

New Mexico Angler Satisfaction Report 2022-2023 License Year



Completed by
Fisheries Management Division
New Mexico Department of Game and Fish



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Cover photo

"I caught it first!", Norah Hasler with a rainbow trout at Tingley Kids Pond. Photo taken by Glenn Hasler.

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Introduction

The New Mexico Department of Game and Fish uses angler satisfaction as one of its measurable objectives for management success. Traditionally the Department has been tasked with maintaining an overall angler satisfaction rate of 80% regarding angler opportunity, fishing experiences, and management of sport fishing issues. In 2022, this benchmark was raised to an overall satisfaction rate of 90%. Since the 1990's the Department has been conducting various types of polling survey to measure angler satisfaction rate and determine if the objective was met. In addition to measuring angler satisfaction the survey also researches trends in angler needs, seeks input on emerging issues, and provides direction for future management decisions. Information and knowledge gained through this survey is vital to effectively manage the State's aquatic resources. This report summarizes the method used and results from the 2023 survey.

Methods

The survey was conducted using web-based survey software (Snap Surveys LTD). This method involves sending an email invitation to a random stratified sample of licensed anglers. The email contains a uniform resource locator (URL) link to a questionnaire hosted on a Department owned web-server. Once participants complete the survey data is collected and compiled on the web-server.

The survey was conducted April 17 to May 31, 2023 ($n_{\text{days}}=45$). An email invitation was sent to 20,000 anglers that purchased a fishing license in the 2022-23 license year (April 1, 2022 to March 31, 2023). During the 2022-23 license year 236,027 fishing licenses were sold, but only 152,789 (64.7%) customers provided an email address when purchasing a license. The survey sample was a random stratified subsample representing the different fishing license types and the percentage sold of each license type (Table 1). The sample comprised of 73.1% resident anglers and 26.9% non-resident anglers. Microsoft Excel was used to generate a random representative sample of each license type.

Table 1. Fishing license types showing percentage of total sold in the 2022-23 license year and target sample size of each license type including resident and non-resident.

License type	% of total sold	<i>n</i> resident for sample	<i>n</i> non-resident for sample
One Day Fishing	12.8%	627	1,933
Five Day Fishing	10.5%	68	2,027
Annual Fishing	33.8%	5,613	1,142
Disabled Vet Hunting and Fishing	1.0%	207	n/a
Game Hunting and Fishing	21.0%	4,204	n/a
Handicapped Fishing	1.0%	201	n/a
Handicapped Hunting and Fishing	0.5%	104	n/a
Junior Fishing	5.7%	873	272
Junior Hunting and Fishing	2.6%	519	n/a
Senior 70 and Over Fishing	6.7%	1,346	n/a
Senior Fishing	2.8%	554	n/a
Senior Hunting and Fishing	1.6%	310	n/a
Totals	100%	14,626	5,374

The survey included 21 questions (16 fishing and 5 demographic related) most of which have been included in past surveys. Two new questions were added related specifically to Navajo Lake. Anglers may have been asked all or only a few questions depending on their answers to expedite the survey (e.g., if they indicated they did not fish during the license year then they were only asked the demographic questions). Most of the fishing questions were set as “must answer” whereas the demographic questions had a “prefer not to answer” option.

Another email invitation was sent 15 days after the original invitation as a reminder to enhance the response rate.

Results and Discussion

Responses were received from 1,174 licensed anglers resulting in an overall 5.9% response rate. Residents and non-residents demonstrated slightly different response rates with 6.1% and 5.2%, respectively. About 79.6% of the responses were received within 48 hours of the initial and reminder invitation and response rates significantly declined post 72 hours of the invitations. Average time spent completing the survey by participants was 4 minutes 55 seconds.

The following is a list of the questions asked during the survey and results. All confidence intervals are presented as 80% unless otherwise noted.

Question 1. Did you fish in New Mexico in the past 12 months?

This question was asked to estimate the number of anglers that purchased a fishing license but did not fish. It also expedited the survey for anglers that did not fish (i.e., if they did not fish then they were routed to only answer the demographic questions). Of the 1,174 respondents 14.1% indicated that they did not fish during the past 12 months. This is an increase from 2022 (12.5%) and slightly above the nine-year average of 12.8% (Figure 1).

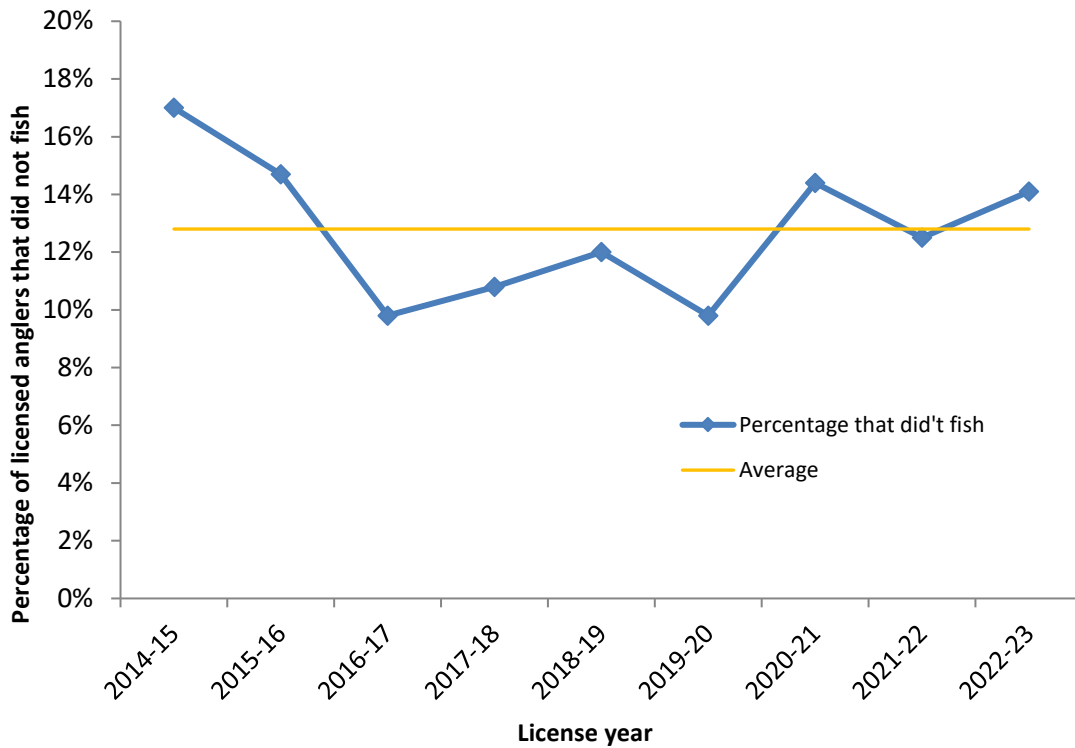


Figure 1. Percentage of licensed anglers that reported they did not fish from the 2014-15 to 2022-23 license years and the nine-year average.

Question 2. How many days of parts of days did you fish in New Mexico during the past 12 months?

When only including the anglers that indicated they fished during the past 12 months ($n=1,008$) results showed a wide range of days fished from 1 to 265 with a mean of 16.6 (± 1.0) days and a median of 10 days. This was a decrease in average days fished from last license year and about the nine-year average (Figure 2). If including anglers that did not fish (i.e., fished zero days) the mean and median was 14.2 (± 0.9) days and 6 days, respectively. Responses were separated into six categories (0 days, 1-2 days, 3-5 days, 6-10 days, 11-20 days, and 21 days or more) and into resident and non-resident license type for analysis (Figure 3). Similar to past surveys, most (71.5%) non-resident anglers fished 5 days or less; whereas most (61.4%) resident anglers fished 6 days or more.

