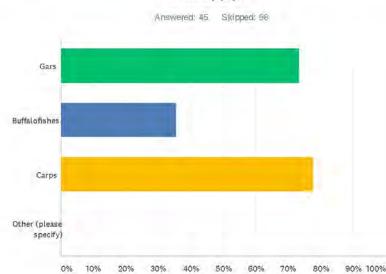
Q16 What location in Oklahoma do you most frequently bowfish (e.g. Red River, Fort Gibson Lake, private ponds, etc.)?

Answered: 40 Skipped: 103

#	RESPONSES	DATE
1	hudson lake	8/8/2021 7:15 PM
2	Lakes	8/8/2021 10:00 AM
3	Texoma	8/4/2021 11:24 AM
4	Deep fork river	8/3/2021 12:07 PM
5	rush creek	8/1/2021 12:29 PM
6	Grand Lake	7/30/2021 5:02 PM
7	Texoma	7/30/2021 10:09 AM
8	lake elisworth	7/30/2021 8:48 AM
9.	Skiatook, Grand	7/30/2021 8:44 AM
10	Private ponds	7/29/2021 11:43 PM
11	Oolagah Lake	7/29/2021 9:41 PM
12	Private pond	7/29/2021 6:38 PM
13	Salt Fork	7/27/2021 8:09 AM
14	Fort Gibson	7/26/2021 9:08 PM
15	Private flood control lakes	7/26/2021 12:19 PM
16	Deer creek	7/26/2021 11:15 AM
17	hudson lake	7/26/2021 11:14 AM
18	Tenkiller	7/26/2021 10:49 AM
19	Creeks and rivers around wellston	7/26/2021 10:32 AM
20	Illinois river, lake tenkiller	7/26/2021 9:34 AM
21	Oologah	7/26/2021 9:33 AM
22	Private lake	7/26/2021 9:31 AM
23	Spring River, Neosha River	7/26/2021 9:30 AM
24	Private pond	7/26/2021 8:36 AM
25	Broken Bow Lake	7/24/2021 7:41 AM
26	Fort Gibson Lake	7/23/2021 1:09 PM
27	texoma is where I did it once	7/23/2021 10:25 AM
28	Private ponds, streams	7/22/2021 9:44 PM
29	Creeks feeding Mt. Fork and Mt. Fork	7/22/2021 6:16 AM
30	Tenkiller	7/22/2021 6:00 AM
31	Eufaula	7/21/2021 9:19 PM
32	Ft Gibson hudson	7/21/2021 7:15 PM
-		

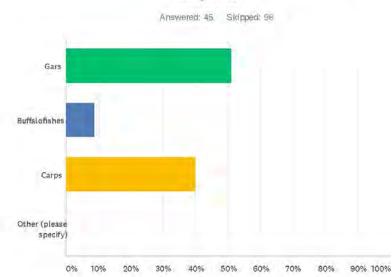
33	Texoma	7/21/2021 6:46 PM
34	Webbers falls area	7/21/2021 6:44 PM
35	Canadian River	7/21/2021 6:39 PM
36	Private, Illinois River, Oologah lake, Gibson Lake	7/21/2021 5:20 PM
37	Grand Lake	7/21/2021 5:20 PM
38	Grand river	7/21/2021 4:48 PM
39	Eufaula Lake and Webber's Falls	7/21/2021 4:10 PM
40	Oologah	7/21/2021 3:55 PM

Q17 What types of fish do you typically target while bowfishing? Check all that apply.

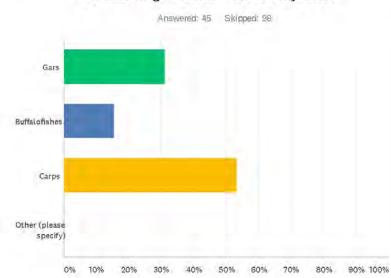


ANSWE	RCHOICES	RESPONSES	
Gars		73,33%	33
Buffalofis	shes	35,56%	16
Carps		77,78%	35
Other (pl	ease specify)	0.00%	0
Total Res	spondents: 45		
#	OTHER (PLEASE SPECIFY)	DAT	É
	There are no responses.		

Q18 What do you most prefer to target while bowfishing? Please select only one.



