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A Roving Creel Survey of Selected Southeast Minnesota Trout Streams – 2013

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Abstract. – Twenty four trout stream areas were surveyed across southeast Minnesota from April 1 to September 30, 2013 in a roving-roving creel survey. Anglers were enumerated and interviewed with a letter and postage paid envelope left on their vehicles to return providing us with trip length. Anglers consisted of mostly males (90.1%) using a variety of bait (27.3%), fly (42.8%), lure (24.2%), and mixed method (5.8%) gear types. Mean angler trip length was 3.11 hours with a catch rate of 1.45 trout/hour. An estimated 56,192 trout were caught in 44,673 angler-hours. This creel provides information that will allow fisheries managers to better manage the trout fishery resource of southeast Minnesota.

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Introduction

Southeast Minnesota maintains an exceptional recreational fishery for stream trout on over 800 miles of coldwater streams. A comprehensive trout stream resource plan was developed in 2003 (MNDNR 2003) and updated in 2010 (MNDNR 2010a) to guide management efforts. This plan proposed specific action items for management that included: (1) periodic assessment of angler pressure, characteristics, attitudes, and satisfaction levels to track temporal changes in angler use [Goal 3.2 Angler Use and Angler Attitudes - Action items 22 and 23]; (2) implementation of a tiered angling regulations system [Goal 1.3 Fishing Regulations - Action item 6]; and (3) enhancement of instream habitat improvement projects to provide maximum benefits to trout and trout anglers [Goal 2.1 Instream Habitat Rehabilitation - Action items 9].

Periodic assessments of sociocultural information are needed to ensure anglers' needs and desires are being addressed by management actions. Sociological information can be used to identify distinct user groups within a fishery (e.g., anglers that chose a specific gear type) so that conflicts among them can be reduced (Noble and Jones 1999). Alternatively, sociocultural information may be used to identify changes in participation among different user groups, such as those based on gender, state of residence or age category. This information could then be used to target communication efforts to a specific user group. The Long-Range Plan for Trout Stream Resource Management in Southeast Minnesota, 2010-2015 and Progress Report (MNDNR 2010a) (LRP) specifically recommended assessment of angler demographics and attitudes to aid sociocultural evaluations of management actions such as angling regulations and instream habitat enhancement projects.

Angling regulations can be implemented for a variety of reasons including biological and sociological reasons and the effects of changing regulations should "always be evaluated" (Noble and Jones 1999). Some regulations, such as gear restrictions, are almost always implemented for social reasons, and specific measurable objectives for such regulations should be developed to ensure a proper evaluation (Noble and Jones 1999). Several different trout angling seasons (Table 1) provide the basis for a tier of harvest regulations in southeast Minnesota (Table 2). This latest set of regulations was proposed and then implemented on April 16, 2005. These were added to the current southeast Minnesota general trout stream regulation of five trout in the daily/possession limit with only one of those >16 inches TL. The LRP (MNDNR 2010) noted the need to evaluate these regulations with a creel survey to ensure social implications could also be assessed.

Protection, improvement and restoration of coldwater aquatic habitats are one of the primary goals listed in the LRP (MNDNR 2003; 2010). Substantial instream habitat work is being completed

throughout southeast Minnesota by a range of conservation partners (e.g. Trout Unlimited) due in large part to increased funding from the LSOH (Lessard Sams Outdoor Heritage fund) and LCCMR (Legislative and Citizen Commission on Minnesota Resources). Orth and White (1999) noted the need to establish specific, quantifiable objectives for each habitat project initiated. Without such specifics, identification of project success is impossible to determine. The LRP noted that instream habitat improvement projects should result in maximum benefits to trout and trout anglers. Although not specifically identified, such benefits should likely include a number of factors such as improved trout populations (more or larger trout) and increased angler catch rates and satisfaction. To date, MNDNR has not attempted to measure sociocultural benefits or concerns of instream habitat projects in southeast Minnesota, even though large sums of money have been expended on this management action.

The overall goal of this creel survey was to gather sociocultural and fishery related information (i.e., angler pressure, catch, and harvest) on a selected group of coldwater trout streams in southeast Minnesota during the summer angling season to evaluate the three selected management actions listed above from the long-range trout resource plan. Two of the three selected management actions will be covered in this document. Specific objectives for each action item include:

Goal 3.2 Angler Use and Angler Attitudes - Action items 22 and 23: Periodically assess angling pressure and success to answer specific management questions.

1. Assess age, gender, residency, fishing experience and gear choice of all anglers fishing coldwater streams during summer 2013.
2. Determine why anglers chose to fish each stream site.
3. Determine angler satisfaction with their overall fishing experience, size of trout caught, and numbers of trout caught.
4. Determine angler catch and catch rates with harvest and harvest rates to understand angling motivations.

Goal 1.3 Fishing Regulations - Action item 6: Propose and implement a tiered trout fishing regulation system. Use the new approach to develop an evaluation plan using angler survey information and regional trout population biometrics

1. Compare angler age, gender, residency and gear choice among regulation types.
2. Compare angler satisfaction among regulation types.
3. Compare catch and catch rates for all trout among regulation types.
4. Compare catch and catch rates of 12-16 inch trout among regulation types.

