



OKLAHOMA
DEPARTMENT OF
**WILDLIFE
CONSERVATION**



Picture: Kelly Bostian

STATEWIDE ANGLER SURVEY 2023

Report prepared by Betsey York

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Introduction and Key Results

The Oklahoma Department of Wildlife Conservation (ODWC) periodically conducts social science research to understand the behavior, attitudes, and/or values of recreational license holders. In the fall of 2023, fisheries division determined a need to survey a randomly selected group of resident and nonresident license holders. The questions covered topics such as fishing activity, target species preference, native non-game fish perceptions, close to home fishing areas familiarity and use and several other topics.

- Overall, 78% of respondents fished in Oklahoma during the previous 12 months.
 - Annual license holders were most active, with 90% having fished during the past year, followed by 79% of lifetime license holders, and 54% of senior license holders. Nonresident license holders were more likely to actively fish in the last year (90%) than resident license holders (76%).
- Half of those that did not fish in the previous 12 months, cited other priorities besides fishing being the reason for their nonparticipation.
- Oklahoma resident anglers fished 37 days out of the year on average and drove 43 miles one-way to their fishing destination.
- Anglers fished in a variety of water bodies during 2023, but most often in lakes and reservoirs.
- Largemouth bass were the species most anglers preferred to catch during 2023, followed by crappie.
- Rod and reel angling continued to be the fishing method used most often (94% of anglers selected).
- 42% of anglers that live in metropolitan areas are familiar with the Close to Home fishing program. Of those who are familiar, 56% have used one of these ponds.
- Anglers most often fish from the bank or by wading (46%) followed by motorized boats (41%), dock (8%) and non-motorized boats (5%).
- Of those who use a boat to fish most often 55% use down-Imaging boat-mounted sonar. When looking at what species sonar users target bass, crappie, and largemouth bass were written in most often.

- 20% of anglers in Oklahoma targeted trout in the previous 12 months and the most popular location was the Lower Illinois River followed by the Lower Mountain Fork. Trout anglers selected most often that they target trout to eat (38% selected) but when aggregating aesthetic reasons, they outweighed harvest/sport reasons for trout fishing.
- 68% of anglers targeted bass in the previous 12 months, and the majority are unlikely to keep any of the bass that they catch. Reasons for this center around the belief that returning bass to the water contributes to large and more numerous bass.
- 52% of bass anglers selected they prefer catching a moderate amount of mid-size fish but 40% selected they would prefer to catch one trophy fish. These responses varied by their participation in tournaments with 59% of bass anglers who regularly participate in tournaments preferring to catch one trophy fish.
- 14% of anglers selected that they used the services of a fishing guide in Oklahoma in the previous 12 months. This varied by residency with 27% of nonresidents using a guide and only 12% of residents using a guide.
 - Using a guide contributed to higher angler participation in 31.4% of annual license holders.
- Most anglers agree that native non-game fish should be used in beneficial ways and are important to healthy ecosystems in Oklahoma. The plurality of anglers were neutral, but more likely to agree than disagree that native non-game fish can be important to their fishing experience, should be subject to bag limits, and are desirable for human consumption.

Methods

The statewide angler survey ran as a multi-mode survey. In the past, angler surveys have had lower response rates in comparison to our annual hunter survey. To receive sufficient responses for analysis, we determined that 8,000 license holders would need to be invited to take the survey. The sample was pulled as a complete random sample of the license database with stratification by residency. We pulled a

complete random sample of 7,000 resident license holders and a complete random sample of 1,000 nonresident license holders.

To increase the number of contact points without increasing budgets significantly, we followed a schedule of contact points over the course of two months under a push-to-web methodology. On October 13th, 2023, we emailed those license holders with a valid email address on file ($n=5,026$) using the Department's GovDelivery system. We used GovDelivery as it is a trusted source that license holders are used to seeing emails from the Department. This did not have a link to the survey, it just let them know from a trusted source, that they would be receiving a survey via Survey Monkey and that it was legitimate. Next, we sent our first email invitation to the survey on October 18th, 2023. This invitation was sent to those with a valid email address on file and who had not previously opted out of Survey Monkey emails. Also, when Survey Monkey emailed the list, there were email addresses that bounced. The total license holders from the sample who received the first invitation was 4,665. On October 25th, 2023, we followed up via Survey Monkey with a reminder to those who had not yet responded to the online survey. On October 25th, 2023, we also sent via mail, a postcard with information about the survey and a scannable QR code to take the survey online. On November 6th, 2023, we mailed a full 12-page booklet of the survey with a business reply envelope to those who we had still not received a response from. On November 28th, 2023, we sent a final reminder full paper booklet via mail to those who had not responded.

Data entry of mail surveys was completed by Betsey York and Lily Tumala at the ODWC Headquarters into the same online survey instrument that was sent to respondents via email. Once data collection was closed on January 10th, 2024, data was exported from Survey Monkey. Duplicate responses and incomplete responses were removed from the final data file. Data analysis was completed in R Studio and Tableau. Differences between categorical variables were detected using the chi-square test. Multiple means were compared using a one-way ANOVA. All tests were considered significant at $P < 0.05$. If other tests were used they are described in detail.

Results

Sample Disposition and Response Rate

When we closed the survey on January 10th, 2024, we had obtained 1,722 responses. 1,551 of those responses were from residents and 171 from nonresidents. This equates to an overall response rate of 22%, a resident response rate of 22% and a nonresident response rate of 17%. Table 1 displays the proportion of license types in the population, the sample, and the respondent pool.

Table 1: Response rate of different license types

License Type	Population Proportion	Sample Proportion	Response
<u>Resident Licenses</u>			
Annual Combination Hunt Fish	2.8%	2.4%	2.6%
Disability 60-100%	2.1%	2.3%	2.6%
Disabled Veteran Combination	0.6%	0.7%	0.7%
Lifetime Resident Combination	19.9%	20.0%	21.8%
Lifetime Resident Fishing	7.4%	7.6%	9.4%
Lake Texoma Fishing (Resident or Non-resident)	6.7%	7.1%	7.4%
Partial Disability Fishing	0.3%	0.2%	0.5%
Resident 2-Day Fishing	0.6%	0.6%	0.3%
Resident Combination 5-Year	2.5%	2.9%	4.2%
Resident Fishing	23.2%	22.9%	17.7%
Resident Fishing 5-Year	4.9%	4.7%	5.5%
Senior Resident Combination	16.8%	16.2%	15.9%
Senior Resident Fishing	10.7%	10.9%	10.4%
Youth Combination	0.2%	0.2%	0.1%
Youth Fishing	1.1%	1.2%	0.9%
Total	625,780	7,000	1,551
<u>Nonresident Licenses</u>			
Non-resident 1-Day Fishing	38.1%	36.8%	27.5%
Non-resident 6-Day Fishing	20.6%	20.1%	21.1%
Non-resident Annual Fishing	41.3%	43.1%	51.5%
Total	93,480	1,000	171

Differences are evident in the breakdown of nonresident licenses and these variations make sense as nonresident annual license holders are more engaged and more likely to respond than the nonresident 1-day users. There were no significant differences denoted between nonresident license types when looking at their responses to activity level, where they fished from most, and their self-rating as an angler thus we combined nonresident licenses into one group for analysis.

Response bias

A mixed-mode methodology was used for the Angler Survey to improve coverage and response rates. Question formatting and wording was identical across modes; however, different response modes may introduce different biases. To examine the impact of mixed methodology, survey responses were compared between mail and internet respondents. We first emailed them with a link to the online survey and 838 anglers responded via this method (48.7%). We then sent a postcard with a QR code, and 113 anglers responded by scanning the QR code (6.6%). Finally, we sent out a full paper version of the survey and received 771 responses by this method (44.8%). We combined email and QR code responses as both were online methods. We then determined if there were any differences between online respondents (55.2%) and mail respondents (44.8%) via a chi-squared test.

There were some significant differences in responses based on how a respondent decided to complete the survey. Eighty-five percent of online respondents had gone fishing in the last year while only 69% of mail respondents had gone fishing in the last year ($p < 0.05$). This shows the importance of conducting the survey using multiple methods as online tends to draw more engaged users while the physicality of someone receiving the survey in the mail and seeing we want them to fill it out either way contributes to more people who are less engaged taking the time to fill out the survey. Other variables were not significantly different. We tested for differences between online and mail respondent groups for preferred fishing method, self-rating as an angler, where they fished from most, whether they used a fishing guide, the number of miles that they traveled to fish on average, and the total amount of days they reported fishing in the last 12 months across all waterbody types ($p > 0.05$). There was a significant difference between response mode for bass and trout anglers ($p < 0.05$). We could also test for nonresponse bias which would

look at those that responded early compared to those that responded late, but our methodology and comparison between modes mirrors the analysis that would be done for nonresponse. We received a lot of online responses early as we used a push to web methodology and our late responses all came from the mail, so it would be similarly comparing those that responded via mail later to those that responded via online methods earlier. As such our nonresponse bias and response mode biases are similar.

Geographic Distribution

Following the sampling protocol from the 2019 statewide angler survey, we again included a sample of nonresident license holders which expanded the responses across the country. Geographically plotting the respondents based on the zip code provided in their license profile, a distribution is seen across the country (Fig. 1) as well as across the state of Oklahoma (Fig. 2) when looking only at residents.

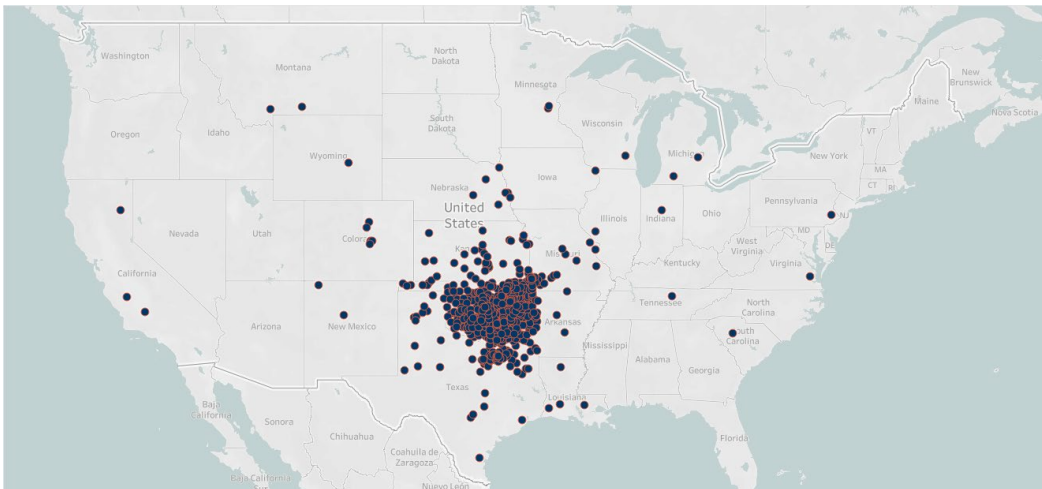


Figure 1: Distribution of respondents across the United States (n=1,722)

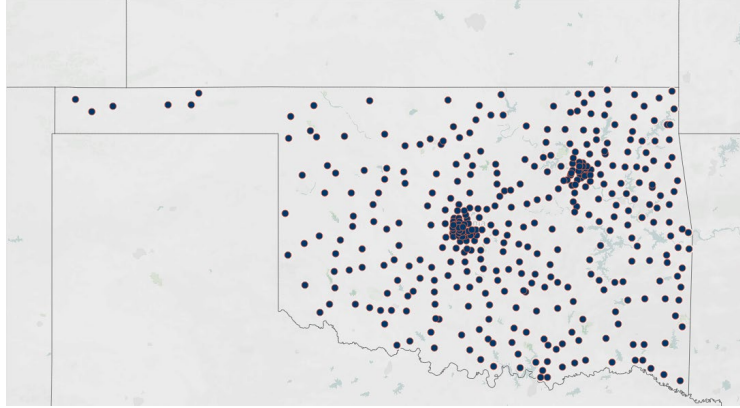


Figure 2: Distribution of respondents within Oklahoma (n=1,551)

Use of Fishing Privileges

Across all license types 78% of anglers actively fished in Oklahoma in the previous 12 months. Activity level varied by residency with 76% of residents and 90% of nonresidents fishing in the previous 12 months. When comparing by type of license, seniors were less active with senior resident combination licenses fishing at a rate of 53% and senior fishing licenses participating at a rate of 56%. A chart displaying the percent of anglers active who purchased that type of license is seen in fig. 3.