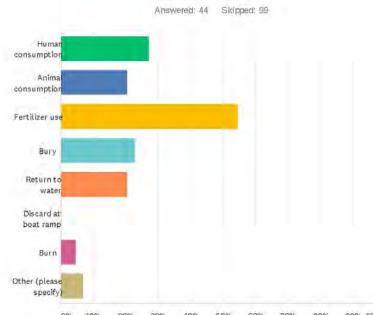
ANSWE	R CHOICES	RESPONSES	
Gars		51.11%	23
Buffalofi	shes	8,89%	4
Carps		40.00%	18
Other (p	lease specify)	0.00%	0
TOTAL			45
#	OTHER (PLEASE SPECIFY)	DA	ЛЕ
	There are no responses.		



Q19 What species do you most often shoot/attempt to shoot while bowfishing?Please select only one.

ANSWE	R CHOICES	RESPONSES	
Gars		31.11%	14
Buffalofi	shes	15.56%	7
Carps		53.33%	24
Other (p	ease specify)	0,00%	0
TOTAL			45
#	OTHER (PLEASE SPECIFY)	D	ATE
	There are no responses.		

Q21 What do you typically do with your fish after a bowfishing trip? Check all that apply.

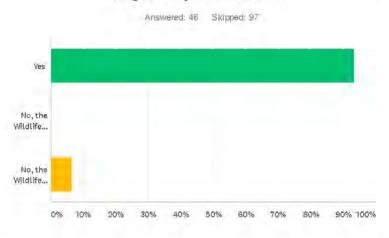


0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

ANSWE	R CHOICES	RESPONSES	
Human d	consumption	27.27%	12
Animal o	consumption	20.45%	9
Fertilizer	ruse	54.55%	24
Bury		22.73%	10
Return to	o water	20.45%	9
Discard	at boat ramp	0.00%	0
Burn		4.55%	2
Other (p	lease specify)	6.82%	3
Total Re	spondents: 44		
#	OTHER (PLEASE SPECIFY)		DATE
1	trash		8/1/2021 12:29 PM
2	discard in pasture		7/26/2021 11:15 AM
3	Use for catfish bait		7/26/2021 9:38 AM

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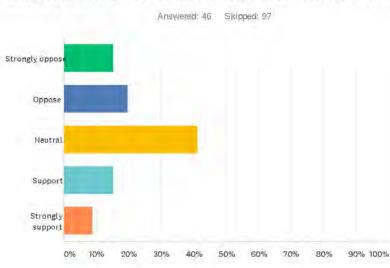
Q22 Do you trust the Oklahoma Department of Wildlife Conservation to appropriately manage non-game native fishes (gar, buffalofish, etc.) targeted by bowfishers?



ANSWER CHOICES	RESPONSES	
Yes	93.48%	
No, the Wildlife Department should do more	0.00%	0
No, the Wildlife Department should do less	6.52%	3
TOTAL		46

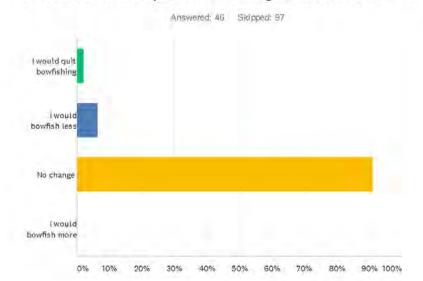


Q23 Would you support or oppose bowfishing regulations (e.g. bag limits or size limits) for non-game native species (i.e. buffalofishes, gar, etc.)?



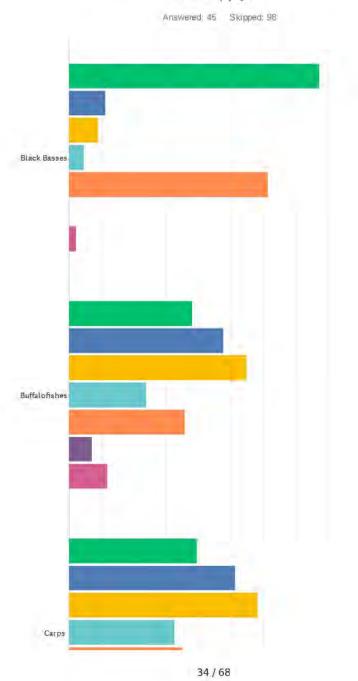
ANSWER CHOICES	RESPONSES	
Strongly oppose	15,22%	7
Oppose	19.57%	9
Neutral	41.30%	19
Support	15.22%	7
Strongly support	8,70%	4
TOTAL		46