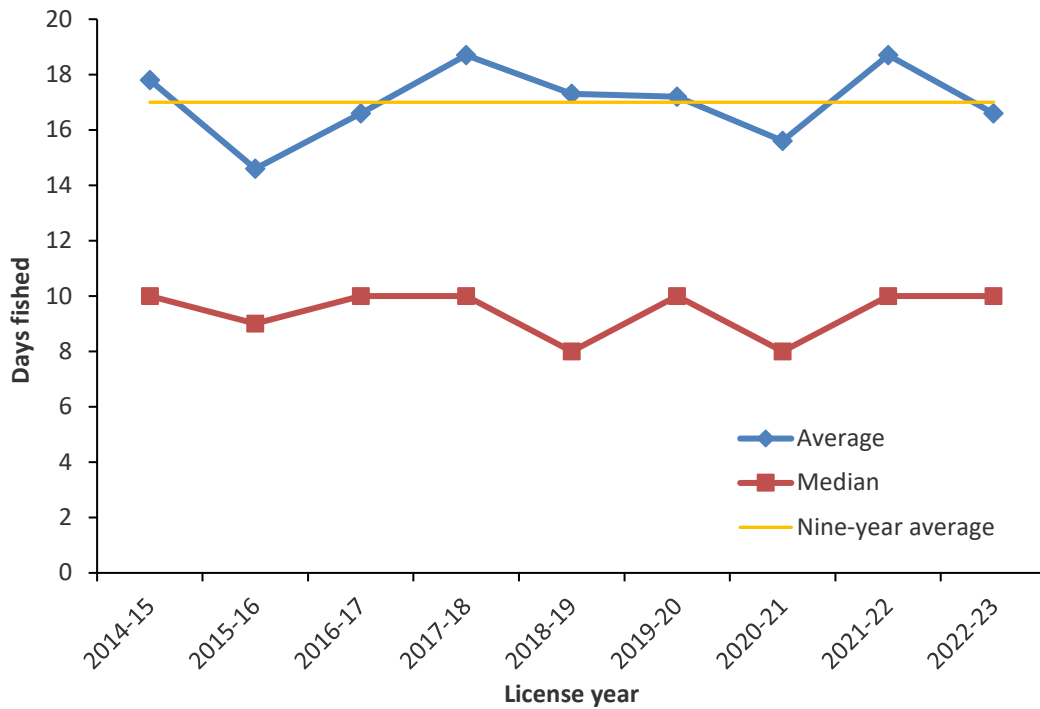


Figure 2. Average by year, median, and nine-year average days fished by anglers that indicated they fished one day or more from the 2014-15 to 2022-23 licenses years.

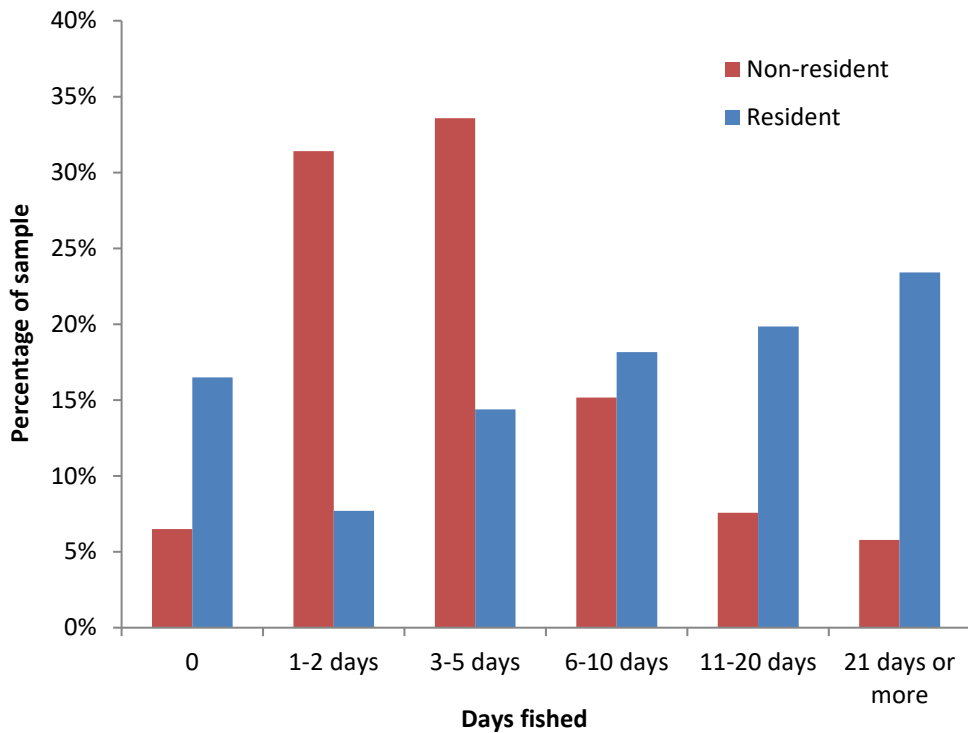


Figure 3. Number of days fished during the 2022-23 license year separated into resident and non-resident license types.

Question 3. In general, how satisfied or dissatisfied were you with fishing in New Mexico during the past 12 months (Fishing Satisfaction Rate)?

Anglers were asked to rate their fishing experience on a Likert scale of 1 to 5. A rating of 1 was “not at all satisfied” and a rating of 5 was “very satisfied”. Most (90.1%) anglers indicated being satisfied with their fishing experience giving a rating of 3, 4, or 5; whereas 9.8% indicated being dissatisfied giving a rating of 1 or 2 (Figure 4). Satisfaction was mostly flat and dissatisfaction decreased slightly compared to the 2021-22 license year. Non-residents continue to be more satisfied. About 78.4% of non-resident anglers gave a rating of 4 or 5; whereas only 61.5% of resident anglers gave the same rating. Also, dissatisfaction rate for non-resident and resident anglers was 7.3% and 10.7%, respectively (Figure 5).

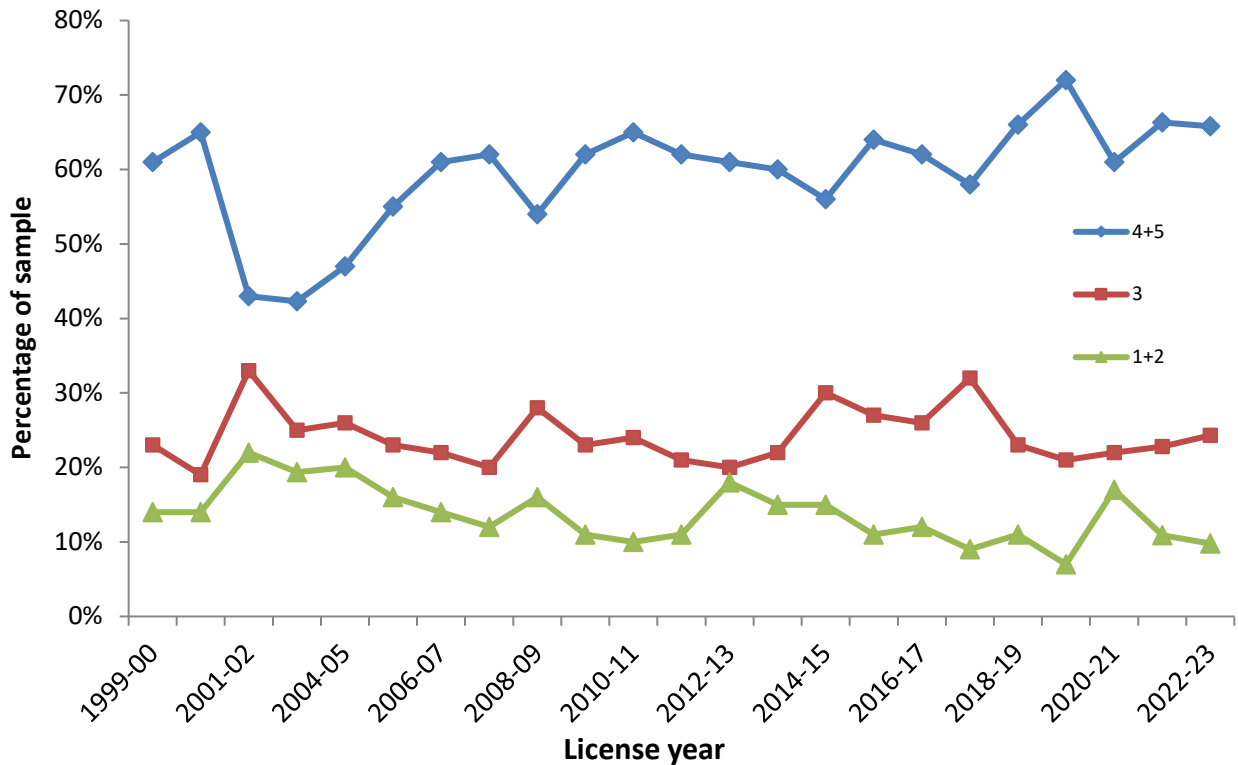


Figure 4. Overall satisfaction rating of anglers surveyed from the 1999-00 to 2022-23 license years. A rating of 1 was “not at all satisfied” and a rating of 5 was “very satisfied”.