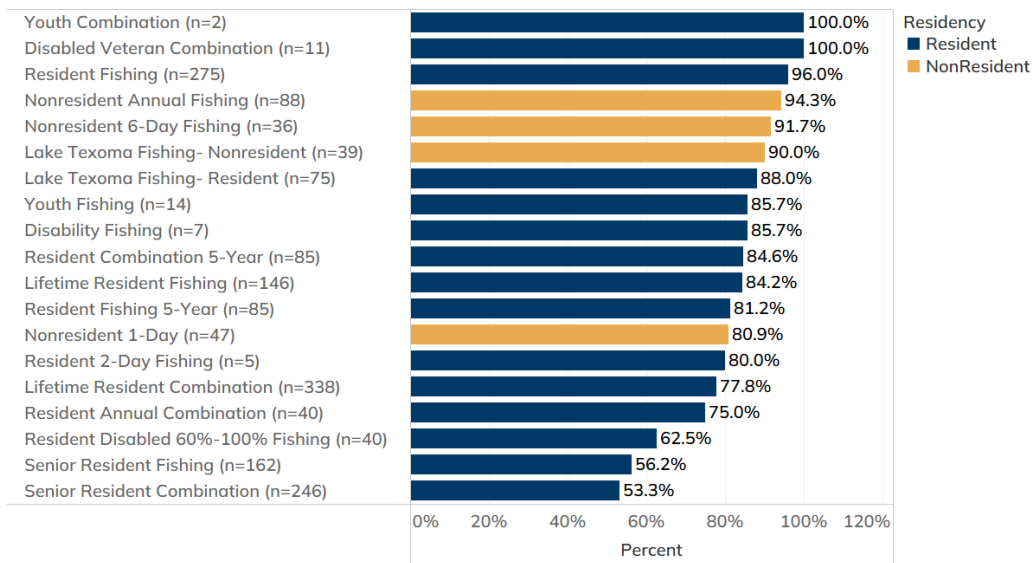


Figure 3: Percent of respondents in each license type that actively fished in the last 12 months

For those that did not fish, we asked respondents to report on all the reasons why they did not make it out. Other priorities, health issues and lack of someone to go with outweighed the other options (Table 2). The first two are out of ODWC’s control, but lack of someone to go with could be addressed by activities put on by the Wildlife Department or in partnership with non-profit partners across the state.

Table 2: Reasons for not fishing in the previous 12 months

Why did you not fish in the last 12 months	Percent selected (n=361)
Other Priorities	50.0%
Health issues	34.3%
No one to go with	14.7%
Nowhere to go	7.8%
Poor quality of fishing	5.5%
Regulations too confusing	1.1%

Of those who were active in the last year, we asked them the number of days they went fishing in different waterbodies. Resident license holders went fishing on average 37.0 days and nonresidents were predictably less active in terms of average days fishing in Oklahoma (11.3 days). The number of days that residents are fishing increased slightly from 2019 estimates (Fig. 4). Nonresident activity seems to have declined in that 2019 nonresident anglers reported fishing on average 19.7 days and in 2023 nonresidents reported an average of 11.3 days of fishing. Miles traveled decreased from 2019 estimates with the average distance traveled for residents in 2023 being 43.1 miles.

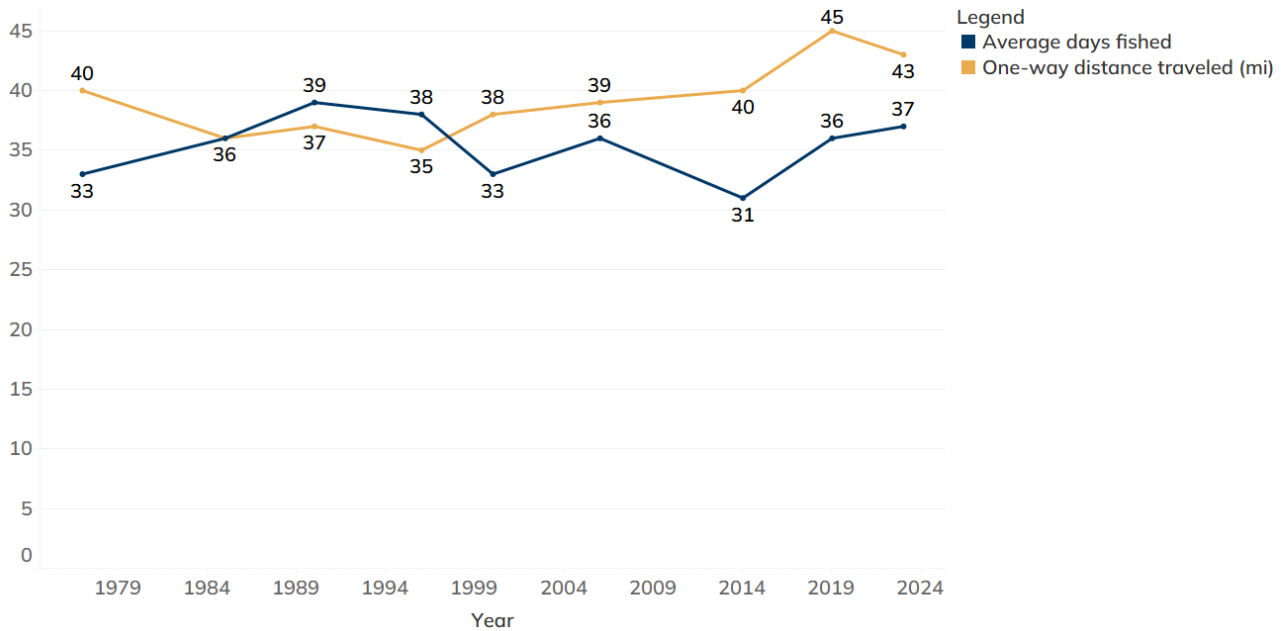


Figure 4: Days fished, and miles traveled during surveyed years 1979-2023 of Oklahoma residents

We also asked active anglers how many days they were active on different waterbodies in Oklahoma. Public lakes were the most widely used type of water (87% of active anglers participated on lakes), followed by public creeks (41% of anglers) and private ponds (40% of anglers). Public lakes were also the waterbodies charting the most active fishing days by individuals. Anglers on average spent 17.4 days (CI: 15.7-19.1 days) in the last year fishing on public lakes. Farm ponds were the second most visited by individual anglers with 6.8 days (CI: 5.7-8.0 days) in the last year. Third most visited was public creeks with an average of 4.9 days (CI: 4.2-5.7 days) in the last year.

Also, to describe the angling population in Oklahoma, we asked respondents how they rate themselves as an angler and how important fishing is to them compared to their other recreational activities. Of active anglers in Oklahoma, the majority rated themselves as average (53.0%) followed by above average (34.7%). When describing how important fishing is to them, the plurality (41.4%) selected that it is equally important in comparison to other outdoor recreational activities. Thirty-two and a half percent selected fishing as one of the most important activities and 15.2% selected it as the most important activity (Fig. 5).

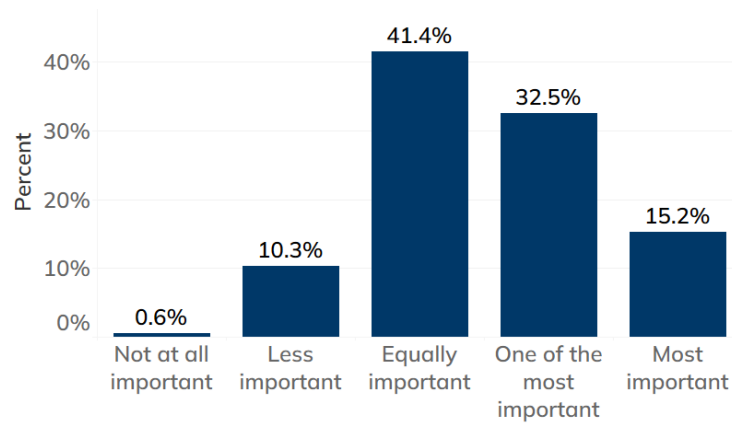


Figure 5: Breakdown of how important fishing is in comparison to the respondents' other outdoor recreational activities (n=1,234)

Stream Fishing

ODWC streams biologists want to better understand what species are being targeted by those that fish in rivers, creeks, and streams. To do this, we asked those who fish these waterbodies to select all species that they targeted in the last 12 months only in rivers, creeks, and streams. The top species targeted by 44.5% of stream anglers was channel catfish followed by 42.9% of stream anglers targeting largemouth bass, and 40.4% of stream anglers targeting blue catfish. The remaining species and the percent of anglers that targeted them can be seen in Fig. 6.