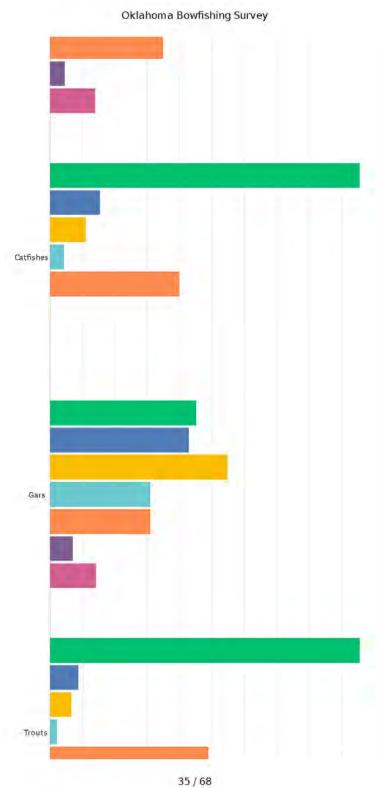
Q24 How would the introduction of bowfishing regulations for non-game native species affect your future participation in bowfishing in Oklahoma? Similar to the above question, this might mean bag limits or size limits for Oklahoma native species such as gar, buffalo fishes, etc.

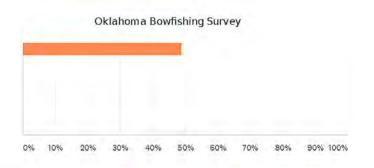


ANSWER CHOICES	RESPONSES	
I would quit bowfishing	2.17%	1
I would bowlish less	6.52%	3
No change	91,30%	42
I would bowfish more	0.00%	0
TOTAL		46

Q25 In your opinion, what are acceptable outcomes for the following groups of species after being caught with any fishing method? Select all that apply.



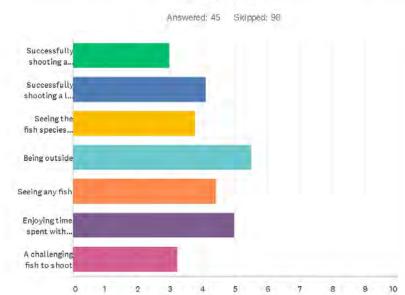




Human consumption	Animal consumption	Fertilizer use	Bury
📕 Return to water 🛛 📗	Discard at boat ramp 📗	Burn	

	HUMAN	ANIMAL CONSUMPTION	FERTILIZER USE	BURY	RETURN TO WATER	DISCARD AT BOAT RAMP	BURN	TOTAL RESPONDENTS
Black Basses	77.27% 34	11.36% 5	9.09% 4	4.55% 2	61.36% 27	0.00%	2.27%	44
						7.1.10		
Buffalofishes	38.10%	47.62%	54.76%	23.81%	35,71%	7.14%	11.90%	
	16	20	23	10	15	3	5	42
Carps	39.53%	51.16%	58.14%	32.56%	34.88%	4.65%	13.95%	
	17	22	25	14	15	2	6	4:
Catfishes	95.56%	15.56%	11.11%	4.44%	40.00%	0.00%	0.00%	
	43	7	5	2	18	0	0	4
Gars	45.24%	42.86%	54.76%	30.95%	30.95%	7.14%	14.29%	
	19	18	23	13	13	3	6	42
Trouts	95.56%	8.89%	6.67%	2.22%	48.89%	0.00%	0.00%	
	43	4	3	1	22	0	0	4

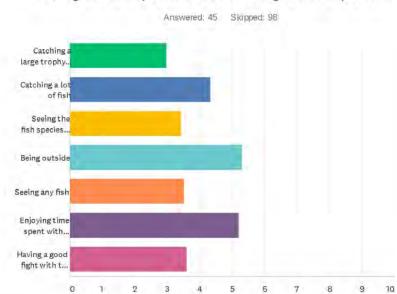
Q26 Please rank the following aspects in terms of how much they contribute to a successful bowfishing trip with 1 being most important and 7 being least important. You may select NA for any aspects that do not contribute.



	1	2	3	4	5	6	7	N/A	TOTAL	SCORE
Successfully shooting a large trophy fish	2,56% 1	12.82% 5	12.82% 5	5.13% 2	7.69% 3	20.51% 8	30.77% 12	7.69% 3	:39	2.97
Successfully shooting a lot of fish	18.42% 7	18.42% 7	2.63% 1	7.89% 3	21.05% 8	15.79% 6	10.53% 4	5.26% 2	.38	4.11
Seeing the fish species that I intended to target	5.56% 2	2.78% 1	13.89% 5	38.89% 14	19,44% 7	11.11% 4	5.56% 2	2.78% 1	36	3.77
Being outside	28.21% 11	33.33% 13	17.95% 7	5.13% 2	2.56% 1	0.00% 0	7.69% 3	5.13% 2	39	5.51
Seeing any fish	12.50% 5	5.00% 2	37.50% 15	15.00% 6	12.50% 5	5.00% 2	7.50% 3	5.00% 2	40	4,42
Enjoying time spent with family/friends	29.27% 12	21,95% 9	7.32% 3	12.20% 5	9.76% 4	7.32% 3	7.32% 3	4.88% 2	41	4.97
A challenging fish to shoot	9.09% 4	6.82% 3	6.82% 3	6.82% 3	20.45% 9	25.00% 11	15.91% 7	9.09% 4	44	3,23