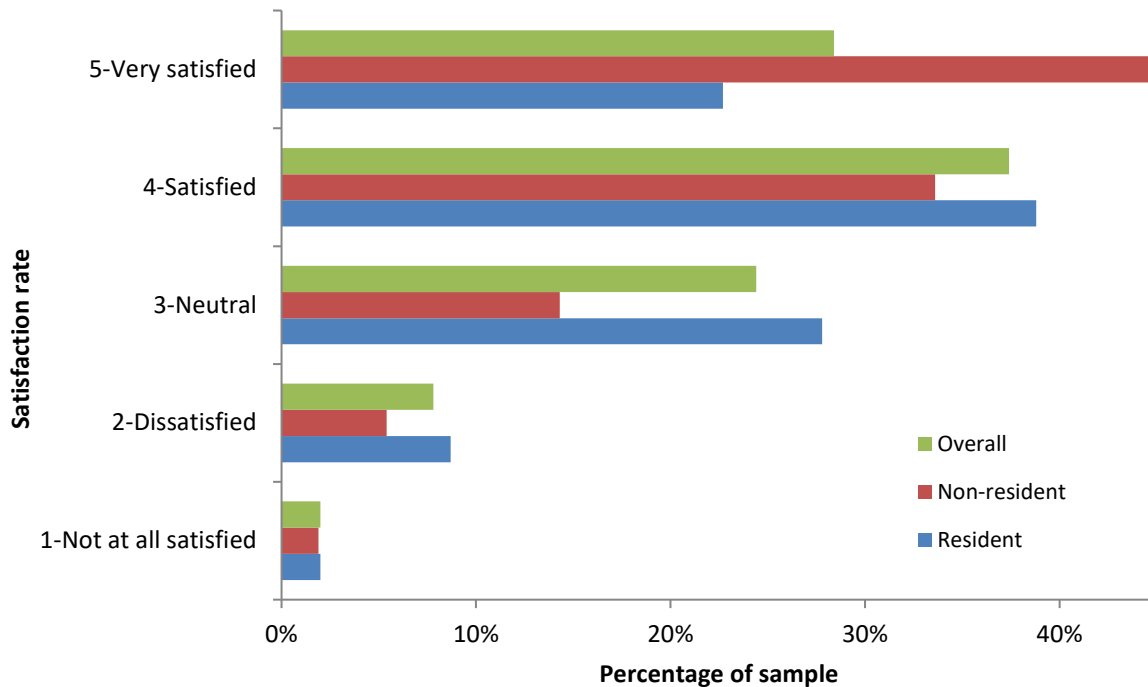


Figure 5. Satisfaction rate of resident and non-resident anglers during the 2022-23 license year.

Question 4. Why do you feel this way?

This was a follow up to Question 3 to identify key reasons related to satisfaction or dissatisfaction. This question was optional to answer, but most respondents (87.2%) provided a reason. Even though anglers provided a wide range of reasons to support their satisfaction rate, most of the answers fit into 26 categories. “Poor catch rates” was the primary reason for dissatisfied and neutral respondents followed by “poor water levels, conditions, flow”. Alternatively, “good catch rates” was the primary reasons for satisfaction (Table 2).

Table 2. Categorized reasons for satisfaction rating given by surveyed anglers and percentage of frequency by rating for the 2022-23 license year. Note: Sum of each category equals 100% since the percentages are totaled by grouped rating. **Bolded** percentages are the highest for each grouped rating.

Reason for satisfaction rating	Rating		
	Dissatisfied (1-2)	Neutral (3)	Satisfied (4-5)
Good catch rates		2.3%	27.3%
Poor catch rates	39.0%	25.2%	3.6%
Large fish caught			3.1%
Fish too small	2.5%	5.6%	0.6%
Good water levels, conditions, flow		0.4%	2.8%
Poor water levels, conditions, flow	17.8%	15.8%	4.2%
Too crowded	5.9%	6.0%	2.7%
Good opportunity or access			8.8%
Poor opportunity or access	4.2%	8.3%	3.4%
Facilities good or clean		0.4%	2.4%
Facilities poor or trashy	4.2%	3.0%	2.5%
Good stocking			4.7%
Poor stocking	9.3%	7.9%	1.9%
Regulations good/enforcement adequate			0.7%
Regulations poor/not enough enforcement	3.4%	3.0%	0.7%
Beautiful location		0.4%	5.5%
Enjoyable experience/just like to fish		0.8%	13.9%
Weather	2.5%	1.9%	2.4%
Good fisheries management			0.9%
Poor fisheries management	0.8%	3.0%	0.3%
Others not following rules	1.7%	3.0%	
Invasive/unwanted fish species	0.8%	0.8%	0.1%
License/activity costs too high	1.7%		0.1%
COVID-19 related closures and issues		0.4%	0.3%
Fire related closures	3.4%	5.3%	0.9%
Other	2.5%	6.8%	5.8%

Question 5. Regarding your species preference, do you prefer to fish for cold water species like trout or salmon or do you prefer to fish for warm water species like bass or walleye?

The largest percentage of the anglers (51.4%) indicated they preferred to fish for “cold water” species such as trout and salmon. About 39.7% of anglers indicated they preferred to fish for both “cold water” and “warm water” species. Overall, these percentages have not changed significantly since the 2014-15 license year and the trend appears consistent (Figure 6). When combining anglers that indicated they preferred to fish for “cold water” species and “both” it appears that most (91.1%) of anglers fish for cold water species compared to 48.6% for warm water species.

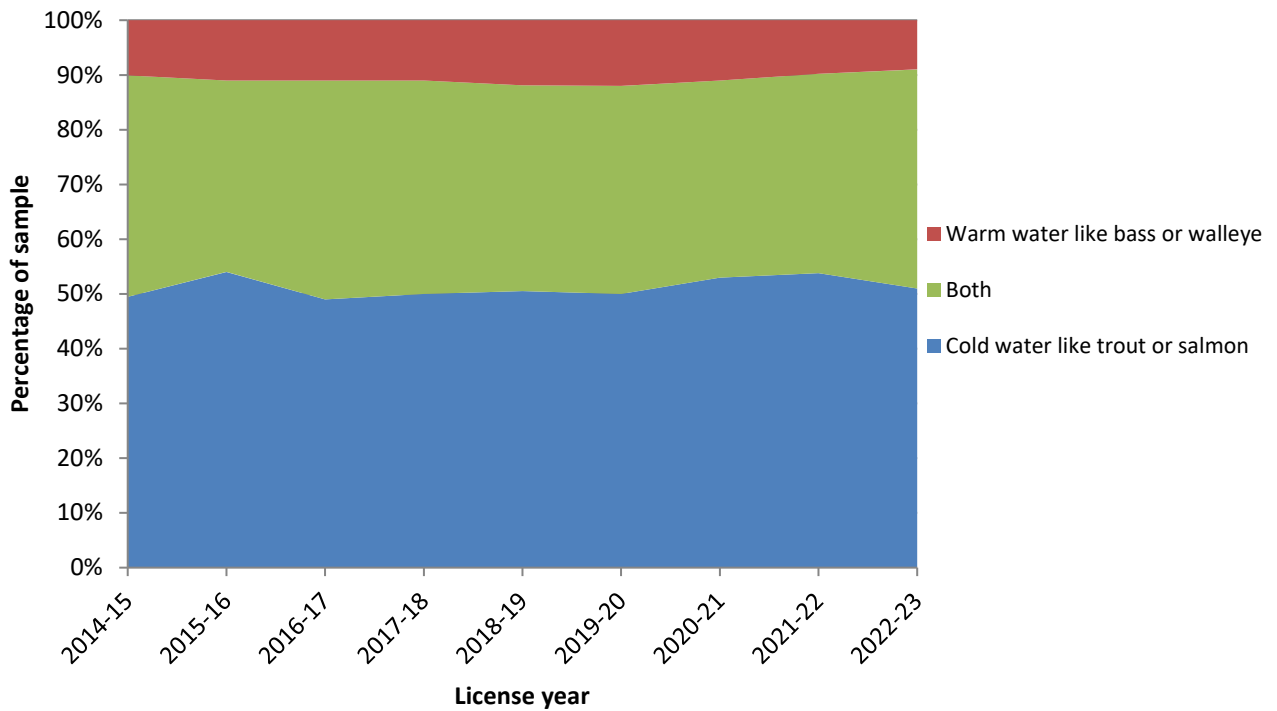


Figure 6. Fishing preference to fish for “cold water”, “warm water”, or “both” species of surveyed anglers during from the 2014-15 to 2022-23 license years.