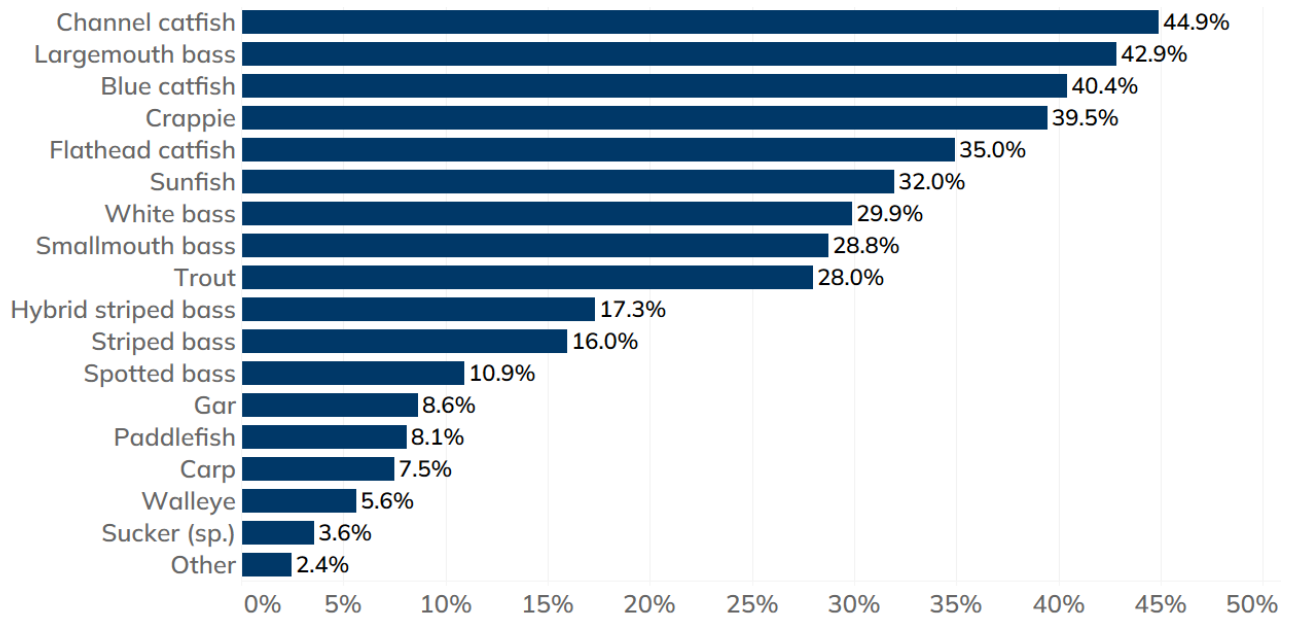


Figure 6: Species targeted in rivers, creeks, or streams, by active anglers who fished in rivers, creeks, or streams (n=532)

Method Used and Location Fished From

The most preferred method for anglers in Oklahoma was rod and reel with 94.3% of anglers using this method most often (Fig. 7).

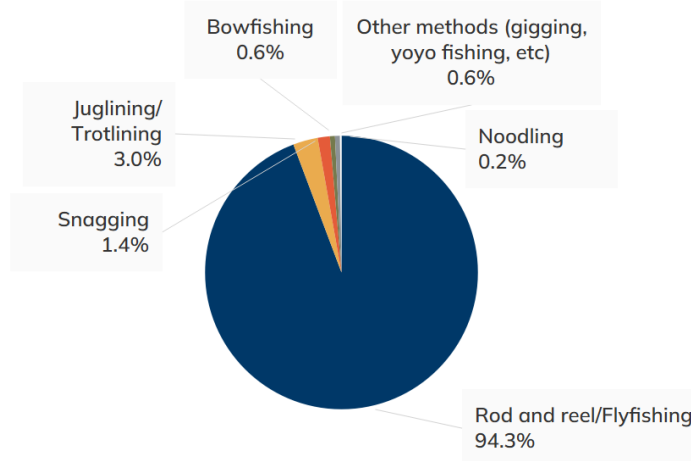


Figure 7: Most often used method in the last 12 months for fishing (n=1,186)

We also asked methods that anglers attempted in the last year, even if those methods were not what they utilized most often (n=1,234). 97.2% of anglers attempted rod and reel, 3.2% attempted bowfishing, 15.8% participated in juglining/trotlining, 4.9% attempted snagging, 1.9% tried their hand at noodling and 2.0% used other methods such as gigging, yoyo fishing, etc.

In a similar fashion, we asked active anglers from where they did their fishing in the previous 12 months followed by where they fished from most often. Bank/wading continued to be the most popular location to fish from with 70% of anglers choosing this option. This question was last asked in 2014 where 79% of anglers selected that they fished from the bank or in the water. Usage increased for dock fishing and non-motorized boat usage (Table 3). When looking at those that selected that they fished in a public lake, the percent of motorized boats was 45.1% followed by bank/wading at 41.7%. Those that selected they fished at least one day from a public creek river or stream 52.6% were bank/wading and 36.4% were motorized boats. When looking at the increase in non-motorized boats, 8.2% of public creek users used this method most often while only 4.7% of public lake users used this method most often.

Table 3: Comparison of where anglers fish from 2014 vs. 2023, anglers instructed to select all that apply

Year	Bank/wading	Motorized boat	Dock	Non-motorized boat
2014	79%	61%	28%	9%
2023	70%	60%	33%	16%

When asked about the place that active angler's fish from most often, 46% selected bank/wading, 41% selected motorized boat, 8% selected dock and 5% selected non-motorized boat (Fig. 8). This generally follows 2014 levels, with 49% selecting bank or in the water, 41% selecting motorized boat, 8% selecting dock and 3% selecting non-motorized boat.

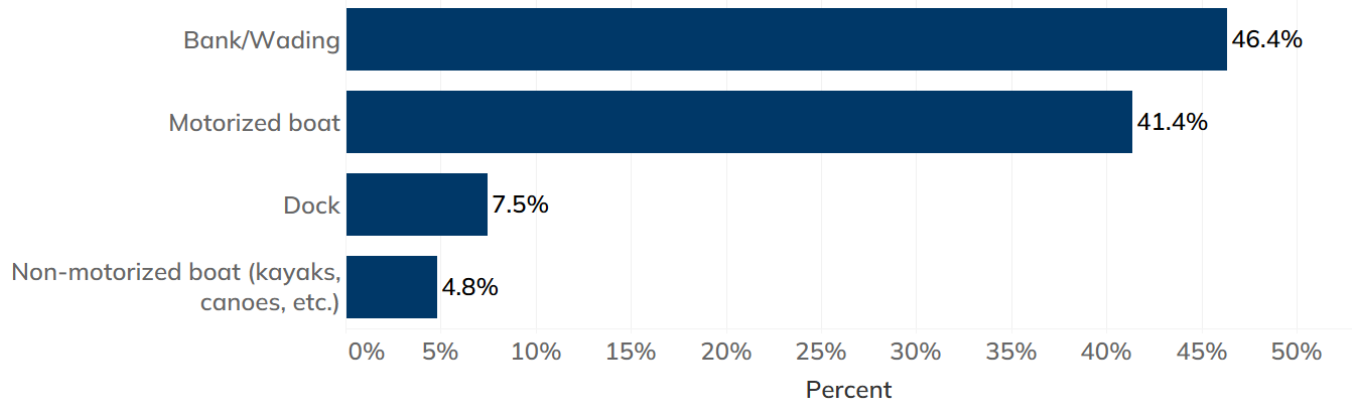


Figure 8: The location respondent fishes from MOST often (n=1,167)

Close To Home Fishing

The Oklahoma Department of Wildlife Conservation’s Close to Home (CTH) fishing program strives to provide quality fishing experiences within a close distance to urban areas. The goal is to remove the constraint of travel time from the reasons that people do not fish. We asked respondents both their familiarity with the program, and if familiar, if they used a CTH pond. Of resident respondents, 29.0% had previously heard of the program. Metro resident anglers were familiar with the program at a rate of 41.6%. We classified anglers as "metro anglers" based on the city on their license profile. Cities considered to be metro were Oklahoma City, Tulsa, Lawton, Enid, Bartlesville, Choctaw, Del City, Midwest City, Edmond, El Reno, Guthrie, Harrah, Jenks, Jones, Moore, Mustang, Norman, Sapulpa, and Yukon.

We also asked about use of the program (only of those that said they were familiar with CTH, n=307). Of residents who were familiar with the program 49.4% had fished a CTH area. For metro anglers (the typical targeted group of anglers, n=119), 56.3% of those familiar with the program had used a CTH pond in the previous 12 months (Table 4).

Table 4: Familiarity and use of close to home fishing areas of resident metro active anglers

	Question	2019	2023
Metro Anglers	Familiarity with the program	35%	42%
	Use of the program	57%	56%

To get an idea of who is using these CTH ponds, we looked at demographics of age and gender and compared to non CTH pond users. A higher percentage of women and annual license holders used CTH ponds relative to non CTH pond users (Table 5).

Table 5: Difference in demographics between resident users and non-users of CTH areas (only comparing users to non-users of those who are familiar with the Close to Home program)

	Percent Male	Percent Female	Average Age (years)	Percent Annual License holder
Non 'Close to Home' Users (n=145)	86.7%	13.3%	53.2	28.3%
Active 'Close to Home' Users (n=151)	73.6%	26.4%	53.0	47.7%

Species Preference

Anglers were asked their first, second, and third choice of species they most preferred to catch (Table 6). Species preference was calculated by giving first choice species five points, second choice species three points and third choice species one point then summing total points by species. This calculation was the same used in all previous surveys back to 1985 except the 2019 survey where a different methodology and question was asked to fulfill the needs of fisheries division at that time which focused specifically on species preference by waterbody type rather than overall. Although asked in a different way, we were able to analyze the data in a comparative fashion to determine angler preferences and compare preferences over time.

Eighty-six percent of anglers denoted that they have a species preference. The order of the top four preferred species to catch by Oklahoma anglers did not change from the 2019 Angler Survey. Preference for sunfish displayed the greatest change since 2019 (Table 7), with a 5-point drop in rank while striped bass gained the most popularity rising four in the rankings. Other species moved up or down only 1 or 2 points.