Q27 Please rank the following aspects in terms of how much they contribute to a successful fishing trip (non bowfishing) in your mind with 1 being most important and 7 being least important



	1	2	3	4	5	6	7	N/A	TOTAL	SCORE
Catching a large trophy fish	9.52% 4	9.52% 4	9.52% 4	11.90% 5	0.00% 0	9.52% 4	45.24% 19	4.76% 2	42	2.98
Catching a lot of fish	14.29% 6	16.67% 7	19.05% 8	14.29% 6	7.14% 3	23.81% 10	2.38% 1	2.38% 1	42	4.34
Seeing the fish species that I intended to target	4.76% 2	4.76% 2	7.14% 3	23.81% 10	33.33% 14	19.05% 8	4.76% 2	2.38% 1	42	3.44
Being outside	22,50% 9	40.00% 16	7.50% 3	10.00% 4	10.00% 4	5.00% 2	2.50% 1	2.50% 1	40	5.31
Seeing any fish	2.38% 1	7.14% 3	30.95% 13	7.14% 3	14.29% 6	21.43% 9	14.29% 6	2.38% 1	42	3.51
Enjoying time spent with family/friends	39.53% 17	13.95% 6	16.28% 7	4.65% 2	9.30% 4	6.98% 3	6.98% 3	2.33% 1	43	5.21
Having a good fight with the fish	9.09% 4	6.82% 3	6.82% 3	29.55% 13	20.45% 9	9.09% 4	15.91% 7	2.27% 1	44	3.60

Q28 Would you be willing to participate in a bowfishing focus group? If so, please leave your email address here and we will contact you. Your email will only be used to contact you about a focus group, it will not be tied to your responses to the rest of the survey.

Answered: 11 Skipped: 132

#	RESPONSES	DATE
1	Yes	8/8/2021 10:04 AM
2	Davidmhoganii@gmail.com	8/3/2021 8:46 AM
3	elyot450@sbcglobal.net	7/30/2021 8:50 AM
4	Jbuzidragis@wilson.k12.ok.us	7/29/2021 6:43 PM
5	Davidmhoganii@gmail.com	7/26/2021 10:51 AM
6	lbrooks4621@gmail.com	7/24/2021 7:43 AM
7	heather.delmoral@odwc.ok.gov	7/23/2021 10:27 AM
8	Bkwchapman@gmail.com	7/21/2021 9:21 PM
9	Crossrhoades52@gmail.com	7/21/2021 6:47 PM
10	cdcoach10@gmail.com	7/21/2021 5:46 PM
11	No	7/21/2021 5:24 PM