Question 6. Which cold water species do you prefer to fish for in New Mexico (May select up to 3)?

Anglers were asked this question if they indicated they prefer to fish for “cold water” species or “both”. Similar to the past several years, Rainbow Trout and Brown Trout continue to be the cold water species most preferred (Table 3). Preference percentages for cold water species has been mostly stable with a slight increase in native trout (e.g., Gila Trout and Cutthroat Trout) and decrease in Lake Trout preference since the 2014-15 license year (Figure 7).

Table 3. Cold water species in order of preference by anglers during the 2022-23 license year.

Species	Percent preferred*
Rainbow Trout	87.5%
Brown Trout	67.9%
Cutthroat Trout	35.9%
Brook Trout	22.1%
Kokanee	14.5%
Lake Trout	11.9%
Gila Trout	7.8%

*Percentages do not sum 100% since this is a multiple response question

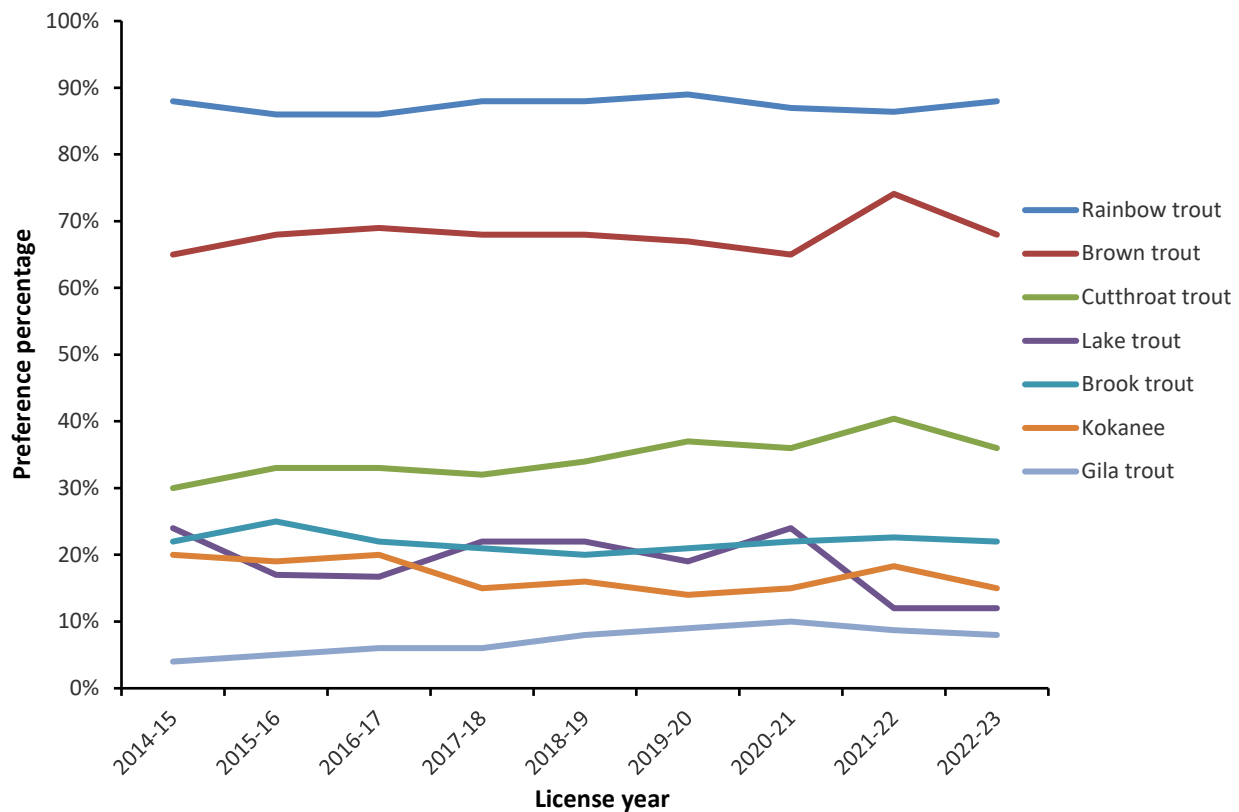


Figure 7. Cold water species preferences by year from the 2014-15 to 2022-23 license years.

Question 7. Of the following statements which comes closest to your personal view when fishing for cold water species? (Stocked vs. wild fish)

This question was asked if anglers indicated they fished for “cold water” species or “both”. The purpose of this question was to identify if anglers chose their fishing location where they expected to catch stocked fish or wild fish. The percentage of anglers indicating they chose their fishing location where they expected to catch wild fish (55.2%) was higher than those indicating they chose their fishing location where they expected to catch stocked fish (44.8%). There was a slight decrease in the preference for anglers selecting fishing locations for wild trout from last year, but an overall increasing trend since the 2014-15 license year (Figure 8).

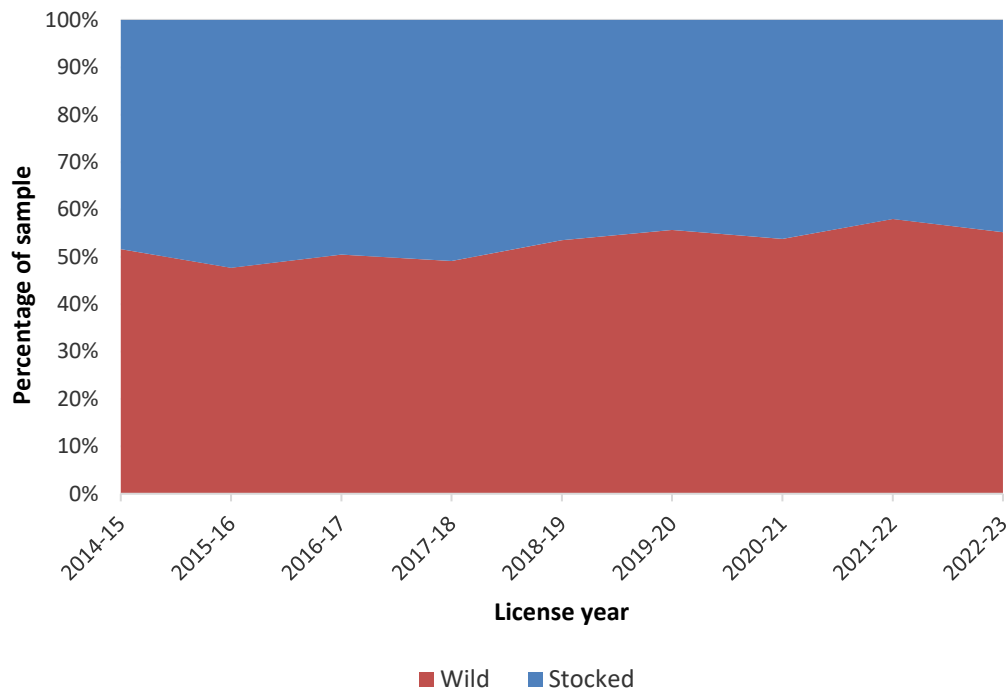


Figure 8. Percentage of cold water anglers that indicated they chose their fishing location where they expect to catch wild fish versus stocked fish from the 2014-15 to 2022-23 license years.

Question 8. Which warm water species do you prefer to fish for in New Mexico (May select up to 3)?

Anglers were asked this question if they fished for “warm water” species or “both”. When comparing results to past surveys there were slight percentage changes for each species, but Largemouth Bass continues to be the most popular warm water species followed by Walleye and catfish (Table 4). Yellow Perch and Spotted Bass continue to be the least popular warm water species.