Table 6: Points earned based on respondent ranking of preferred species

Species	1 st choice points	2 nd choice points	3 rd choice points	Total points
Largemouth bass	1575	471	85	2131
Crappie	1125	639	160	1924
Channel catfish	510	342	113	965
Blue catfish	485	336	98	919
Striped bass	305	96	47	448
White/sand bass	135	207	96	438
Smallmouth bass	100	234	67	401
Flathead catfish	175	150	59	384
Rainbow trout	270	63	37	370
Hybrid striped bass	95	111	40	246
Sunfish, bluegill, etc.	40	93	71	204
Walleye	90	87	27	204
Brown trout	30	87	14	131
Paddlefish	55	15	19	89
Spotted/Kentucky bass	10	54	25	89
Saugeye	35	27	13	75
Other (please specify)	30	6	9	45
Carp	10	18	5	33
Gar	25	3	5	33

Table 7: Comparison of species ranking 1985-2023 (*methodology change and species missing for 2019 which makes data incomparable for that year)

Species	2023 Rank	Rank change 2019-2023*	2019*	2014	2006	2000	1996	1990	1985
Largemouth bass	1	0	1	2	2	1	1	1	1
Crappie	2	0	2	1	1	2	2	2	2
Channel catfish	3	0	3	3	3	3	3	3	3
Blue catfish	4	0	4	4	4	4	5	5	9
Striped bass	5	+4	9	8	9	10	8	8	6
White/sand bass	6	+1	7	5	5	5	4	4	4
Smallmouth bass	7	-2	5	7	7	9	9	6	10
Flathead catfish	8	0	8	6	6	6	6	7	5
Rainbow trout	9	-*	-*	9	10	8	10	11	8
Hybrid striped bass	10	0	10	12	11	13	12	12	11
Sunfish	11	-5	6	10	8	7	7	10	12
Walleye	12	+1	13	11	12	11	10	10	7
Brown trout	13	-1	12	13	15	14	13	n/a	n/a
Paddlefish	14	0	14	14	16	17	15	18	17
Spotted/Kentucky bass	15	-4	11	15	13	12	16	13	13
Saugeye	16	0	16	17	14	15	18	14	n/a
Carp	17	-2	15	18	17	16	14	18	15
Gar	18	-1	17	16	18	18	17	20	18

Sonar Use

The use of technology is perceived to be growing in Oklahoma waters in the pursuit of fish. To understand the extent to which technology is applied, we asked all active anglers if they use down-imaging, side- imaging or forward/live-imaging. Out of all active anglers 36.2% use at least one of the three types of sonar. Of those that use technology (n=435) down-imaging is the most popular with 81.1% of tech-using anglers employing down-imaging. Side-imaging is second most popular (36.6% of tech-using anglers employing this technology), followed by forward/live-Imaging (32.4%). We subset the angling population by those that fish from motorized boats most often and found that the majority of anglers who fish from a boat most often use down-imaging, a little over a quarter use side-imaging and a little less than a quarter use forward/live-imaging (Fig. 9).

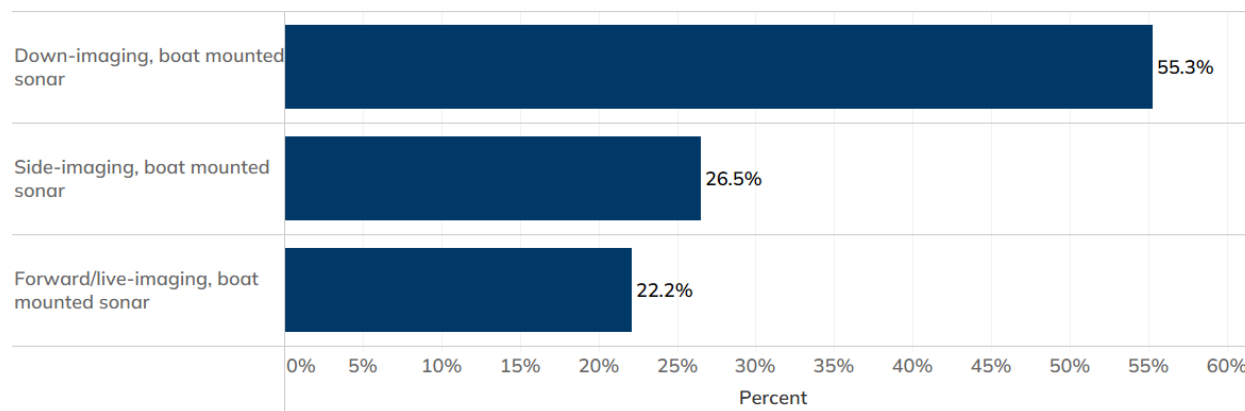


Figure 9: Percent of anglers who fish from a boat most often that use each of the three types of sonar (n= 483)

We asked tech-using anglers to elaborate on what species they target using sonar. This was presented as a write-in option, so we went through the data and created categories based on what was written. There is likely overlap between some of the categories, but we are reporting it in the rawest form to avoid over interpretation of results.

The most written in species overall for technology use was crappie with 172 mentions. Someone could have written crappie for each of the three types of sonar,

so this does not represent individuals using sonar, just the number of times the type of fish was written. We can look at this by the number of people who said they used the type of sonar and see what percent of down-imaging sonar users selected each of the species. For example, 353 people selected that they used down-imaging sonar. Of those 353 people, 76 wrote in that they use down-imaging sonar for targeting crappie (21.5%). The highest percentage for down-imaging sonar was bass (sp. 22.9%). For live-imaging sonar, out of the 141 individuals using this type of sonar, the most selected was crappie (40.4%). Finally, of the 159 anglers that used side-imaging sonar, the highest percentage use for this was also bass (sp.) with 32% of side-imaging users targeting bass.

We can also look at this by what anglers who use sonar selected as their most preferred species to target from the previous section (data in tables 6&7). When looking only at those who use motorized boats most often to fish, largemouth bass was the most selected answer as top choice for both those that use sonar and those that don't although a larger percentage of sonar users selected largemouth bass as their top species (32.8%) compared with those that don't use sonar (20.8%). Preference was also higher for crappie (21.7% for sonar users compared with 17.5% for non-sonar users). A higher percentage of non-sonar users selected blue catfish as their top species compared with sonar users, with non-sonar users also selecting Oklahoma's other species of catfish at a higher rate than sonar users as well (Fig. 10)

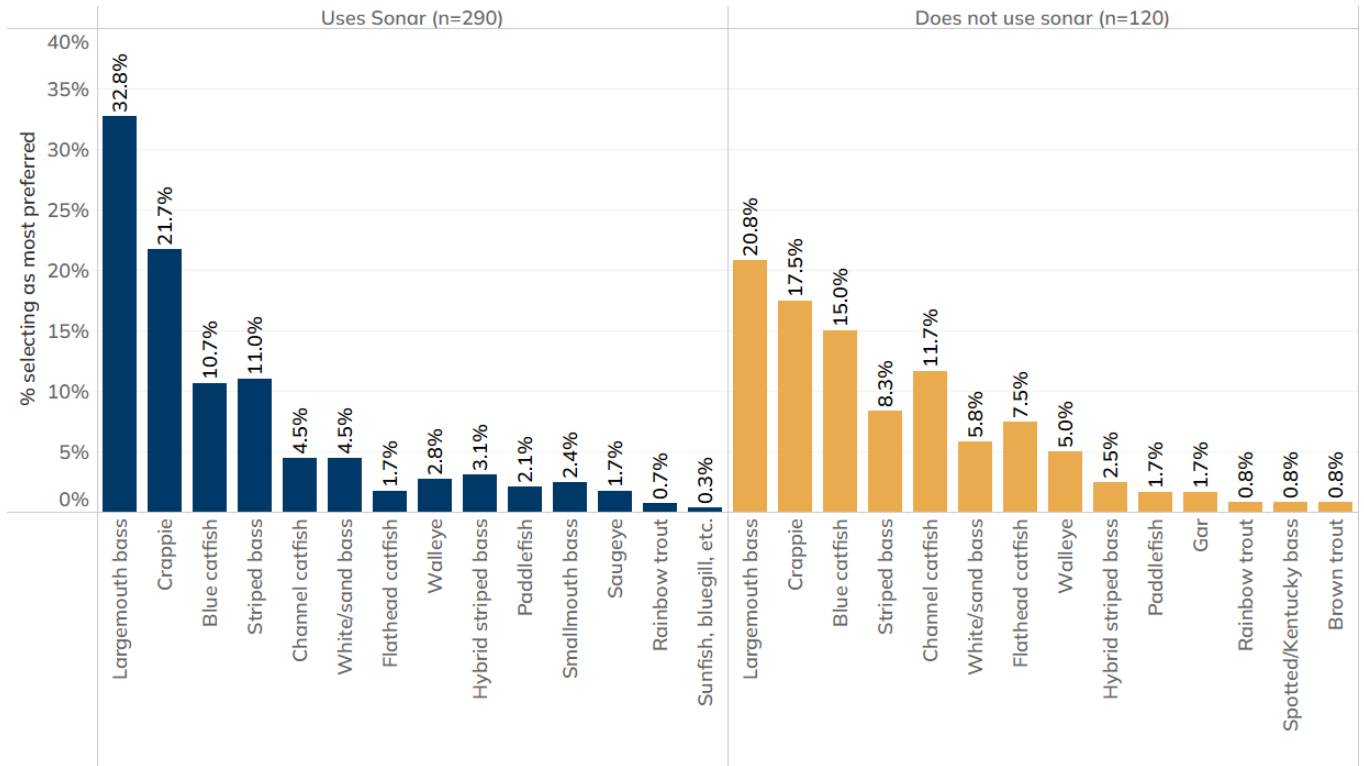


Figure 10: Comparison of anglers who selected they fish from a motorized boat most often and the species they selected as their most preferred species to target overall based on whether they use sonar

When looking specifically at different types of sonar users and their preferred species, forward-Imaging users selected largemouth bass at a rate of 47.0% followed by crappie at 24.5%. Side-Imaging users selected largemouth bass (45.2%), crappie (14.8%) and blue catfish (12.2%). Down-Imaging selected largemouth bass (33.6%), crappie (19.0%) and blue catfish (10.8%).

Fishing Guide Use

Out of the 1,195 anglers who were active in the last year, only 14% (167 anglers) used the services of a fishing guide and 49% of those that used a guide said that they would use a guide again. There was a significant difference when using chi-square to compare this by residency ($p < 0.01$); active residents use guides at a rate of 11.7% and active nonresidents use at 27.2% (Fig. 11). Further details on guide use and the guide industry can be seen in an ODWC report conducted on an analysis of the fishing guide industry in Oklahoma (York and Schooley 2024; <https://wildlifedepartment.com/research-surveys/human-dimensions>).

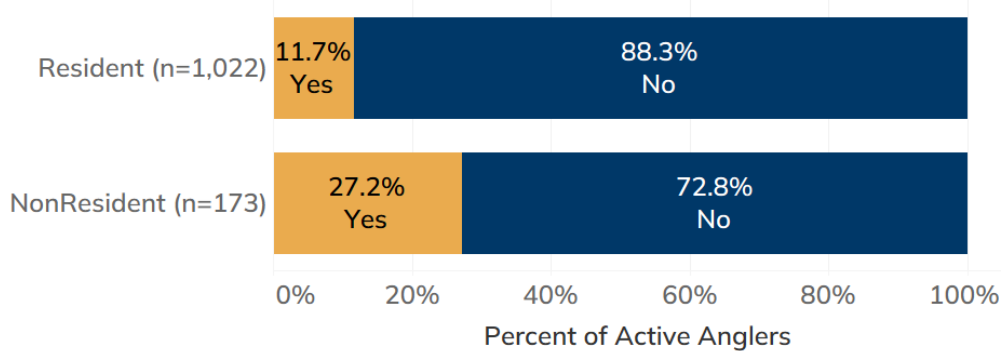


Figure 11: Use of fishing guides by residency

We also examined differences in guide use by category of license. Having determined that Lake Texoma fishing license holders are much more likely to use fishing guides (58% of Lake Texoma fishing license holders used a guide in the last year compared to an average across all other categories of 8.9%), we removed this license type. Also, as nonresident usage of fishing guides is significantly different than residents, we removed nonresident license holders out of this analysis to focus more on the possible experience level of the user based on resident license type.