Q29 Please share with us what you most enjoy about bowfishing

Answered: 29 Skipped: 114

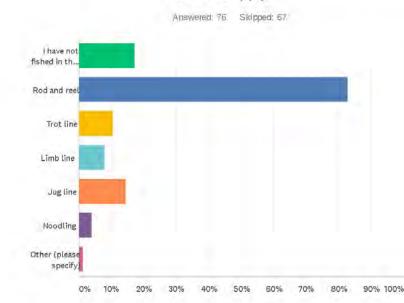
#	RESPONSES	DATE
1	Spending time with friends and family. Also educating about being a responsible fisherman	8/8/2021 10:04 AM
2	Being outside	8/4/2021 11:25 AM
3	Using archery equipment, and having lots of shot opportunities. Size limits would be hard, you can't measure a fish in the water.	7/30/2021 10:11 AM
4	the challenge of being able to hit my target and secondly the fight of the fish.	7/30/2021 8:50 AM
5	Fun with friends	7/30/2021 8:45 AM
6	I enjoy hunting and it feels like hunting for fish. When you see them, you can go get them. You don't have to try to get the right bait, hope they bite, etc. Its on you as the hunter to go get them.	7/29/2021 9:44 PM
7	The stalk!	7/29/2021 6:43 PM
8	The challenge	7/27/2021 8:11 AM
9	Spending time with close friends	7/26/2021 9:09 PM
10	Time with my son	7/26/2021 11:17 AM
11	Time with friends and family	7/26/2021 10:51 AM
12	Being out in the summertime. Shooting my bow, and fried gar nuggets after a successful harvest.	7/26/2021 10:34 AM
13	Fast action. Enjoy taking people that have never been tI expose them to a new method of fishing.	7/26/2021 9:42 AM
14	Experiencing the activity	7/26/2021 9:36 AM
15	A chance to use archery skills in a different environment.	7/26/2021 9:35 AM
16	Just getting outside and being challenged.	7/26/2021 9:33 AM
17	I enjoy watching my niece bow fish. She is the bow fisher in the family. She bow fishes in the river and is very good. She targets gars and carp and probably bow fishes numerous times in the summer and fall.	7/26/2021 8:41 AM
18	I enjoy most spending time with family and learning new things.	7/24/2021 7:43 AM
19	Spending time relaxing and enjoying time with my kids/family	7/23/2021 1:11 PM
20	trying something new	7/23/2021 10:27 AM
21	Trying not to miss	7/22/2021 6:03 AM
22	Combo of archery and fishing	7/21/2021 9:21 PM
23	The challenge of a different way of fishing	7/21/2021 6:48 PM
24	I enjoy getting ir high school aged boys addicted to bow fishing the most.	7/21/2021 6:47 PM
25	Spending time with friends and family	7/21/2021 5:46 PM
26	Allows me to bow hunt more often. Excellent introduction to bow hunting for kids and adults. It's fast paced enough to keep kids entertained and enjoyable for adults and kids at any skill level	7/21/2021 5:24 PM
27	The challenge	7/21/2021 5:22 PM
28	Spending time on the boat with my husband, trying something out of the ordinary fishing trip.	7/21/2021 4:12 PM

A chance to use my bow in a different style of shooting.

29

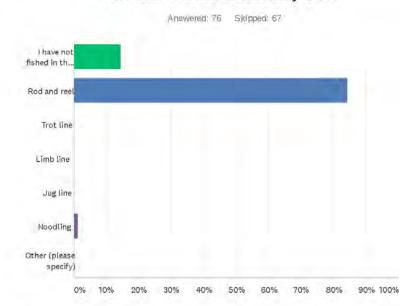
7/21/2021 3:58 PM

Q30 What fishing methods have you used in the past 12 months? Check all that apply.



ANSWE	R CHOICES	RESPONSES	
I have n	ot fished in the last 12 months	17.11%	13
Rod and	reel	82.89%	63
Trot line		10.53%	8
Limb line	é	7,89%	6
Jug line	T and a second	14.47%	11
Noodling	1	3.95%	3
Other (p	lease specify)	1.32%	1
Total Re	spondents: 76		
#	OTHER (PLEASE SPECIFY)	DATE	
1	Yo yo line	7/31/20	021 6:20 PM

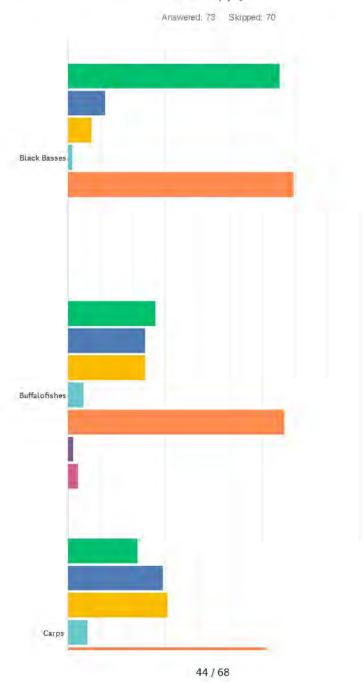
Q31 What fishing method have you used most often in the past 12 months? Please select only one.