Table 4. Warm water species in order of preference by anglers during the 2022-23 license year.

Species	Percent preferred*
Largemouth Bass	53.1%
Walleye	38.0%
Catfish	37.3%
Smallmouth Bass	31.0%
Crappie	25.9%
White Bass	24.5%
Northern Pike	13.7%
Striped Bass	12.4%
Bluegill/sunfish	12.0%
Tiger Muskie	11.2%
Yellow Perch	5.9%
Spotted Bass	5.7%

*Percentages do not sum 100% since this is a multiple response question

Question 9. Of the following statements which comes closest to your personal view? (Catch-and-release vs. catch-and-keep)

This question was to determine if anglers prefer to practice catch-and-release or keep most of the fish they catch. During this survey most (65.4%) anglers indicated they prefer to release most of the fish they catch. This question has been included in the survey for multiple years and there’s a noticeable increasing trend in the percentage of anglers that prefer to practice catch-and-release; even though there was a slight decrease in catch-and-release anglers compared to the 2021-22 license year (Figure 9).

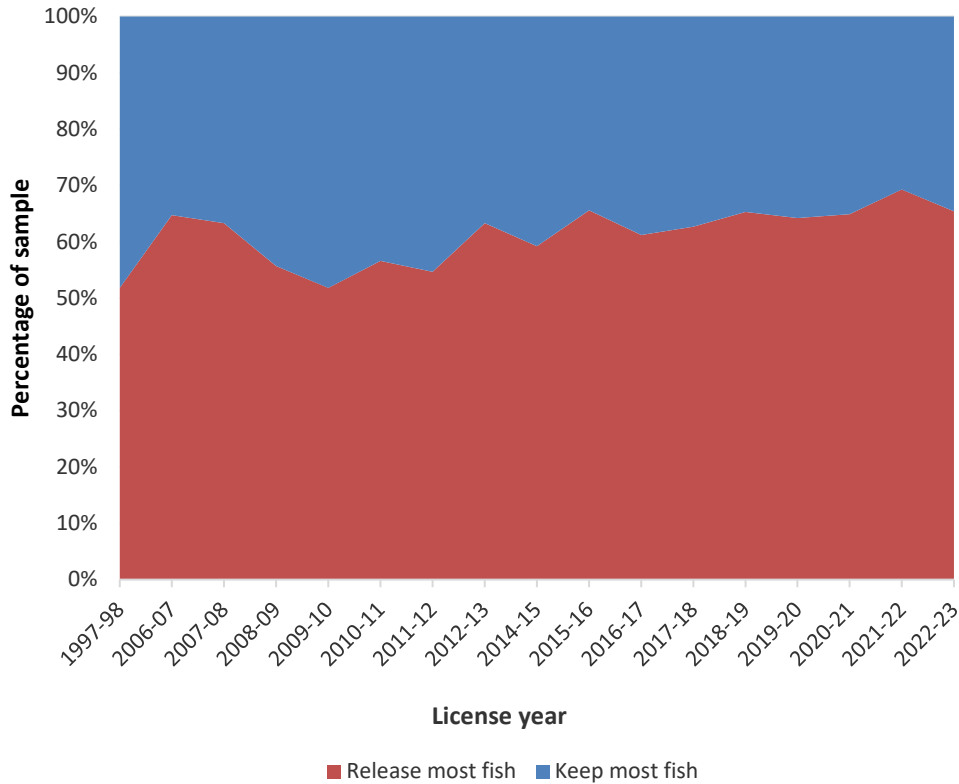


Figure 9. Percentage of anglers that indicated they keep most of the fish they catch versus release most of the fish they catch from 1997-98 to 2022-23 license years.

Question 10. Of the following statements which comes closest to your personal view? (Lots of fish vs. one or two large fish)

This question was asked to determine if anglers chose fishing locations based upon where they will “catch lots of fish” or “one or two larger fish”. Most (59.4%) anglers indicated they chose their fishing location based on where they will “catch lots of fish”. This percentage decreased slightly from the 2021-22 license year, and there appears to be a slight decreasing trend of anglers choosing fishing location where they will “catch lots of fish” since the 2014-15 license year (Figure 10).

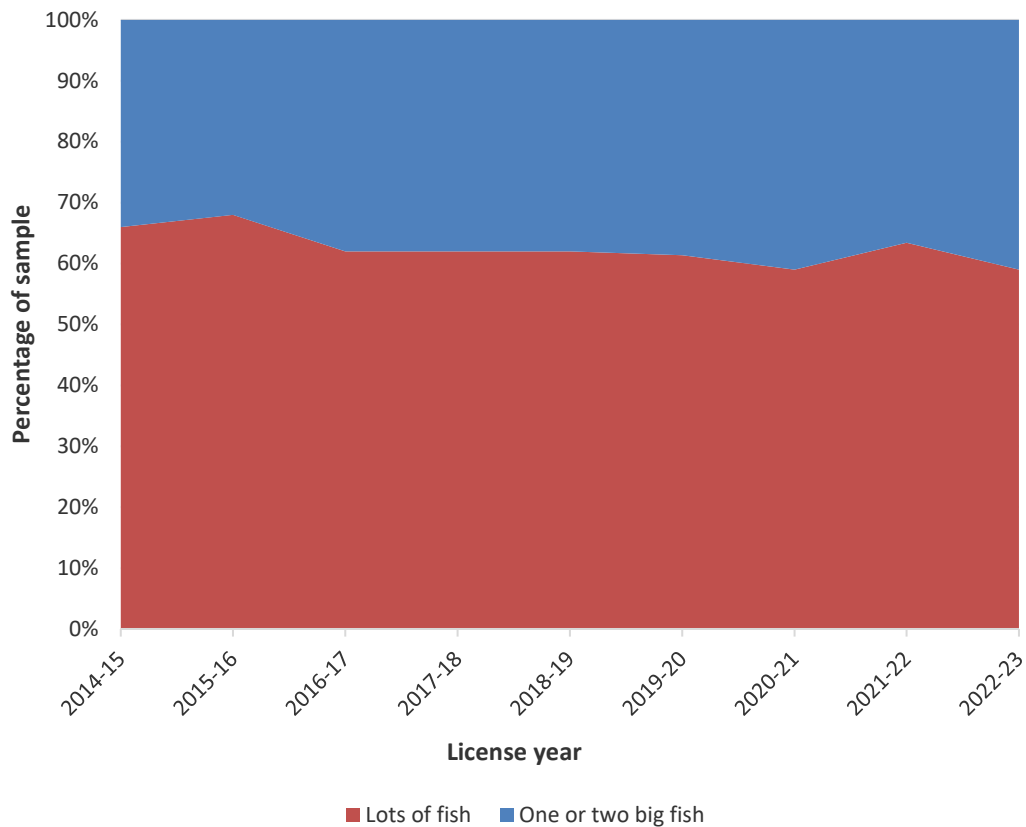


Figure 10. Fishing location chosen by anglers based upon catching “lots of fish” or “one or two large fish” from the 2014-15 to 2022-23 license years.

Question 11. Do you use live bait when fishing?

Most (71.0%) anglers indicated they do not use live bait when fishing. This was almost identical to last year, and has not changed significantly since the 2018-19 license year (Figure 11).

