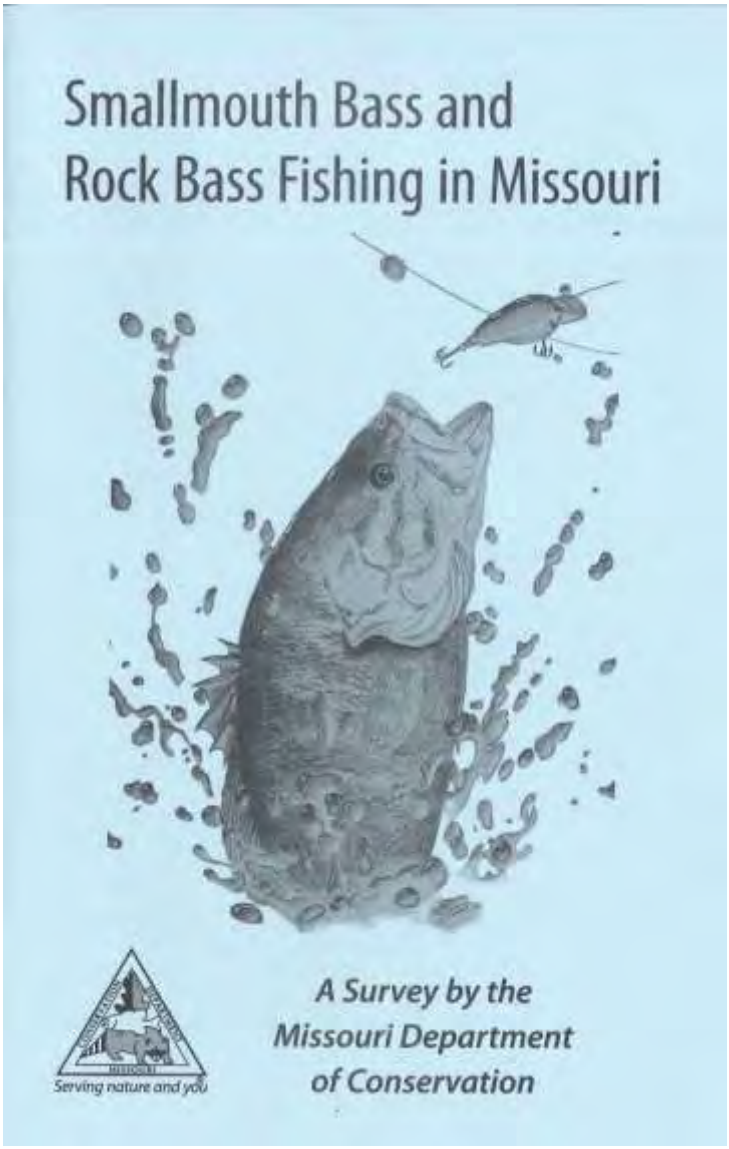
Smallmouth Bass and Rock Bass Fishing in Missouri

A Summary of the 2011 Survey



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The following pages are an abridged summary of the findings of the 2011 smallmouth bass and rock bass/goggle eye (herein referred to as "rock bass") angler mail survey conducted to gain a better understanding of the values of, opinions from, and uses by the anglers who encounter those species in Missouri. In October 2010, questionnaires were randomly mailed to Missouri anglers screening for smallmouth bass or rock bass fishing activity. A follow-up survey was sent to the anglers who reported they had fished for or caught smallmouth bass or rock bass, asking their opinions and to report their 2010 smallmouth bass and rock bass fishing activities. Random survey mailings were stratified into north and south Missouri and were weighted to produce statewide results. This follow-up survey was also mailed to anglers from selected organized angling groups. Results from organized anglers receiving a direct mailing were kept separate from the north, south and weighted statewide groups as these anglers were not randomly chosen. Thus, angler group categories will herein be referred to as statewide, south, north and organized. Many times the responses of the various angler groups matched the statewide answers, but where there were differences, they are discussed. The 2011 smallmouth bass and rock bass angler mail survey results are one piece of information biologists will consider when managing smallmouth bass and rock bass populations in Missouri's streams.

"YOUR MISSOURI FISHING ACTIVITY"

Responding statewide anglers typically fished Missouri streams for smallmouth bass most often, followed by largemouth bass and rock bass. The high percentages for smallmouth bass and rock bass were expected as sampling design targeted smallmouth bass and rock bass anglers via the postcard questionnaires prior to mailing the survey.