When comparing these licenses in their use of fishing guides, we received a significant result when comparing between the three license types and use of guides by way of a chi-squared analysis ($p = 0.04$). Lifetime license holders were most likely to use a fishing guide at a rate of 13.0% followed by senior license holders at a rate of 8.7% and finally by annual license holders at a rate of 7.5% (Fig. 12).

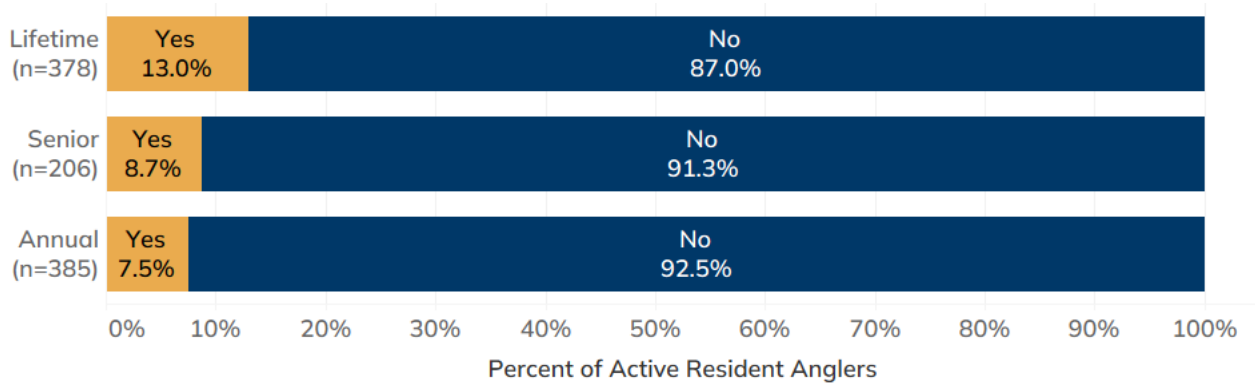


Figure 12: Guide use by resident license categories

The top two license types with the most use of fishing guides were the Lake Texoma Fishing license (which can be bought by either residents or nonresidents; 58% used guides) and the nonresident one-day license (39% use of guides).

Looking back at all license types together (nonresident, resident, and Lake Texoma) when comparing the age of guide users and those who did not use a guide, we used a t-test to compare the two groups. There was not a significant difference in age between the two groups ($p < 0.5$). The average age of guide users was 53.5 (range = 15.0-83.0; median=57.0). The average age of those who *did not* use a guide in 2023 was 52.7 (range = 5.0-88.0; median=55.0)

Most guide users (65%) stated that if they had not used a guide, they still would have fished about the same. Twenty-three percent stated they would have fished a lot less often and 12% stated they would have fished slightly less often. There was a significant difference by way of a Fisher's Exact Test on this question when separating by license type (Table 8; $p < 0.05$). Annual license holders are nearly three times as likely than lifetime license holders to fish “a lot less often” without the assistance of a fishing guide. This logically follows that more proficient anglers are more likely to possess or purchase a lifetime fishing license. These license groups include Lake Texoma and nonresident license holders as a part of the annual license holder group.

Table 8: The impact of guide use on fishing activity by license category

	I would have fished a lot less often	I would have fished slightly less often	I would have fished about the same
Annual (n=86)	31.4%	9.3%	59.3%
Lifetime (n=43)	11.6%	20.9%	67.4%
Senior (n=16)	12.5%	12.5%	75.0%

We asked guide users why they decided to hire a guide to take them fishing. The most selected answer (53%) was that their chance of success is higher (i.e., more fish or bigger fish), followed by 49% that hire a guide for the guides' overall knowledge, new skills acquired from the guide (33%), new locations to fish (31%), chance to fish from a boat (22%), and increased safety by hiring a guide (3%). The most selected answer for senior license holders was a tie between new skills and higher chance of success while annual license holders selected the overall knowledge of a guide most often. A higher chance of success was also selected most often by nonresidents, lifetime license holders, and Lake Texoma license holders.

When asked what species they targeted on their most recent fishing trip (multiple species allowed), striped bass was reported most often (56% of users targeting), followed by hybrid striped bass (17%) and crappie (17%, Table 9).

Table 9: Percent of guided anglers who targeted each of the species presented, multiple responses allowed

Species	Percent of users targeting
Striped bass	56%
Hybrid striped bass	17%
Crappie	17%
Catfish	14%
Largemouth bass	7%
Paddlefish	7%
Smallmouth bass	6%
Trout	6%

We also wanted to know how much anglers are spending on their guided fishing trips. To determine money spent, we asked guide users to estimate the amount of money that they spent on their most recent guided fishing trip on the categories of guide fees, lodging/food, transportation (e.g., gas, tolls), and provided an “Other” category for any expenses that did not fit into the categories. Guide users spent the most money on guide fees (48%), followed by lodging/food (29%), and transport (13%, Fig. 13).

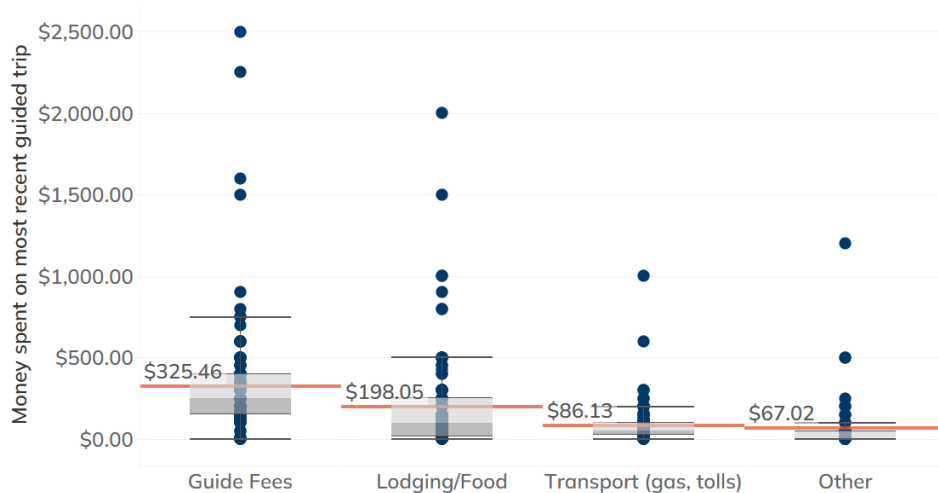


Figure 13: Average reported amount of money spent on a user’s most recent guided fishing trip across four categories.

Trout Fishing in Oklahoma

Oklahoma’s trout fisheries are a popular destination for both residents and non-residents. Oklahoma fisheries biologists wanted to understand what percent of anglers in Oklahoma target trout, which trout fisheries anglers are visiting, which are most popular, and why anglers fish for trout (aesthetic vs. harvest-oriented reasons). This can help biologists understand how to manage trout fisheries that keep our constituents satisfied with their trout fishing experience. In the fall of 2023, 19.6% of active anglers in Oklahoma had fished for trout in Oklahoma in the previous 12 months (Fig. 14). This is a slight decrease from 2019 where 22.9% of anglers said they had fished for trout in the previous 12 months. Breaking down by residency, 19.2% of residents had fished for trout and 22.0% of nonresidents fished for trout.

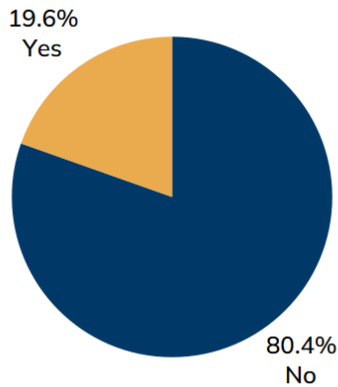


Figure 14: Percent of anglers stating that they fished for trout in the last 12 months (n=1,201)

The top three most popular trout fisheries in Oklahoma are the Lower Illinois River (32% of trout anglers participating here), followed by the Lower Mountain Fork (27.6%) and Blue River (24.9%). Lower Illinois moved from number 3 most popular in 2019 to most popular in 2023. All other locations received visitation from less than 12% of trout anglers (Table 10).

Table 10: Percent of trout anglers (n=225) that fished at different Oklahoma trout stocked locations

Trout stocking location	Percent of trout anglers
Lower Illinois River	32.0%
Lower Mountain Fork River	27.6%
Blue River	24.9%
Medicine Creek	11.6%
Jenks- Veterans Pond	8.4%
Oklahoma City- Rt. 66 Park	5.8%
Watonga- Boechler Lake	5.3%
Robbers Cave	4.9%
Perry CCC	4.9%
Oklahoma City- Edwards Park	4.0%
Sunset Lake	0.4%

Finally, we asked trout anglers why they fish for trout. The most selected answer was to catch fish to eat. This was followed by aesthetic reasons of relaxation, to be with family and friends and to be in nature. Harvest/sport reasons of catching large fish and catching large numbers of fish were not important to trout anglers (Fig. 15). Combining all aesthetic reasons together and comparing to harvest/sport reasons, aesthetic reasons are overall more important (57.5%) than harvest (38.2%) and sport (4.3%).

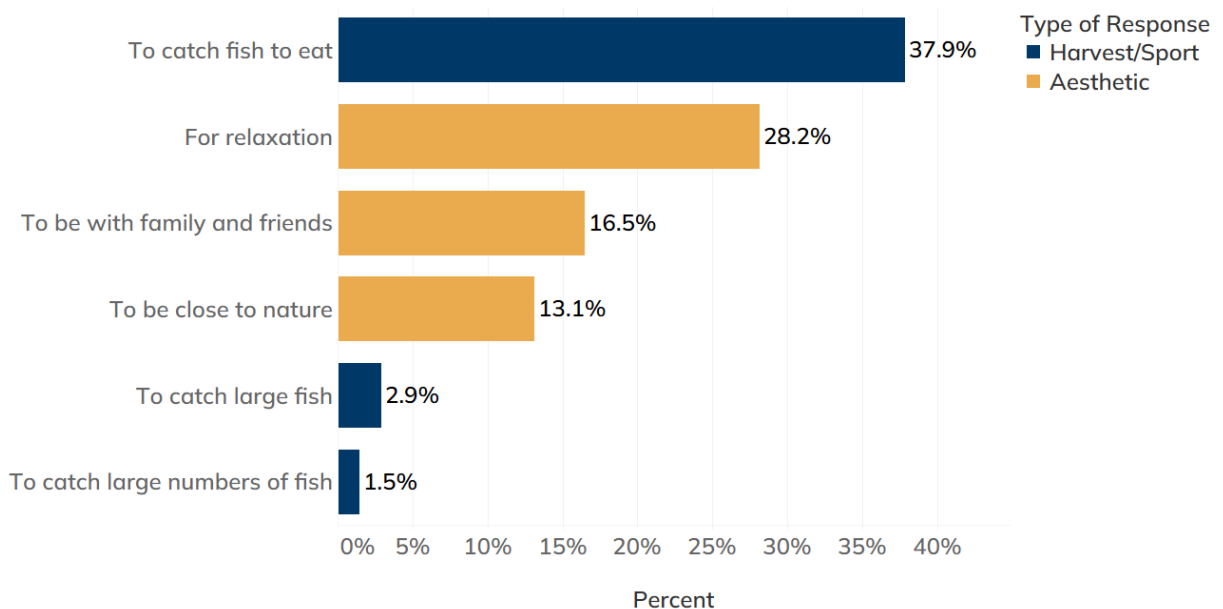


Figure 15: Reasons that trout anglers go trout fishing (n=207)

Black Bass Fishing in Oklahoma

Black bass (largemouth bass, smallmouth bass, etc.) are a popular sport fish in Oklahoma. Out of all anglers who fished in Oklahoma in the last 12 months, 68.1% targeted these species (Fig. 16). This is an increase from 60% of anglers targeting black bass in 2019.