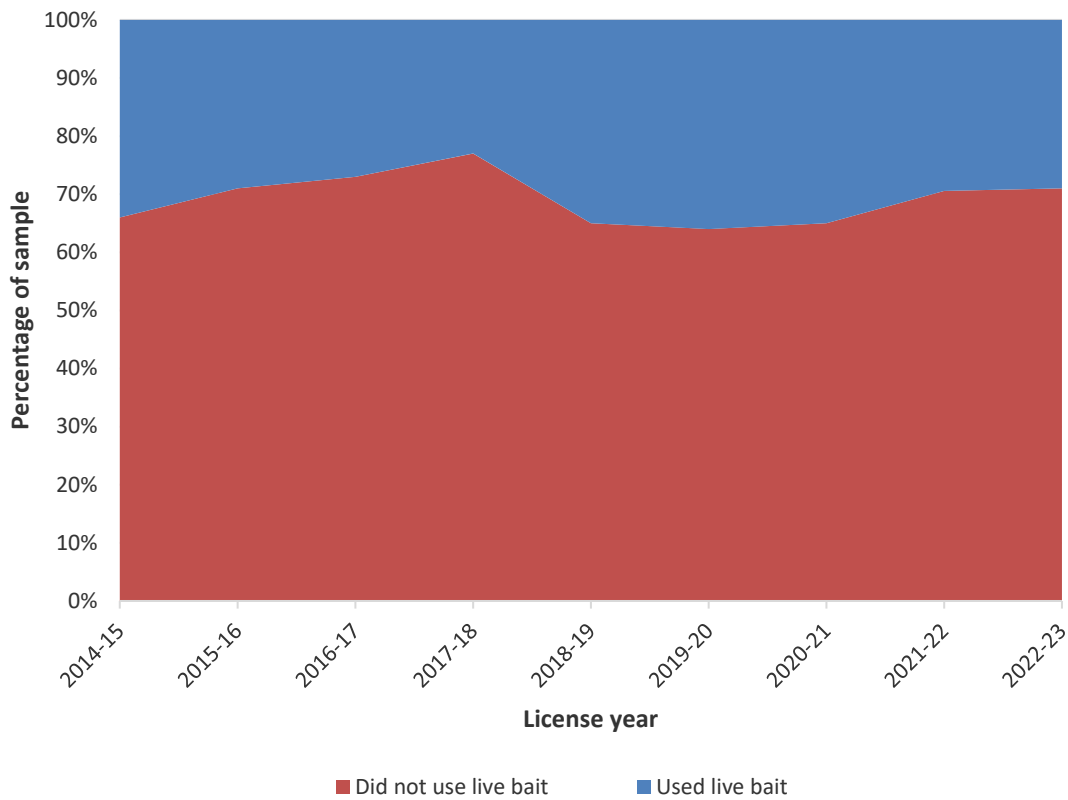


Figure 11. Percentage of anglers that indicated they used live bait versus those that did not use live bait while fishing from the 2014-15 to 2022-23 license years.

Question 12. What types of live bait do you use when fishing?

This was a follow up question to Question 11 for the 29.0% of anglers that indicated they use live bait when fishing. Similar to past surveys, “earthworms/night crawlers” were by far the most popular live bait used and “Water dogs/salamander larvae” continue to be the least popular (Figure 12).

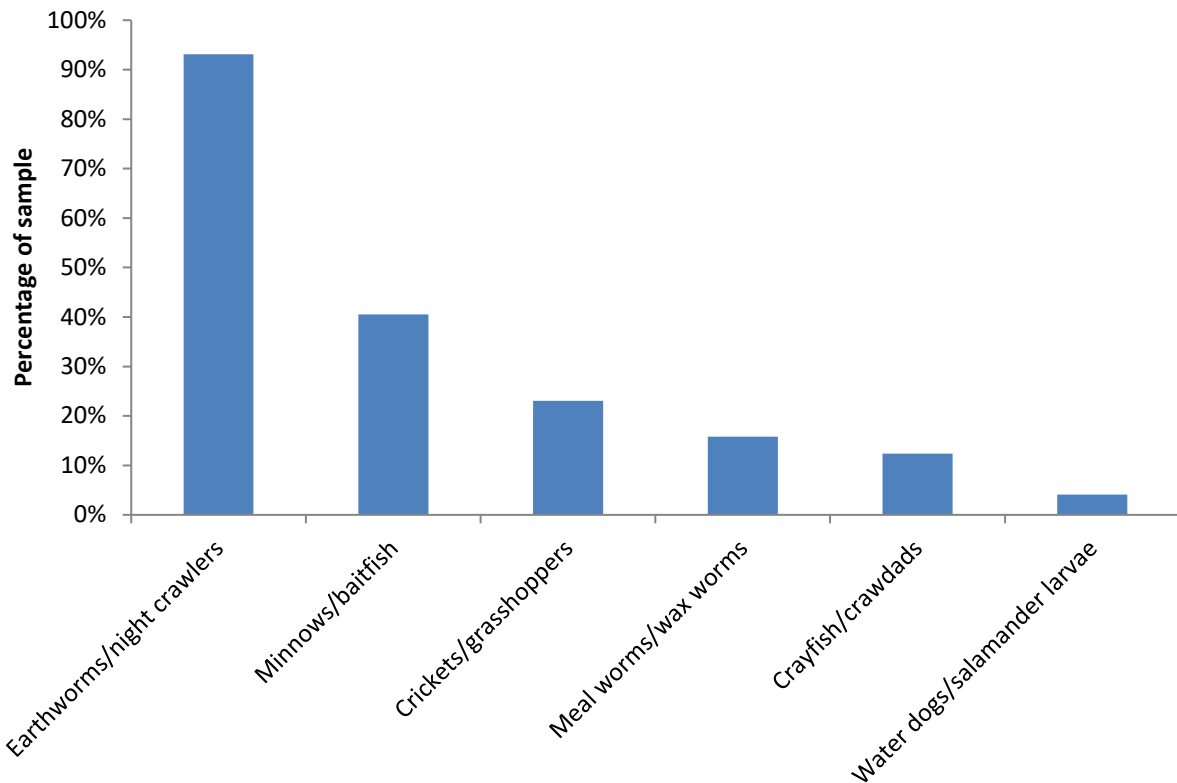


Figure 12. Types and percentage of live bait used by anglers during the 2022-23 license year. Note: percentages do not equal 100% since this is a multiple response question.

Question 13. In what major river drainage do you use live bait in when fishing?

The Rio Grande drainage continues to receive the most (61.9%) live bait use according to anglers surveyed. The Mimbres River drainage continued to receive the least amount of live bait use (Table 5).

Table 5. Live bait use by major river drainage and order of use by anglers during the 2022-23 license year in order of usage.

Major River Drainage	Percent preferred*
Rio Grande	61.9%
Pecos	30.6%
Canadian	18.9%
San Juan	18.2%
Gila and San Francisco	10.7%
Mimbres	4.5%

*Percentages do not sum 100% since this is a multiple response question

When comparing types of live bait used and percentage of use by major river drainage “earthworms/night crawlers” continue to be the most utilized in all drainages, whereas “waterdogs/salamander larvae” and “crayfish/crawdads” were consistently used the least in all drainages (Table 6).

Table 6. Types of live bait and percentage* of reported use by anglers in major river drainages during the 2022-23 license year.

Bait type	Rio		Gila and San			
	Grande	Pecos	Francisco	Canadian	San Juan	Mimbres
Earthworms/night crawlers	58.4%	29.6%	10.0%	16.8%	16.5%	4.1%
Meal worms/wax worms	10.3%	5.2%	1.4%	3.4%	3.4%	1.0%
Minnnows/baitfish	24.7%	10.0%	3.8%	8.2%	7.2%	1.7%
Water dogs/salamander larvae	2.1%	1.4%	0.0%	1.0%	1.4%	0.0%
Crayfish/crawdads	8.6%	4.1%	1.7%	1.4%	2.7%	0.0%
Crickets/grasshoppers	15.5%	9.6%	2.4%	5.2%	4.5%	0.7%

*Percentages do not sum 100% since this is a multiple response question

Question 14. Do you fish at Navajo Reservoir?

This was a new question and asked as part of a focused management effort at Navajo Reservoir. It was also used to identify Navajo Reservoir anglers for follow up Question 20. About 20.1% of anglers indicated they fish at Navajo Reservoir.

Question 15. What species do you fish for the most at Navajo Reservoir?

This was a follow question for anglers that indicated they fish at Navajo Reservoir. This question was asked to identify which fish species are the most fished for at Navajo Reservoir to guide management efforts and focus. This was a “drag and drop” question where survey participants were asked to arrange fish species in order of most time spent targeting. Kokanee was the most fished for with 24.3% of participants selecting this species first followed by Rainbow Trout (Figure 13; Table 7). Crappie was selected as the least fished for with 3.5% of participants selecting this species first. Anglers were also asked if they target other species not listed. Eleven respondents provided another species including: catfish ($n=6$), Bluegill ($n=2$), carp ($n=2$), and Yellow Perch ($n=1$).