Wade/bank fishing was the most popular fishing method reported on Missouri streams with only 1.5% of anglers indicating they "never" wade/bank fished. These results are not surprising as some headwater stream reaches are not accessible by canoe or boat. Float fishing was the second most popular method with only 8.5% indicating they "never" float fished. Statewide, jet boat fishing was the least used method (73.7% indicated never using this method). Anglers depended highly on designated public accesses to fish Missouri streams with only 1.5% indicating they "never" access streams at public accesses. High public access usage reinforces

how important it is to maintain or enhance stream accesses. Overall, anglers accessed streams via private property (their own or others') less often than public accesses. Even though most smallmouth bass/rock bass streams are located in the south, north anglers accessed streams via private property at a slightly higher proportion when compared to south anglers.

Anglers provided 8,057 individual write-in responses to what threatens the quality of Missouri stream fishing, and nine broad categories were summarized. Nearly half of the anglers indicated that the quality of Missouri stream fishing was threatened by "pollution". Examples of the "pollution" category include litter, chemical waste, farm runoff and industrial runoff. Other frequently cited, perceived threats were social conflicts such as fish populations being over-fished or not enough catch-and-release, and stream habitat degradation. Biological interaction (e.g., otters and invasive species), illegal/unethical fishing and regulatory concerns also had a significant number of responses. The "illegal/unethical fishing" category contained all responses that listed "gigging" as a threat, and gigging specifically comprised a relatively low percentage of overall threats listed.

Anglers reported belonging to an organized angling group at a fairly low rate of 12.6%. Half of the anglers that reported belonging to an organized angling group indicated they were members of Bass Angler Sportsmen's Society (BASS). Similar results were reported by Meramec River Stream Black Bass Special Management Area anglers participating in one-on-one, riverside creel interviews as fewer than 10% of anglers said they belonged to an organized angling group, and less than four percent said they belonged to BASS or the Missouri Smallmouth Alliance specifically (Meneau 2009). North anglers had a higher proportion of members for other groups; Conservation Federation of Missouri, Missouri Smallmouth Alliance, Federation of Fly Fishers and "other" write-in groups.

"SMALLMOUTH BASS FISHING IN MISSOURI"

Seventy-two and nine-tenths percent of south anglers and 62.7% of north anglers reported fishing for smallmouth in 2010 specifically. For comparison, 84% of trout anglers targeted in an Missouri Department of Conservation (MDC) trout fishing mail survey in 2004 reported fishing for trout in the last 12 months (Reitz and Kruse 2006). Most anglers reported taking multiple

trips per year to fish for smallmouth bass, with 10 trips being the average number of trips per angler reported in 2010. For comparison, the majority of general trout anglers reported fishing for trout less than 10 days in the previous year.

Fewer anglers gain fishing access through their own property, other's private property or road crossings, but anglers that do tended to report higher trip numbers for smallmouth bass in 2010 and were more likely to have fished for smallmouth in 2010 than anglers using public accesses all or most of the time. Although these "private" accesses are not used by as many anglers as designated public access, they seem to account for a sizable proportion of trips taken and fish caught compared to their relative infrequency of use. Anglers who usually fish Missouri streams via jet boat or float fishing were more likely to have fished in 2010 and reported catching more smallmouth per trip than the other methods (wade/bank or motorboat). Anglers who usually fish Missouri streams via motorboat fishing generally took fewer trips in 2010 than all other methods, suggesting that motorboats with propeller outboards are not the ideal equipment to effectively fish Missouri's smallmouth streams.

Most anglers catch multiple smallmouth bass per trip, with the statewide angler averaging 7.1 smallmouth bass per trip. Anglers who usually fished via jet boat or float fishing tended to report catching more smallmouth bass per trip. Though angler catch within Stream Black Bass Special Management Areas (SBBSMA) was not directly solicited, anglers that fished at least one SBBSMA in 2010 reported catching a higher average number of smallmouth bass per trip than anglers who did not fish SBBSMA.

Anglers who did provide information regarding their harvest tendencies on smallmouth bass in 2010 reported taking an average of 1.9 smallmouth bass per trip. The estimated harvest rate for smallmouth bass was 31.8% for statewide anglers. By comparison, harvest rates previously reported for smallmouth bass in Big River (Meneau 2009) and Bourbeuse River (Smith 1998), were 25% and 8%, respectively. Additionally, anglers reported keeping 45% and 15% of legal-sized smallmouth bass caught in Big River, Big Piney River and Meramec River SBBSMA before and after implementation of special regulations, respectively (Meneau 2009). Smith (1992) found less than 10% of Courtois Creek legal-sized smallmouth bass were harvested by anglers. The estimated harvest rate for rock bass from this mail survey was much higher (50%).