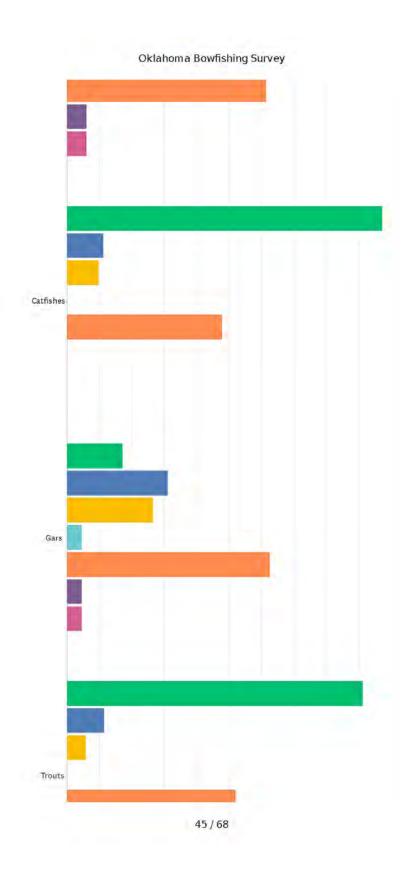


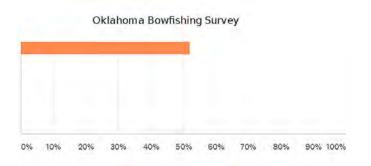
ANSWER C	HOICES	RESPONSES	
I have not fis	shed in the last 12 months	14.47%	11
Rod and ree		84.21%	64
Trot line		0.00%	0
imb line		0,00%	0
Jug line		0.00%	0
Noodling		1.32%	1
Other (pleas	e specify)	0.00%	0
TOTAL			76
#	OTHER (PLEASE SPECIFY)	DATE	
	There are no responses.		

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Q32 In your opinion, what are acceptable outcomes for the following groups of species after being caught with any fishing method? Select all that apply.



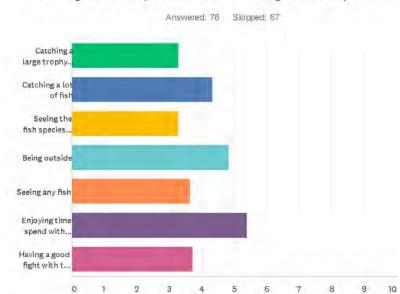




Human consumption	Animal consumption	Fertilizer use	Bury
Return to water	🛛 Discard at boat ramp 📗	Burn	

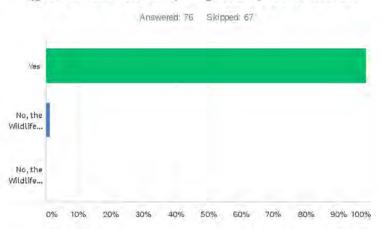
	HUMAN	ANIMAL	FERTILIZER	BURY	RETURN	DISCARD	BURN	TOTAL
	CONSUMPTION	CONSUMPTION	USE	DONT	TO	AT BOAT RAMP	BORIN	RESPONDENT
Black Basses	65.22% 45	11.59% 8	7.25% 5	1.45% 1	69.57% 48	0.00% 0	0.00% 0	6
Buffalofishes	26.98% 17	23.81% 15	23.81% 15	4.76% 3	66.67% 42	1.59% 1	3.17% 2	6
Carps	21.54% 14	29.23% 19	30.77% 20	6.15% 4	61.54% 40	6.15% 4	6.15% 4	6
Catfishes	97.18% 69	11.27% 8	9.86% 7	0.00% 0	47.89% 34	0.00% 0	0.00% 0	7
Gars	17.19% 11	31.25% 20	26.56% 17	4.69% 3	62.50% 40	4.69% 3	4.69% 3	6
Trouts	91.30% 63	11.59% 8	5.80% 4	0.00% 0	52.17% 36	0.00% 0	0.00% 0	6

Q33 Please rank the following aspects in terms of how much they contribute to a successful fishing trip (non bowfishing) in your mind with 1 being most important and 7 being least important



	1	2	3	4	5	6	7	N/A	TOTAL	SCORE
Catching a large trophy fish	15.71% 11	2.86% 2	10.00% 7	14.29% 10	5.71% 4	8.57% 6	35.71% 25	7.14% 5	70	3.28
Catching a lot of fish	9.09% 6	16.67% 11	18.18% 12	19.70% 13	16.67% 11	10.61% 7	3.03% 2	6.06% 4	66	4.34
Seeing the fish species that I intended to target	3.03% 2	6.06% 4	16.67% 11	7.58% 5	19.70% 13	27.27% 18	9.09% 6	10.61% 7	66	3.29
Being outside	19.35% 12	16.13% 10	20.97% 13	24.19% 15	3.23% 2	4.84% 3	6.45% 4	4.84% 3	62	4.83
Seeing any fish	2.94% 2	16.18% 11	13.24% 9	16.18% 11	16.18% 11	13.24% 9	14.71% 10	7,35% 5	68	3.65
Enjoying time spend with family/friends	44.93% 31	15.94% 11	8.70% 6	7.25% 5	5.80% 4	10.14% 7	4.35% 3	2.90% 2	69	5.40
Having a good fight with the fish	5.48% 4	20.55% 15	9.59% 7	10.96% 8	19.18% 14	16.44% 12	13.70% 10	4.11% 3	73	3.73

Q34 Do you trust ODWC to appropriately manage non-game native fishes (gar, buffalofish, etc.) targeted by bowfishers?