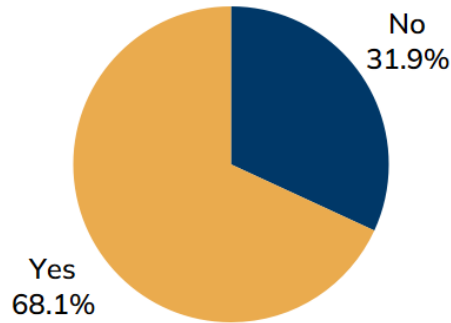


Figure 16: Percent of active anglers who did and did not target black bass (n=1,198)

We also explored black bass patterns of catch. Most respondents had never fished in a bass tournament before (87%; n=818) and the plurality of black bass anglers selected that they would be very unlikely to harvest when they catch (Fig. 17).

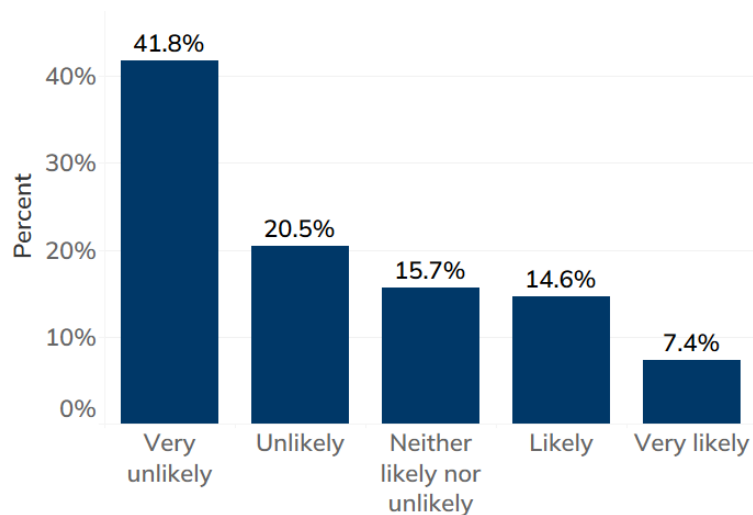


Figure 17: The likelihood of black bass anglers to harvest any black bass that they catch (n=815)

If a bass angler selected that they would be unlikely or very unlikely to harvest a black bass that they catch, we asked them why they choose to not harvest black bass (Table 11).

Table 11: Percent of respondents selecting reasons for why they are unlikely or very unlikely to harvest bass (respondents could select more than on reason)

Reason to not harvest bass	Percent selected (n=506)
Grow trophy bass	47.2%
Maintain large number of bass in Oklahoma waters	43.3%
Poor table-fare	13.6%
Cultural pressure/tradition	9.3%

Finally, fisheries biologists want to understand what management strategy for the various bass fisheries throughout the state most closely resemble the fishing goal of anglers in the state. For this, we asked bass anglers when fishing for bass, what catch scenario they would prefer and offered 3 scenarios to choose from. The first was catching one bass over 8lbs (a trophy bass focus), three 3-pound bass (a quality bass focus) or catching five 1-pound bass (quantity bass focused). A slight majority (51.7%) selected that they would prefer to catch three 3-pound bass followed by 40.1% selecting one bass over 8 pounds and 8.2% selecting a preference for five 1-pound bass (Fig. 18).

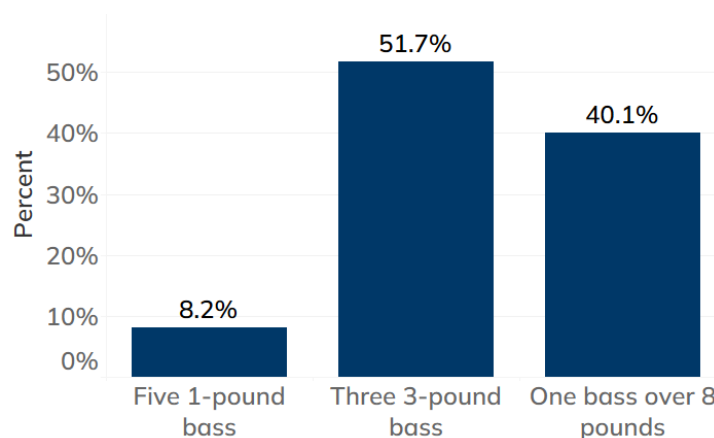


Figure 18: Bass fishing experience preference out of three proposed options (n= 795)

The responses to this question did vary by bass angler’s answers to whether and how often they fish bass tournaments and whether they are likely to harvest bass. Most bass anglers that fish for bass in tournaments selected they would prefer one bass over 8 pounds. This varied by whether they occasionally fish tournaments (52.4%), regularly (58.5%), or exclusively (57.1%). This also varied by their likelihood to harvest a bass that they catch. Those that were likely or very likely to harvest a bass were more likely to choose three 3-pound bass (very likely- 62.7%, likely- 68.4%).

We also looked at differences in this question by sonar use. There was a significant difference when comparing those who fish from a boat most often and use forward-Imaging sonar and what they prefer for their bass fishing experience (Table 12; $p < 0.05$). Of bass anglers who use forward-imaging sonar 53.7% prefer to catch one trophy bass compared to 38.6% with this preference who do not use forward-imaging sonar. The majority of those who do not use forward-imaging sonar (53.0%) prefer to catch a moderate amount of moderately sized bass.

Table 12: Comparison in preference for management between forward-imaging users and non-users

	Prefer to catch five 1-pound bass	Prefer to catch three 3-pound bass	Prefer to catch one bass over 8 pounds
Uses forward- Imaging (n=82)	1.2%	45.1%	53.7%
Does not use forward-imaging (n=215)	8.4%	53.0%	38.6%

This question will also be used to establish a baseline of preference for bass in the fishing community. As the Wildlife Department establishes communication plans to increase bass harvest, asking this question again in the future will help us determine if communication strategies are influencing angler behavior and preference.

Native Non-Game

Fisheries division requested questions related to perception of native non-game fish on this year's angler survey. We asked one set of questions to determine how anglers feel about these fish and asked a series of likert scale questions about native non-game fish.

To discern how license holders feel and to get a sense of how the general population of anglers in Oklahoma feel about native non-game fish, we asked a two-part question series with a theoretical basis in third-person perspective. To use this technique, you ask how the individual feels about something and then follow up asking them how others they know feel about the same thing. The basis behind this type of questioning is that people do not want to self-implicate themselves if they have negative feelings, but they are willing to implicate others with negative feelings. This helps to alleviate a type of bias called social desirability bias. People want you to think well of them. If they think you want them to answer in a specific way that may influence their response, but if they are asked to report anonymously on others this type of bias will not be evident. I analyzed this by determining the percent of respondents who selected they felt positively or negatively about the six different species proposed and the percent of respondents who reported how others feel positively or negatively (Fig. 19).

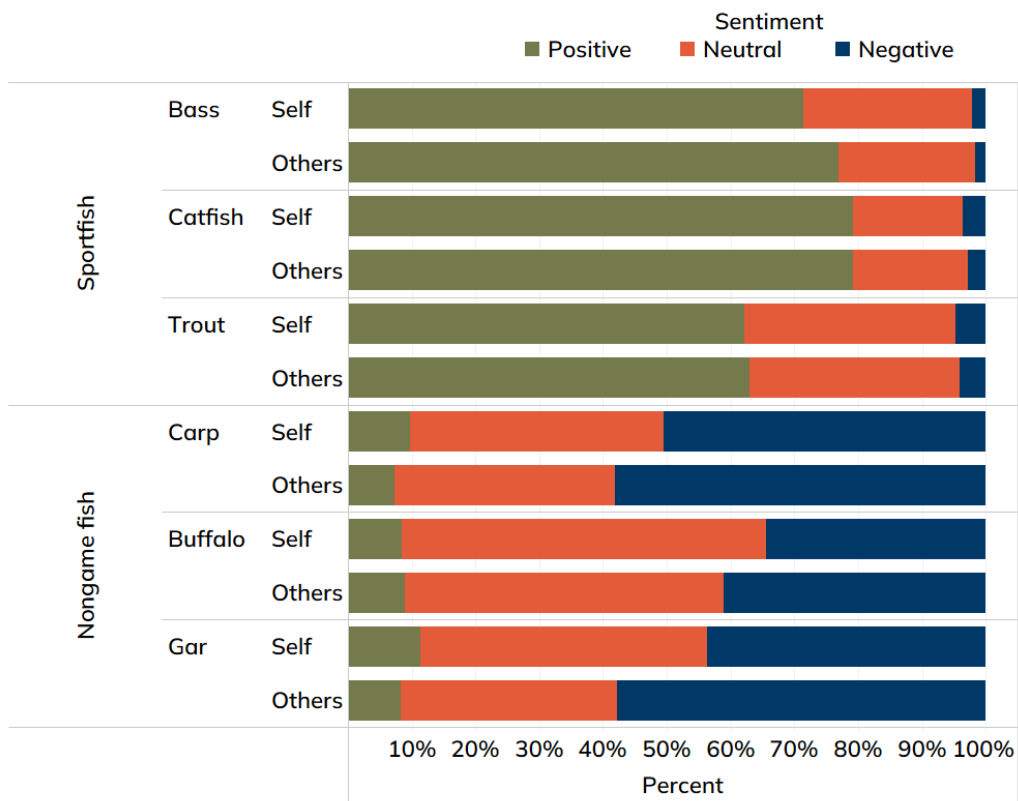


Figure 19: Sentiment stated toward each of six different species for how they feel about the presented species themselves (self) and how they think other anglers they know feel about the presented species (others) compared by sportfish and nongame fish

Overall, sportfish species tended to have similar rankings whether respondents were reporting on how they feel in comparison to how other anglers they know feel about the species. Larger differences were noticed for carp, gar, and buffalo. Carp were reported to be perceived as 7.6% more negative in others than self, buffalo were reported to be 6.6% more negative and gar were reported to be 14.2% more negative. On average, 1,467 anglers responded to self-ratings and 1,420 on average responded to species perceptions by others they know. To better understand the differences that exist, we ran Welch Two Sample t-tests across several different groupings to understand the differences in how people report they feel compared to others they know. Categorical data was converted to scaled nominal data. Due to the large sample sizes, we also report Cohen's D effect sizes to determine practical significance between groups. Effect sizes were larger when looking at nongame species reporting between self and others (0.32) compared to Invasive species (0.16)

and sport species (0.05). Also, when comparing self and others between species, gar had the largest effect size, followed by carp, bass, and buffalo. Effect sizes for trout and catfish were very small (Table 13).