Tournament fishing was an activity pursued by relatively few of Missouri's smallmouth anglers in 2010. Streams reported to host the highest number of angler-tournament-days were the Current, Gasconade, Meramec and Osage rivers. Overall, tournaments did not account for much of the effort reported for smallmouth on streams.

In 2010, 12.3% of statewide anglers fished for smallmouth bass in SBBSMA. The top reason cited by anglers that did not fish SBBSMA was "none close enough to me", which suggests a limit on how far anglers are willing to drive to fish SBBSMA. This localized use of SBBSMA was documented by earlier creel surveys on the Big River where 70% of anglers using the Big River SBBSMA reportedly resided within the county surrounding it (Jefferson County), and anglers living within 15 miles of the Big River SBBSMA logged the vast majority of fishing trips (Meneau 2009). Kruse and Deisanti (2002) had also previously documented that most anglers residing near the Jacks Fork River and Gasconade River fished their respective SBBSMA primarily because it was close to home, while non-local anglers fished for a wide variety of reasons. The existence of SBBSMA appears to be fairly well known to statewide anglers who fished in 2010; 86.4% knew SBBSMA existed for smallmouth bass. However, commonly cited reasons by anglers that did not fish SBBSMA highlight a lack of knowledge about their existence or locations. Number of anglers fishing and trip frequencies varied by SBBSMA; generally, larger streams received more trips per year than smaller wade-access only streams. Even though a small portion of anglers reported fishing in SBBSMA in 2010, very few anglers indicated that there is no need for more SBBSMA. Most anglers indicated that distance between new and existing SBBSMA would not matter to them, as long as smallmouth bass fishing improved. Less than 10% of anglers indicated that they did not fish SBBSMA because of reasons associated with the more restrictive harvest regulations.

Most SBBSMA characteristics were rated above the scale midpoint by anglers that fished SBBSMA. The highest ratings were given to canoe/kayak access and overall public access, demonstrating anglers' appreciation for good stream access. The lowest ratings were given to size and number of fish caught. However, north anglers' ratings of number and size of fish caught were still above the scale midpoint. Jet and float method anglers tended to rate both the size and number of fish caught in SBBSMA higher than the other fishing methods (wade/bank and motorboat). A possible reason could be anglers' ability to efficiently cover larger amounts

of good habitat as evidenced by their higher number of trips per year and fish caught per trip. South anglers and anglers that fished primarily via motor boat tended to give lower ratings of all SBBSMA characteristics than north or organized anglers.

When asked to directly compare fishing in SBBSMA to fishing in other stream sections, anglers indicated that fishing is better in SBBSMA. Kruse and Deisanti (2002) had also previously reported that anglers increasingly felt implementation of special regulations improved their chances of catching larger fish at the Gasconade River SBBSMA. Interestingly, even though anglers indicated that fishing was better in SBBSMA, they still rated size and quality of fish caught in the SBBSMA lower than other SBBSMA characteristics, suggesting that fishing quality in SBBSMA does not solely relate to fish caught.

Anglers rated their overall Missouri stream smallmouth bass fishing during 2010 above the scale midpoint. North anglers again gave higher ratings than south anglers, but all groups gave an overall rating above the scale midpoint. These ratings were very similar to ratings given for overall SBBSMA fishing quality.

Fishing for smallmouth bass around springs in the winter months is not an activity undertaken by the majority of anglers. Of anglers that do target spring areas for smallmouth in the winter months, little harvest was reported. The concern that smallmouth bass may be vulnerable to overharvest while congregated in spring areas during the winter and that harvest-oriented anglers are removing a significant portion of the population is not supported by survey results. It should be noted that there seems to be a discrepancy between information specific to 2010 when comparing smallmouth bass fishing effort in or near springs during the winter months in general. For example, only 9.7% of statewide smallmouth bass anglers responded that they fished in or near springs during the winter of 2010; whereas responses indicate that 34.1% fished in or near springs during the winter when asked about this activity not specific to 2010. Therefore, overall winter smallmouth bass fishing in or near springs may be more prevalent than data from 2010 indicate.