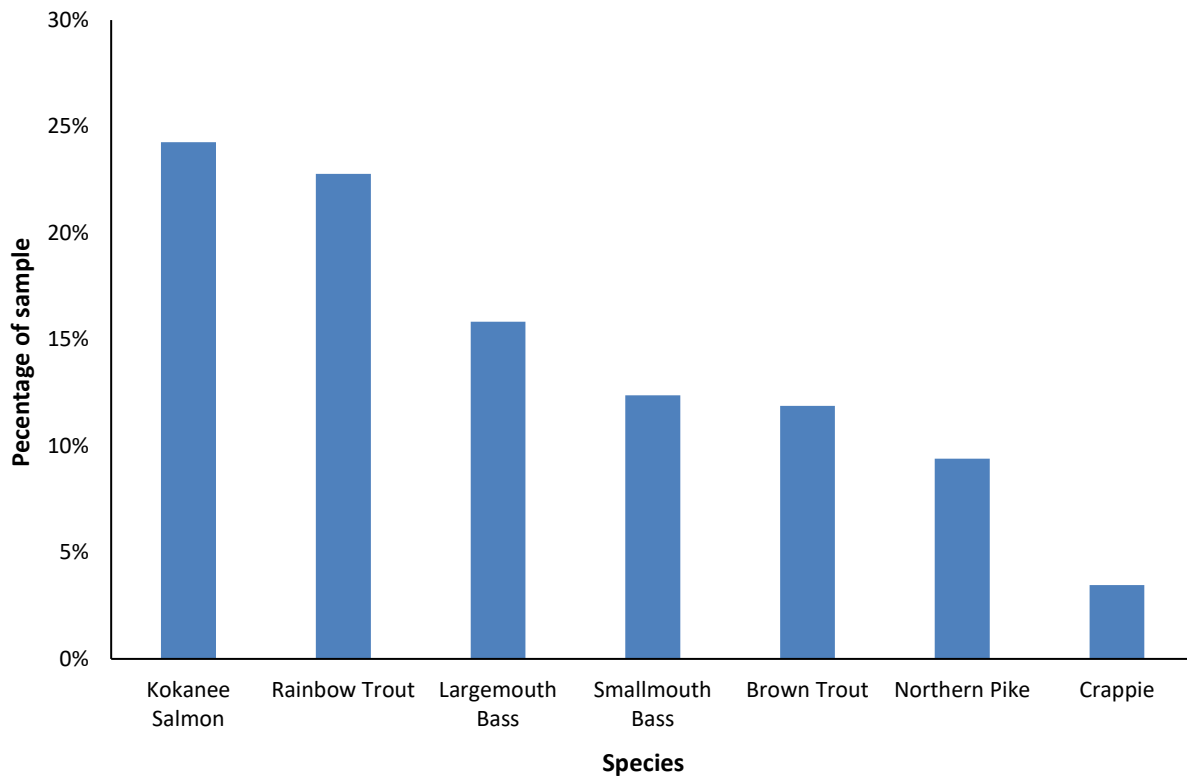


Figure 13. Percentage each fish species was selected first as the most time spent fishing for by Navajo Reservoir anglers during the 2022-23 license year.

Table 7. Navajo Reservoir fish species and percentage each was selected by ranked order of time spent targeting during the 2022-23 license year. **Bolded** percentages represent highest percentage category for each species.

Species	1 st	2 nd	3 rd	4 th	5 th	6 th	7 th
Kokanee	24.3%	12.3%	17.4%	7.2%	12.3%	7.7%	17.9%
Rainbow Trout	22.8%	22.8%	10.9%	15.8%	10.4%	8.9%	8.4%
Largemouth Bass	15.8%	10.9%	14.4%	15.3%	16.8%	19.8%	6.9%
Smallmouth Bass	12.4%	15.8%	10.9%	13.4%	17.8%	17.3%	8.4%
Brown Trout	11.9%	20.8%	16.3%	11.4%	16.8%	9.4%	8.9%
Northern Pike	9.4%	7.4%	19.3%	13.9%	11.4%	16.3%	16.8%
Crappie	3.5%	10.4%	10.4%	19.8%	10.4%	14.4%	26.7%

Questions 16 to 20 were related to demographics and were optional to answer by survey participants.

Question 16. What is your gender?

Most of the survey participants identified themselves as male, representing 87.8% of the sample (Figure 14). Based on 2022-23 license purchasing data about 23.9% of fishing license buyers were female which was similar to the survey invitee pool of 23.0%. Similar to past surveys, female

license buyers seem to be under represented in the survey as only 10.8% of respondents identify themselves as female.

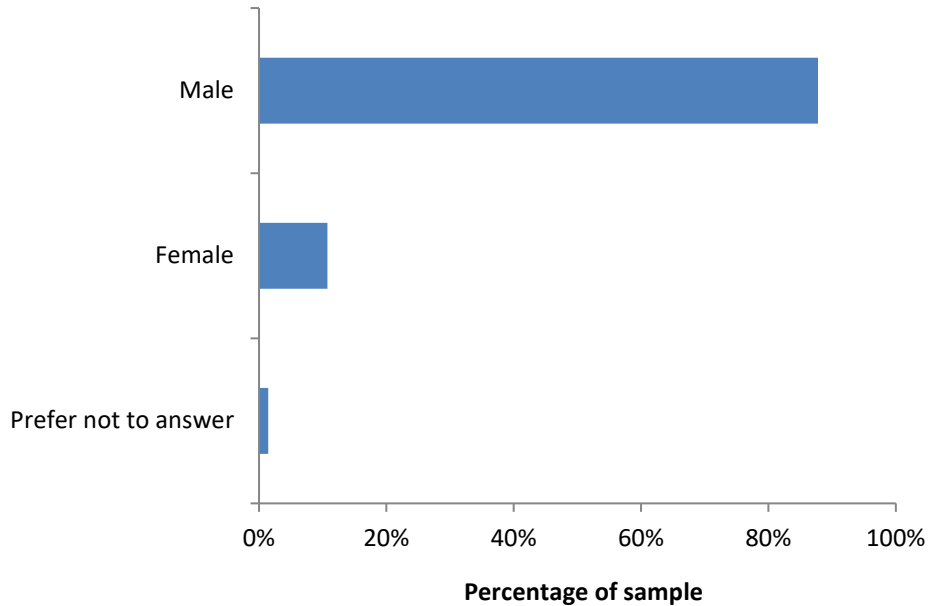


Figure 14. Gender of survey participants by percentage.

Question 17. What is your age category?

The largest age category was 65 years and older, representing 32.9% of the sample, followed by age category 50 to 64 years (Figure 15).

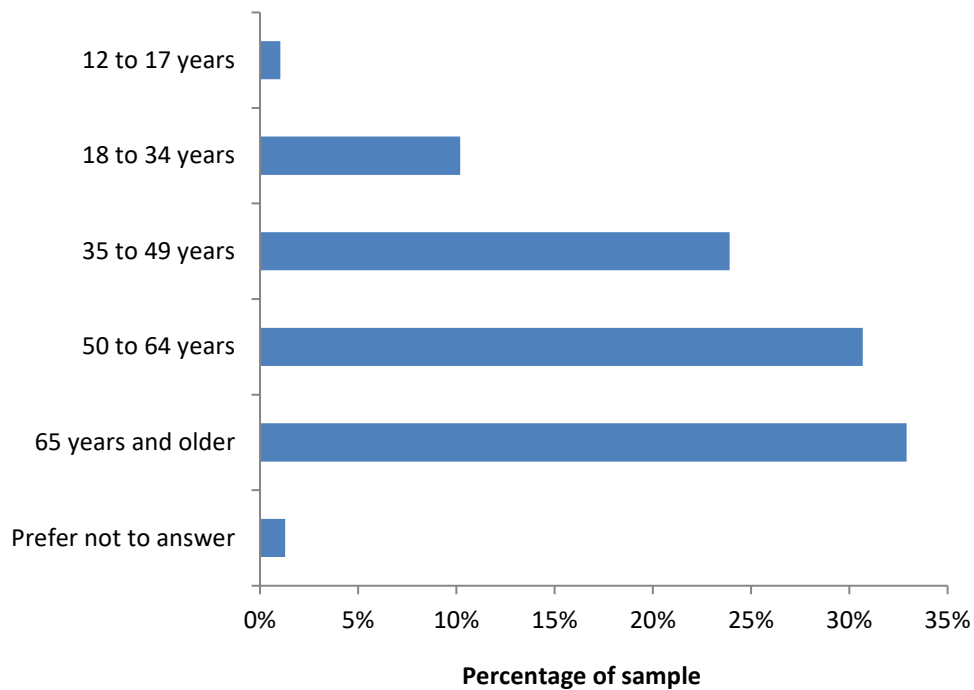


Figure 15. Age categories of survey participants by percentage.