Table 13: Statistical significance (Welch Two-Sample t-test) and effect sizes (Cohen’s D) of comparisons between species and species groups

Type of Species	p-value	Effect size	Species	p-value	Effect Size
Sport	0.02	0.05	Bass	<0.01	0.14
			Trout	0.80	0.01
			Catfish	0.75	0.01
Invasive	<0.01	0.16	Carp	<0.01	0.16
Native nongame	<0.01	0.32	Gar	<0.01	0.25
			Buffalo	<0.01	0.11

Finally, we asked all license holders to report on their level of agreement or disagreement to a series of questions in relation to native non-game fish. The statement with the highest level of agreement was that native non-game fish should be used in beneficial ways followed by the general agreement that native non-game fish are important to healthy ecosystems in Oklahoma. There was higher neutrality on statements related to native nongame fish and their desirability for human consumption, their necessity to be subject to bag limits and the importance of these fish to a license holders' fishing experience (Fig. 20).

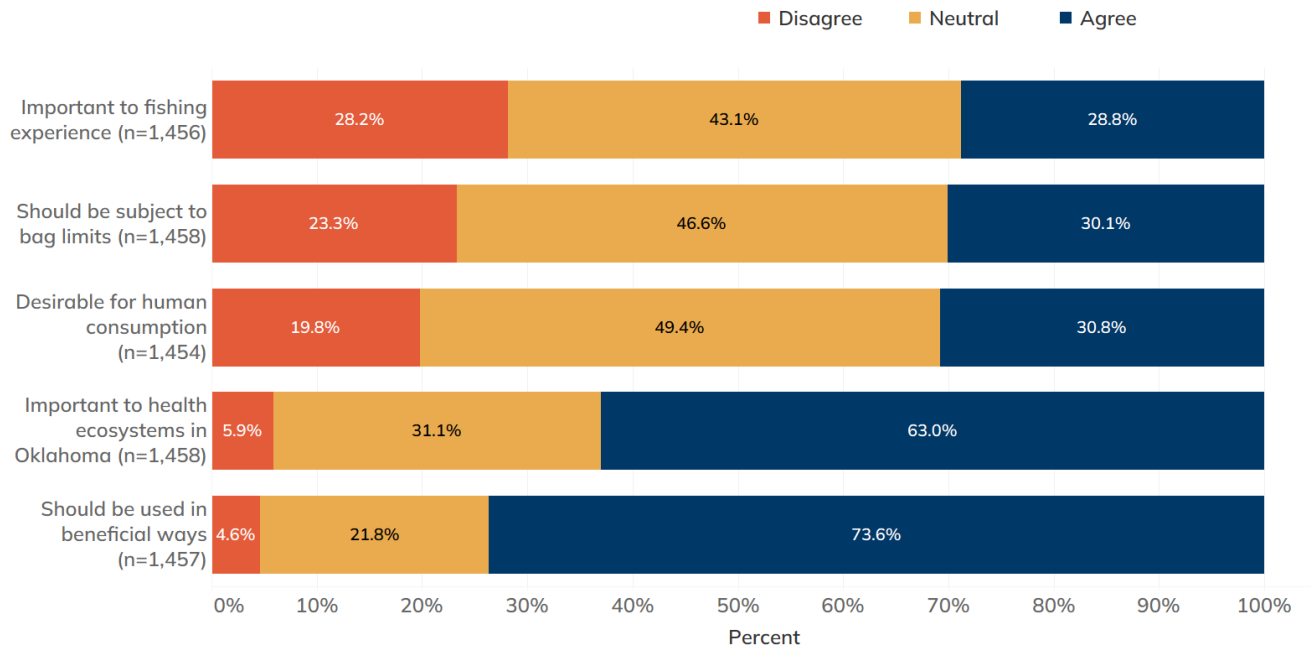


Figure 20: Response to five proposed statements about native non-game fish in Oklahoma and the level to which respondents agree or disagree

Conclusions and Recommendations

The quinquennial survey of Oklahoma anglers has provided valuable updates and trend information for resource managers since the mid 1970's. These surveys have provided an understanding of angler participation, experiences, preferences, and attitudes toward various aspects of Oklahoma's fisheries. We asked several questions on this year's survey that we also asked in 2019 to inform trends over time. Number of days fishing has increased slightly for resident anglers while one-way distance traveled has decreased slightly. Largemouth bass continues to be the most often sought species across waterbodies. The methods used to fish remained common with rod and reel dominating the methods used. Comparing 2014 data to 2023 data, using non-motorized boats to fish has almost doubled while bank/wading has decreased, dock has increased, and use of motorized boat stayed relatively consistent.

Recommendations

- If the Fisheries Division has more frequent social science needs and questions, they should work with the ODWC Human Dimensions Specialist to conduct the Statewide Angler Survey every other year (rather than every 4-5 years) with more targeted program specific inquiries in the angler survey off year.
- Fisheries Division should continue their focus to increase access particularly for bank fishing as nowhere to go was selected as a main reason for licensed anglers not fishing in the last year and most active anglers' fish without the use of watercraft.
- A top barrier for going fishing continues to be not having someone to go with. The Wildlife Department could focus its outreach efforts on connecting anglers with other anglers to decrease this barrier. This, along with nowhere to go are reasons that ODWC can help alleviate. Other priorities and health issues are not issues that ODWC can easily resolve to increase participation.
- The Close to Home Fishing Program appears to be a successful program for its intended audience. The number of miles traveled one-way to fishing spots remains high which may eventually become a barrier to fishing for metro anglers (who travel on average 57.8 miles one-way compared to their non-metro counterparts who travel on average 37.4 miles). Further publicizing this

program and conducting a more in-depth evaluation of this program would help to increase access and participation of resident metro anglers.

- The use of fishing guides can help contribute to the Department's R3 goals for anglers. The Department can work with guides to recruit new anglers (particularly nonresidents) and retain/reactivate lifetime license holders.
- Trout anglers most often selected that they go fishing for trout to catch fish to eat and this did not vary by location they trout fish. After this, aesthetic reasons were the next three most important. Catching large fish and large numbers of fish was not important to the majority of trout anglers. The Wildlife Department should focus on stocking trout that are catchable to eat to maintain a positive experience for trout anglers.
- The Wildlife Department should continue to communicate about harvesting bass and the importance their role plays in bass management as bass anglers reported most often that they are very unlikely to keep any bass they catch with the most selected reason being that they believe not harvesting helps grow trophy bass and helps to maintain large numbers of bass in Oklahoma waters. Education about this issue will benefit the bass population in Oklahoma.
- The focus for bass management in Oklahoma should mimic what the anglers prefer for their bass fishing experience. Most often selected was that they would prefer to catch three 3-pound bass which focuses on quality bass management. Although, closely behind in preference was one bass over 8 pounds with a focus on trophy bass management.
- In relation to native non-game, the data shows that there is overall a higher negative sentiment towards buffalo and gar (being closer to the sentiment shown towards carp- an aquatic nuisance species). The benefits of these fish should be shared on Wildlife Department channels to increase the positive sentiment and appreciation for these fish.
- The Wildlife Department can use the information collected about native fish to shape communications. By knowing that there is less angler agreement about (1) the importance of native fish to the fishing experience, (2) that they should be subject to bag limits, and (3) that they are desirable for human consumption, this would not be the best way to communicate about fish to increase positive sentiment. Most respondents agreed that native non-game fish are important to ecosystems and should be used in beneficial ways so

communicating more often about things that anglers already agree with will infuse the angling community with higher positive sentiment towards these species.

Appendix A: Survey Instrument



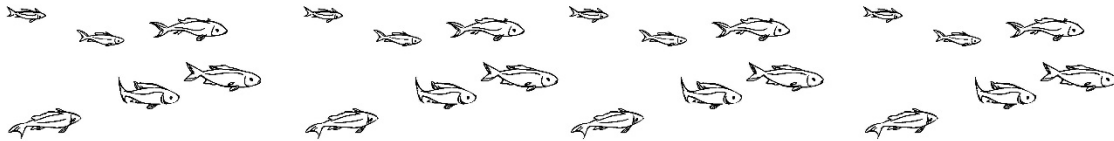
2023 Oklahoma Fishing Survey



The Oklahoma Department of Wildlife Conservation (ODWC) is conducting a survey of fishing license holders. We are interested in learning about your fishing activities and preferences, even if you have not fished recently. Your answers will help us improve fisheries management and conservation in Oklahoma. As a token of our appreciation, every 30th angler to return a completed survey will be given a one-year subscription to the Wildlife Department's Outdoor Oklahoma magazine.

If you have any questions or would like a copy of the report for this survey, please contact Betsey York at (405) 521-4605 or betsey.york@odwc.ok.gov. Your help in this project is greatly appreciated, and we look forward to learning about your Oklahoma fishing experiences!

Sincerely,
Betsey York
Human Dimensions Specialist



1. Did you fish in Oklahoma during the previous 12 months?

- Yes, please continue with survey on next page.
- No, please answer question #2.

2. Why did you NOT fish in the previous 12 months? Check all that apply.

- No one to go with
- Nowhere to go
- Other priorities
- Poor quality of fishing
- Regulations too confusing
- Health issues
- Other: _____

If you did not fish in the previous 12 months, please skip to question #29.

For the following questions, please think about your fishing activity within the previous 12 months.

3. On average, how many miles did you travel (one-way) for a typical fishing trip in Oklahoma during the previous 12 months?

_____ miles

4a. Which of the following fishing methods did you use during the previous 12 months?

Check all that apply.

- Rod and Reel/ Flyfishing
- Bowfishing
- Juglining/ Trotlining
- Noodling
- Snagging
- Other methods (gigging, yoyo fishing, etc.)

4b. Of the methods you used to fish, which one did you use MOST often during the previous 12 months?

Check only one.

- Rod and Reel/ Flyfishing
- Bowfishing
- Juglining/ Trotlining
- Noodling
- Snagging
- Other methods (gigging, yoyo fishing, etc.)

5. How do you rate yourself as an angler?

- Beginner Average Above average Expert

6. How important is fishing to you compared to your other outdoor recreational activities?

- Most important One of the most important Equally important Less important Not at all important

7. How many days did you fish the following types of waterbodies in Oklahoma in the last 12 months?

If you did not fish that type of waterbody in the last 12 months, please enter a 0.