The majority of anglers do not fish for smallmouth bass in Missouri impoundments or reservoirs, but those that do average almost seven trips per year. South anglers, on average, took almost twice as many trips per year as north and organized anglers, likely due to their proximity

to the lakes listed. Table Rock Lake was most often fished for smallmouth, both in total number of trips reported and percentage of anglers fishing it. This demonstrates that Missouri's smallmouth bass fishing opportunities extend beyond streams, and several southern Missouri reservoirs appear to provide quality smallmouth bass fishing.

From a statewide perspective, most anglers did not offer a strong opinion about Missouri stream smallmouth bass harvest regulations, but of those offering an opinion, most (35.6%) felt the existing amount of harvest was appropriate, and very few (3.7%) statewide anglers responded that the current regulations do not allow enough harvest. In fact, of those statewide anglers providing an opinion about the percentage of Missouri streams that should allow harvest, the most common response was "100%" (22.7%). Only 6.8% of statewide anglers indicated that they believed no streams should allow harvest, giving little support to a statewide catch-and-release regulation for smallmouth bass.

Most anglers find Missouri's existing smallmouth bass stream regulations easy to understand, indicating that the current regulations are simple enough to follow. Organized anglers said that regulations are easy to understand and were much less likely to select "don't know/not sure" than general anglers. Anglers who fished in SBBSMA in 2010, and were presumably more knowledgeable about existing regulations, were more likely to think that regulations are easy to understand than anglers that did not fish in SBBSMA in 2010. Survey results did not indicate an overwhelming desire by anglers to simplify smallmouth stream fishing regulations by going to one statewide regulation; the proportion of anglers that would favor the single statewide system (36.8%) was almost equal to the proportion that supported keeping the current regulations system with a general, statewide regulation and specialized regulations in SBBSMA (35.9%). Statewide, the current 12" minimum length limit for smallmouth bass was the single answer chosen most often (37.8%). However, if the angler proportions choosing one of the higher minimum length limits listed (13", 14", 15") are combined, that total is 47.0%. Overall, a reduction in the statewide daily limit to three or four per day was favored over keeping the existing limit; however, more anglers chose keeping the current limit over either daily limit presented on its own. The existing stream bass no-harvest season is highly supported by anglers, as 69.3% opposed changes to this season.

Most anglers felt a 15" smallmouth bass was a quality fish, indicating support for the existing length restrictions in most SBBSMA and the SBBSMA objective of increasing numbers of 15" smallmouth bass. Generally, it appears angler perception of quality smallmouth bass length matches their preferred minimum length limit choice. The vast majority of anglers who felt a 12" fish was a quality smallmouth also preferred 12" as the stream minimum length limit. Anglers who preferred a 15" minimum length limit perceived a 15" or larger smallmouth bass to be quality fish.

Overall, support appears to be split between keeping the current stream smallmouth bass regulation system and going to a single statewide limit, and between keeping the current statewide minimum length limit and raising it. There appears to be slightly more support for lowering the smallmouth bass daily limit, but opinions on how far to reduce it ranged widely.

"ROCK BASS/GOGGLE EYE FISHING IN MISSOURI"

Rock bass fishing is important to Missouri anglers. Even though it may be common to hear that smallmouth bass and rock bass fishing are very popular on Ozark streams, there seems to be a perception that smallmouth bass far outrank rock bass in popularity. Although, there were more smallmouth bass anglers, this survey indicates that nearly an equal average number of fishing trips in 2010 were expended fishing for both rock bass and smallmouth bass per angler. In 2010, 74% of south anglers fished for or caught rock bass, while 73% fished for or caught smallmouth bass. On average in 2010, statewide anglers took 9.3 trips for rock bass and 10.2 trips for smallmouth bass.

Of respondents who fished for or caught rock bass, south anglers fished more frequently, typically catching and harvesting more rock bass than north anglers. Statewide, anglers were likely to harvest rock bass of any size. As estimated from angler responses, the overall harvest rate for rock bass in Missouri streams was 50.0% with an average of 4.0 rock bass harvested per trip in 2010.

Overall, statewide rock bass anglers felt that the quality of rock bass fishing has remained the same or declined over the past 10 years.

In 2010, 9.9% of statewide anglers fished for rock bass in Special Management Areas (SMA). When asked if anglers thought rock bass fishing was better in SMA, statewide anglers were almost evenly divided. The existence of SMA appears to be fairly well known to statewide anglers who fished in 2010; 80.1% knew SMA existed for rock bass. However, anglers that were geographically closest (south anglers) to the SMA fished them the least frequently.