ANSWER CHOICES	RESPONSES	
Yes	98.68%	.75
No, the Wildlife Department should do more	1,32%	1
No, the Wildlife Department should do less	0.00%	D
TOTAL		76

Answered: 75 Skipped: 57

Q35 Do you have interest in participating in bowfishing?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

RESPONSES	
53.95%	41
17.11%	13
28.95%	22
	76
	53.95% 17.11%



Q36 What has prevented you from going bowfishing?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

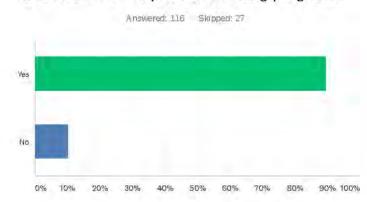
ANSWE	RCHOICES	RESPONSES	
Lack of	knowledge	32.50%	13
Not sure	e where to go	22.50%	9
Don't kr	now anyone who bowfishes	10.00%	4
Lack of	time	55.00%	22
Other (p	please specify)	10.00%	4
Total Re	aspondents: 40		
#	OTHER (PLEASE SPECIFY)	DATE	
1	Don't have the bow fishing equipment and I do not have an equipment for me to borrow.	y close friends that have the 7/29/2	021 4:54 PM
2	gear, time, where to go, and policies	7/28/2	021 11:51 AM
3	Lack of equipment	7/26/2	021 9:08 AM
4	Lack of gear	7/21/2	021 3:54 PM

Q37 Why are you uninterested in bowfishing?

Answered: 7 Skipped: 136

#	RESPONSES	DATE
1	Unstable legs due to knee problems.	7/31/2021 6:20 PM
2	Not interested	7/30/2021 9:31 AM
3	Haven't been around it. Wouldn't mind to try it once or twice .	7/29/2021 9:02 PM
4	Dont know enough about it.	7/29/2021 4:08 PM
5	I'm not a big hunter in or fisherman in general.	7/29/2021 4:04 PM
6	I don't have time to teach it in class	7/26/2021 9:47 AM
7	I'm not	7/21/2021 3:52 PM

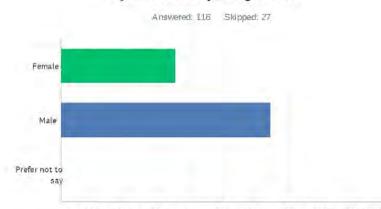
Q38 Have you heard of the Oklahoma Department of Wildlife Conservation's Explore Bowfishing program?



ANSWER CHOICES	RESPONSES	
Yes	89.66%	104
Να	10.34%	12
TOTAL		116

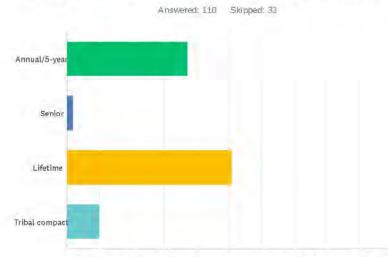


Q39 What is your gender?



0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

ANSWER CHOICES	RESPONSES	
Female	35,34%	41
Male	64.66%	75
Prefer not to say	0.00%	0
TOTAL		116



Q40 What type of fishing license did you have in the past 12 months?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

ANSWER CHOICES	RESPONSES	
Annual/5-year	37,27%	41
Senior	1.82%	2
Lifetime	50.91%	56
Tribal compact.	10.00%	11
TOTAL		110

Q41 Do you belong to any fishing organizations?



R CHOICES	RESPONSES	
	4.31%	5
	95.69%	111
		116
IF YES, WHAT ANGLER ORGANIZATIONS DO	YOU BELONG TO?	DATE
BASS, Trout Unlimited		8/3/2021 10:29 AM
Fishing in Schools		7/26/2021 11:03 AM
Bass		7/21/2021 6:50 PM
	BASS, Trout Unlimited Fishing in Schools	4.31% 95.69% IF YES, WHAT ANGLER ORGANIZATIONS DO YOU BELONG TO? BASS, Trout Unlimited Fishing in Schools



Hispanic or Latino Middle Eastern or North...

Multiracial or Multiethnic

Native American or... Native Hawalian or...