<u>Public</u>	<u>Private</u>
Lake or reservoir _____	Lake or reservoir _____
River, stream, or creek _____	River, stream, or creek _____
Pond _____	Pond _____
Tailwaters at reservoir dam _____	

8. If you fished in a river, creek, or stream, please select all species that you targeted in the last 12 months in a river, creek or stream.

- | | | |
|--|--|---|
| <input type="checkbox"/> Channel catfish | <input type="checkbox"/> Spotted/Kentucky bass | <input type="checkbox"/> Paddlefish |
| <input type="checkbox"/> Blue catfish | <input type="checkbox"/> Largemouth bass | <input type="checkbox"/> Gar |
| <input type="checkbox"/> Flathead catfish | <input type="checkbox"/> Smallmouth bass | <input type="checkbox"/> Trout |
| <input type="checkbox"/> Crappie | <input type="checkbox"/> White/sand bass | <input type="checkbox"/> Sucker species
(buffalo, redhorse, carpsuckers, etc.) |
| <input type="checkbox"/> Walleye | <input type="checkbox"/> Hybrid striped bass | |
| <input type="checkbox"/> Carp | <input type="checkbox"/> Striped bass | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Sunfish, bluegill, etc. | | |

9. The Wildlife Department’s “Close to Home” program offers fishing opportunities through partnerships with cities in Oklahoma. Are you familiar with this program?

Yes **—————>**
 If yes, did you fish at a “Close to Home” lake or pond during the previous 12 months?
 Yes No

No

10. The Wildlife Department is interested in evaluating our “Close to Home” fishing program. Whether you are familiar with this program, or not, if you would be willing to participate in this evaluation, please enter your email address here: _____

11a. From where did you do your fishing in the last 12 months?
Check all that apply.

- Bank/Wading
- Dock
- Motorized Boat
- Non-motorized boat (kayaks, canoes, float tube, etc)

11b. From where did you fish MOST often in the last 12 months?
Select only one.

- Bank/Wading
- Dock
- Motorized Boat
- Non-motorized boat (kayaks, canoes, float tube, etc)

12. What were the top three types of fish you preferred to catch during the last year across all waterbodies? Select one in each section on the following page (First Choice, Second Choice, Third Choice).

OR check here if you have no species preference when you go fishing

No species preference
(please skip to question 13.)

First choice: (Select one)

- | | | |
|---|---|-------------------------------------|
| <input type="radio"/> Channel catfish | <input type="radio"/> Spotted/Kentucky bass | <input type="radio"/> Carp |
| <input type="radio"/> Blue catfish | <input type="radio"/> Largemouth bass | <input type="radio"/> Gar |
| <input type="radio"/> Flathead catfish | <input type="radio"/> Smallmouth bass | <input type="radio"/> Rainbow trout |
| <input type="radio"/> Crappie | <input type="radio"/> White/sand bass | <input type="radio"/> Brown trout |
| <input type="radio"/> Walleye | <input type="radio"/> Hybrid striped bass | <input type="radio"/> Paddlefish |
| <input type="radio"/> Saugeye | <input type="radio"/> Striped bass | <input type="radio"/> Other: _____ |
| <input type="radio"/> Sunfish, bluegill, etc. | | |

Second choice: (Select one)

- | | | |
|---|---|-------------------------------------|
| <input type="radio"/> Channel catfish | <input type="radio"/> Spotted/Kentucky bass | <input type="radio"/> Carp |
| <input type="radio"/> Blue catfish | <input type="radio"/> Largemouth bass | <input type="radio"/> Gar |
| <input type="radio"/> Flathead catfish | <input type="radio"/> Smallmouth bass | <input type="radio"/> Rainbow trout |
| <input type="radio"/> Crappie | <input type="radio"/> White/sand bass | <input type="radio"/> Brown trout |
| <input type="radio"/> Walleye | <input type="radio"/> Hybrid striped bass | <input type="radio"/> Paddlefish |
| <input type="radio"/> Saugeye | <input type="radio"/> Striped bass | <input type="radio"/> Other: _____ |
| <input type="radio"/> Sunfish, bluegill, etc. | | |

Third choice: (Select one)

- | | | |
|---|---|-------------------------------------|
| <input type="radio"/> Channel catfish | <input type="radio"/> Spotted/Kentucky bass | <input type="radio"/> Carp |
| <input type="radio"/> Blue catfish | <input type="radio"/> Largemouth bass | <input type="radio"/> Gar |
| <input type="radio"/> Flathead catfish | <input type="radio"/> Smallmouth bass | <input type="radio"/> Rainbow trout |
| <input type="radio"/> Crappie | <input type="radio"/> White/sand bass | <input type="radio"/> Brown trout |
| <input type="radio"/> Walleye | <input type="radio"/> Hybrid striped bass | <input type="radio"/> Paddlefish |
| <input type="radio"/> Saugeye | <input type="radio"/> Striped bass | <input type="radio"/> Other: _____ |
| <input type="radio"/> Sunfish, bluegill, etc. | | |

13. Which of the following technologies do you use while fishing?

Check all that apply.

If yes, what species do you target with this technology?

- Down-imaging, boat mounted sonar→ _____
- Side-imaging, boat mounted sonar→ _____
- Forward/live-imaging, boat mounted sonar→ _____
- None of the above

14. Did you use the services of a licensed fishing guide in Oklahoma within the last 12 months (if you are a licensed fishing guide, only answer yes if you used the services of another guide)?

Yes

No→ Please skip to question 21.

15. Why did you use the services of a licensed fishing guide?

Check all that apply.

- Chance of success is higher
- Chance to fish from a boat
- New locations to fish
- Increased safety by hiring a guide
- New skills acquired from guide
- Overall knowledge level of guide
- Other: _____

16. If you had not used a fishing guide in the previous 12 months, how would that have affected your overall fishing activity in Oklahoma?

- I would have fished a lot less often I would have fished slightly less often I would have fished about the same

17. On your most recent guided fishing trip in Oklahoma, what species did you target?

Check all that apply.

- | | | |
|-------------------------------------|--|---|
| <input type="checkbox"/> Paddlefish | <input type="checkbox"/> Striped bass | <input type="checkbox"/> Bowfishing (carp, gar, etc.) |
| <input type="checkbox"/> Crappie | <input type="checkbox"/> Largemouth bass | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Catfish | <input type="checkbox"/> Smallmouth bass | |
| <input type="checkbox"/> Trout | <input type="checkbox"/> Hybrid striped bass | |

18. On your most recent guided trip in Oklahoma, what waterbody did you fish?

19. On your most recent guided fishing trip in Oklahoma, how much did you personally spend within 25 miles of where you fished in each of the following expense categories?

Transport (gas, tolls): _____

Lodging/food: _____

Guide fees: _____

Other: _____

20. Do you plan to use the services of a licensed fishing guide again in the next 12 months in Oklahoma?

- Yes No Unsure

Trout Fishing

21. Did you fish for trout in the previous 12 months?

Yes No → If no, please continue to question 24.

22. Where did you fish for trout in the last 12 months?

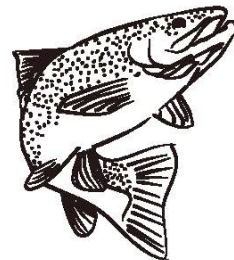
Check all that apply.

- | | | |
|---------------------------------------|--|--|
| <input type="checkbox"/> Perry CCC | <input type="checkbox"/> Lower Illinois River | <input type="checkbox"/> Oklahoma City- Rt 66 Park |
| <input type="checkbox"/> Robbers Cave | <input type="checkbox"/> Lower Mountain Fork River | <input type="checkbox"/> Jenks- Veterans Pond |
| <input type="checkbox"/> Blue River | <input type="checkbox"/> Medicine Creek | <input type="checkbox"/> Watonga- Boecher Lake |
| <input type="checkbox"/> Sunset Lake | <input type="checkbox"/> Oklahoma City- Edwards Park | |
| <input type="checkbox"/> Other: _____ | | |

23. What is your MAIN reason for trout fishing?

Select only one.

- To catch fish to eat
- To be with family and friends
- To catch large fish
- To catch large numbers of fish
- To be close to nature
- For relaxation
- Other: _____



Black Bass Fishing

24. Did you fish for black bass (largemouth bass, smallmouth bass, etc.) in Oklahoma in the previous 12 months?

- Yes No → If no, please continue to question 29.

25. How often did you fish bass tournaments in Oklahoma during the past 12 months?

- Never Occasionally Regularly Exclusively

26. When you catch a bass, what is the likelihood that you would harvest that bass?

- Very unlikely Unlikely Neutral Likely Very likely



27. If unlikely, why do you choose to not harvest black bass?
Check all that apply.



- | | |
|--|---|
| <input type="checkbox"/> Poor table-fare | <input type="checkbox"/> Maintain large number of bass in Oklahoma waters |
| <input type="checkbox"/> Cultural pressure/tradition | <input type="checkbox"/> Grow trophy bass |
| <input type="checkbox"/> Other (please explain): _____ | |

28. When fishing for bass, what is your preference out of the below scenarios?

- I would prefer to be able to catch one bass over 8 pounds
 I would prefer to be able to catch three 3-pound bass
 I would prefer to be able to catch five 1-pound bass

29. We are interested in your feelings (either positive or negative) in response to the following species of fish. First, we would like to ask about your feelings towards each of the following types of fish.

	Negative -2	-1	Neutral 0	+1	Positive +2
Gar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trout	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Black Bass	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Buffalo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Carp	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Catfish	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

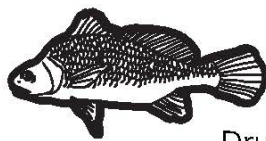
30. Now, please respond with how you think other anglers you know feel about each of the following types of fish.

	Negative -2	-1	Neutral 0	+1	Positive +2
Gar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trout	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Black Bass	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Buffalo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Carp	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Catfish	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

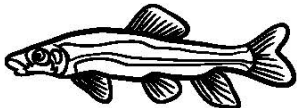
31. For the following questions we will be referring to native non-game fish. Native non-game fishes are species that are native to Oklahoma and are not considered game species under Oklahoma law. Examples of native non-game fish would include all species of gar, buffalofishes, suckers, drum, bowfin, etc. To what extent do you agree or disagree with the following statements?



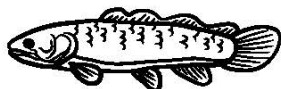
Gar



Drum



Sucker



Bowfin

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
One or more species of native nongame fish are important to my recreational fishing experience.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
All native nongame fish species in Oklahoma should be subject to bag limits determined by the Wildlife Department.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
One or more species of native nongame fish are desirable for human consumption.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Native nongame species are important to healthy ecosystems in Oklahoma.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
All species of fish and wildlife should be used in beneficial ways (table fare, fertilizer, etc.) and not discarded as waste.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Thank you for taking the time to fill out this survey, please mail the survey back to the Wildlife Department in the pre-paid envelope provided at your earliest convenience.