In Missouri Ozark streams, it has been suspected that relatively few anglers fish for rock bass in or near springs during the winter months. However, since fish concentrate in these areas during the winter, it has also been suspected that excessive harvest may be occurring. Results from this survey seem to corroborate what managers suspected; relatively few anglers fish in or near springs during the winter months. Additionally, results indicate that harvest rates may not be nearly as high as suspected. The majority of rock bass anglers fishing in or near springs indicated that they rarely or never kept any rock bass. It should be noted that there seems to be a discrepancy between information specific to 2010 when comparing rock bass fishing effort in or near springs during the winter months in general. For example, only 7.3% of statewide rock bass anglers responded that they fished in or near springs during the winter of 2010; whereas responses indicate that 31.3% fished in or near springs during the winter when asked about this activity not specific to 2010. Therefore, overall winter rock bass fishing in or near springs may be more prevalent than data for 2010 indicates.

Anglers were asked to provide opinions on several rock bass regulatory topics. Survey results indicate that anglers would be supportive of implementing a statewide 8” minimum length limit on rock bass. Similarly, the majority of anglers also favored a reduction in the daily limit. The most popular daily limit chosen by anglers was a daily limit of eight rock bass per day statewide. Implementing a minimum length limit or daily limit on selected streams was not popular, indicating a preference for statewide stream regulations. In general, anglers were also supportive of implementing a no-harvest season for rock bass. Although there was support for implementing a no-harvest season both during the winter and spring spawning period, the spring spawning season was favored by most anglers. If rock bass were included in the current stream black bass no-harvest season regulation, it may be widely-accepted by most anglers.

ORGANIZED ANGLERS

Although fewer in number, organized anglers tended to expend more fishing effort in 2010 than the statewide angler for both smallmouth bass and rock bass. It appears that smallmouth bass are slightly more popular with organized anglers than rock bass in that 88.9% of organized anglers fished for or caught smallmouth bass, while 78.0% fished for or caught rock bass in 2010. Reitz and Kruse (2006) also found a similar trend when surveying trout anglers; organized trout anglers were more likely to have fished in the previous year than general anglers, and organized anglers reported fishing for trout more days in the previous year compared to general anglers.

Organized anglers also reported catching more smallmouth bass per trip than statewide anglers (10.3 and 7.1, respectively), but numbers of rock bass caught per trip were more similar (7.7 and 6.9, respectively). Organized anglers reported harvesting higher numbers of smallmouth and rock bass per trip (3.4 and 5.4, respectively) than statewide anglers (1.9 and 4.0, respectively); however estimated harvest rates were lower or equal to statewide harvest rates. Organized anglers were more selective in sizes of rock bass harvested than statewide anglers as evidenced by the reluctance of most organized anglers to harvest rock bass smaller than 7", whereas statewide anglers were likely to harvest rock bass of any size.

Regarding fishing methods used on Missouri streams, organized anglers were much more likely to use jet boats (nearly half of the organized anglers used the method at least "some of the time") than statewide anglers (73.7% indicated never using this method).

Organized anglers were six times more likely to participate in a stream tournament than statewide anglers in 2010. The rivers with the highest number of angler-tournament-days (Current, Gasconade, Meramec and Osage rivers) closely correspond with a few of the organized groups (Upper Meramec Bass Club, Gasco-Osage Bassmasters, CEMO Bassmasters and Current River Smallmouth Association) that received this survey.

Organized anglers were about twice as likely as statewide anglers to have fished in either a SBBSMA or rock bass SMA in 2010, and they tended to think more highly of the fishing quality in those areas than statewide anglers. When asked to directly compare fishing in SBBSMA or rock bass SMA to fishing in other stream sections, organized anglers were four times as likely to

respond that fishing was better in the special regulation area than in statewide regulation areas. For comparison, statewide anglers were twice as likely to think fishing was better in SBBSMA, or evenly divided about fishing in rock bass SMA. Organized anglers were also more likely to prefer the current regulation system of statewide daily and length limits with SBBSMA, than to prefer going to single statewide daily and length limit.

Regarding opinions on stream harvest regulations, organized anglers were three times more likely to state that too much harvest is being allowed than statewide anglers. They were also more likely to favor reducing the smallmouth bass daily limit from six, raising the smallmouth bass minimum length limit from 12" and establishing more restrictive, statewide harvest regulations on rock bass.

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