Question 18. Do you consider yourself to be (ethnicity):

Most of the participants consider themselves Anglo/Caucasian representing about 52.7% of the sample (Figure 16).

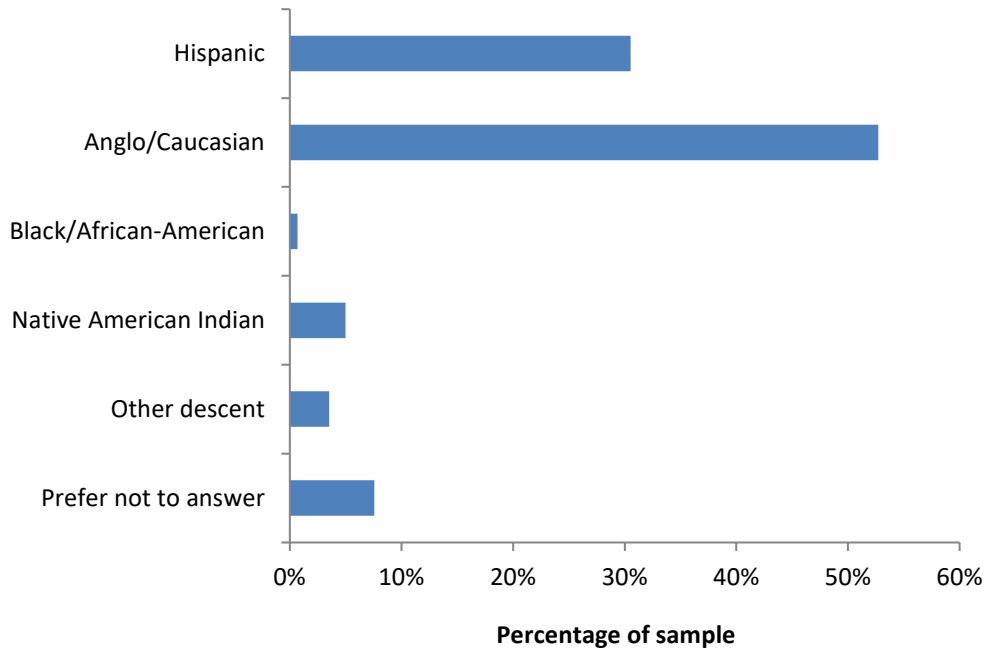


Figure 16. Ethnicity of survey participants by percentage.

Question 19. What is the highest level of education you have had the opportunity to complete?

The largest percentage of participants indicated completing “some college/associates degree/vocational certificate” representing 32.6% of the sample. Participants that indicated “grade school” was the smallest percentage (Figure 17).

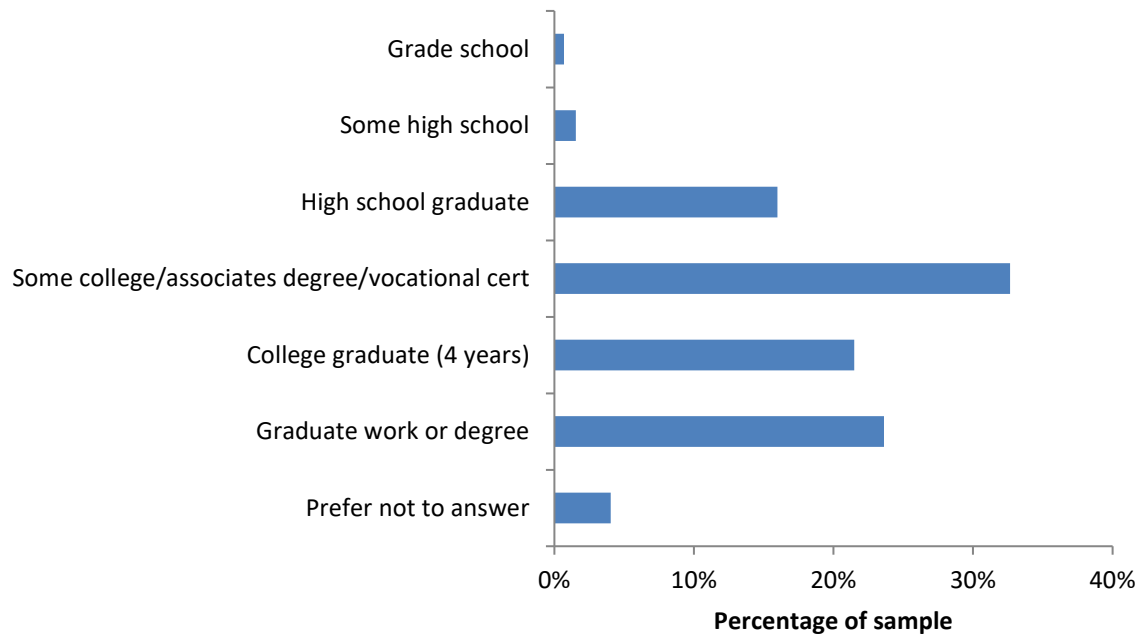


Figure 17. Highest education level of survey participants by percentage.

Question 20. What is the zip code of your residence?

Survey participants represented 383 different zip codes and 34 different states (Figure 18). One hundred fifty-one of the 365 (41.4%) New Mexico zip codes were represented.

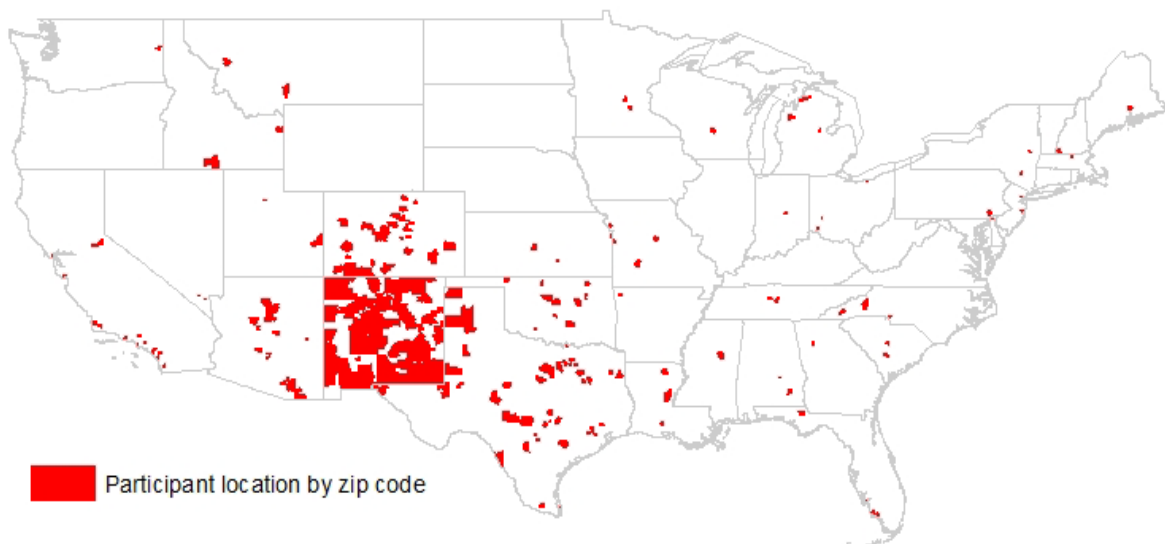


Figure 18. Location of survey participants based upon zip code. Note: Alaska and Hawaii not displayed since there were no survey participants from these states.

Conclusion

Results from this survey continue to provide insight on angler trends that guide fisheries management. Overall, the angler satisfaction objective of 90% or higher was met in the 2022-23 license year. Monitoring trends, such as the increase in catch-and-release anglers and anglers that prefer wild fish, is vital to understanding the needs of our anglers and ensuring we can continue to meet the satisfaction objective.

Thank you to the survey participants for providing your input and helping us successfully manage your aquatic resources.