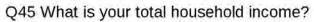
White

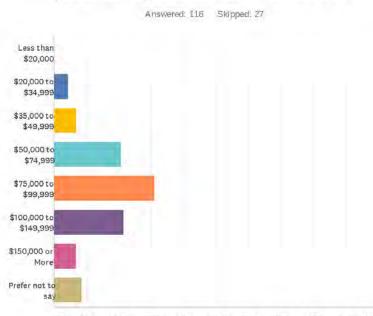
Another race or ethnicity...

Q42 What is your race or ethnicity?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

ANSWE	RCHOICES	RESPONSES	
Asian		0.00%	0
Black o	r African American	0.00%	0
Hispani	c or Latino	1.79%	2
Middle I	Eastern or North African	0.00%	0
Multirac	ial or Multiethnic	1.79%	2
Native A	American or Alaska Native	18.75%	21
Native I	Hawaiian or other Pacific Islander	0.00%	0
White		77.68%	87
Another	race or ethnicity, please describe below	0.00%	٥
TOTAL			112
#	SELF-DESCRIBE BELOW:	DATE	
1	Na	8/3/2021 9	:15 AM
2	Cherokee	7/29/2021	9:04 PM
3	Single female who fishes alone usually	7/26/2021	1:02 PM





0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

ANSWER CHOICES	RESPONSES	
Less than \$20,000	0.00%	0
\$20,000 to \$34,999	4.31%	5
\$35,000 to \$49,999	6,90%	8
\$50,000 to \$74,999	20.69%	24
\$75,000 to \$99,999	31.03%	36
\$100,000 to \$149,999	21.55%	25
\$150,000 or More	6.90%	8
Prefer not to say	8,62%	10
TOTAL		116

66/68

Q46 Do you have any other thoughts or concerns about bowfishing/fisheries management you would like to share with the Wildlife Department?

Answered: 29 Skipped: 114

Ħ	RESPONSES	DATE
1	I'm not a fan of fellow bow fisherman just throwing away and wasting all the fish they shoot. I believe through education and outlets we can better utilize a resource that we have in Oklahoma. I would be willing to take a call or meet with wildlife officials to offer solutions through education to meet these goals.	8/8/2021 10:24 AM
2	Na	8/3/2021 9:15 AM
3	No	8/3/2021 7:06 AM
4	No.	7/31/2021 6:22 PM
5	Number limits to protect species would be ok, but size limits would be tough. You can't measure a fish and put it back if its not long enough. Then over zealous wardens write tickets and completely shut the sport down. It would be nice to have more guides in the state, and or more public places listed with good bow fishing waters and times of year. It's difficult to get started.	7/30/2021 10:16 AM
δ	not at this time. Thank You	7/30/2021 8:51 AM
7	I feel like the ODWC does a tremendous job managing all aspects of wildlife in Oklahoma.	7/29/2021 10:32 PM
в	I have the kit to teach it, but never went to the training. Would love to Jearn more about it.	7/29/2021 9:35 PM
9	NA	7/29/2021 9:04 PM
10	No	7/29/2021 7:07 PM
11	Νσ	7/29/2021 6:44 PM
12	No	7/29/2021 4:09 PM
13	No	7/29/2021 4:05 PM
14	n/a	7/28/2021 11:52 AM
15	I hate #s tournaments. That decimates local populations of fish that are important to water ecosystems. I would like to see a limit on gar. But I'd still like to shoot 2-3 in a day if possible. Because I eat them	7/26/2021 10:36 AM
16	Your doing great.	7/26/2021 9:36 AM
17	No	7/26/2021 9:34 AM
18	n/a	7/26/2021 9:12 AM
19	No	7/26/2021 9:09 AM
20	Not sure about the equipment for bow fishing.	7/26/2021 8:42 AM
21	You guys are doing a great job.	7/26/2021 8:42 AM
22	I've just never tried bowfishing. I don't have the set up for it. I would like to try it sometime in the future.	7/21/2021 9:59 PM
23	N/a	7/21/2021 9:22 PM
24	Ours hook need a bow fishing boat to address and give hands on experience with boating and bow fishing. Of a grant good be addressed and discussed would benefit many districts	7/21/2021 6:50 PM
25	More information on the topic	7/21/2021 6:01 PM

26	We should be allowed to do explorer bow fishing in any body of water that is close to our school	7/21/2021 5:50 PM
27	It's the only kind of fishing that has me convinced to buy a boat.	7/21/2021 5:26 PM
28	Love ODWC and think that this agency is why we have such great outdoor opportunities is Oklahoma. Keep up the great work.	7/21/2021 4:00 PM
29	NA	7/21/2021 3:53 PM