5. Compare catch and catch rates of trout ≥ 16 inches among regulation types.

Goal 2.1 Instream Habitat Rehabilitation - Action items 9 (Results of this section of the creel will be covered in a future document): Develop MNDNR Fisheries Trout Habitat Improvement Guidelines for Southeast Minnesota. Part of the development of any guidelines will require an evaluation of angler benefits and sociocultural patterns of anglers fishing before and after implementation of current instream habitat improvement projects.

1. Compare angler age, gender and gear choice before and after habitat improvement projects.
2. Compare angler satisfaction before and after habitat improvement projects.
3. Compare angler pressure, catch, catch rate, and harvest before and after habitat improvement projects.

Methods

Sampling Design- This roving-roving creel survey was conducted from April 1 to September 30, 2013 following methods in Pollock et al. (1994). A group of streams was randomly selected to allow comparisons among angling regulations and to gather information prior to and after instream habitat improvement (Figure 1; Tables 3, 4, 5). A balanced study design was followed with five stream areas randomly selected within each of four regulation types: catch-and-release (artificial lures and flies only), slot (no gear restrictions), slot (artificial lures and flies only), and general trout regulations (i.e. n = 20). Funding and logistics allowed the hiring of four creel clerks which allowed an additional four streams (general trout regulation areas) to be selected to help evaluate instream habitat improvement projects. The 24 total stream areas were assigned to the four clerks (six areas each) (Table 5). The six areas for each clerk were then grouped into two sets of three, based on their proximity to each other to reduce travel time. Because all 24 stream areas for this creel survey were randomly selected, with additional sampling effort given to more abundant general regulation streams, sociocultural information was assumed to represent all trout anglers fishing southeast Minnesota.

Each clerk was responsible for sampling one set of three stream areas on a survey day. Day types, time periods and travel routes were randomly selected. On each survey day, the creel clerk conducted 2-hour samples at each of their three stream areas along a randomly selected route. Day types were weekdays (WD) and weekend/holiday (WEH) strata. Four randomly selected weekdays were given off during each two week pay period. Remaining WD and WEH were then randomly selected without replacement. For example, if a Saturday was randomly selected for the first set of three

streams, then the clerk automatically sampled the remaining set of three stream areas on the following Sunday. Time periods were AM (6 am to 2 pm) and PM (1 pm to 9 pm) and were given 0.50 sampling probability with replacement. An efficient circular route through each set of three stream areas was determined. The starting location was then randomly selected with replacement each day (Appendix 1, 2, 3, 4). Two 1-hour periods for drive time and breaks were provided between specific stream areas each day but clerks were required to reach each stream area at a specific time along their daily route to minimize angler length-of-stay biases inherent in roving creel surveys (Pollock et al. 1994).

At each stream area, clerks counted and interviewed all anglers observed during their 2-hour survey and left letter surveys on vehicles to gather additional information. Creel clerks completed a contact form for each interview (Appendix 5). Sociocultural information gathered included: the angler's home zip code, age, gender, gear type used, fish species sought, trout angling experience (i.e., number of years the angler has been fishing for trout), and the reason why the angler decided to fish that stream area. Angler satisfaction with their overall fishing experience, size of trout caught, and numbers of trout caught were also assessed, but only for anglers that had been fishing for longer than 1-hr. To allow estimates of angler pressure, catch and harvest, the clerk also asked when the angler started fishing (and noted the time of the interview) and asked how many fish and their approximate lengths that had been caught. Creel clerks then enumerated and measured each harvested fish that the angler possessed. At each stream area, clerks also recorded the number of letter surveys (Appendix 6) placed on vehicles, counted the number of anglers present and noted fishing conditions including air and water temperature, water clarity, water level, and general weather (Appendix 7). Letter surveys gathered information from any anglers that were missed during the interview process and supplemented information on party size, home zip code, and trip length. However, catch and harvested information was not gathered from letter surveys due to concerns with angler recall bias.

Analysis-

Angler characteristics (To meet objectives in Goal 3.2 Angler Use and Angler Attitudes) - Overall angler characteristics, such as age, gender and residency, were summarized from interviews and returned letter surveys. Estimates of angler pressure, catch, harvest and their respective variance and standard errors, followed calculations in Pollock et al. (1994). In all three calculations, each day represented a statistical replicate. To estimate angler pressure, we first multiplied the number of anglers counted during each 2-hour survey period x 2-hours to convert the number of anglers observed to an estimate of angler-hours (Table 6). Then that number was divided by 0.133, the proportion of the entire sampling

day that the 2-hour survey period represented (i.e., 2-hours/a total 15-hour angling day = 0.133). This essentially extrapolated the 2-hour survey period estimate up to a total estimate of angler-hours for an entire day which is equivalent to one statistical replicate. These daily effort estimates were then averaged for each stream area, month, and day type (WD, WEH) combination to obtain a mean daily pressure estimate. Mean daily pressure estimates were then multiplied by the total number of WD or WEH available within each month for each stream area to obtain an estimate of total pressure for each stream area, month, and day type combination.

Catch and harvest calculations were exactly the same but involved different sets of information which obviously resulted in slightly different values. As with pressure, each day represented a statistical replicate. Mean daily catch had to be estimated first and then extrapolated to all the days available to get total catch estimates. Daily catch was the product of multiplying daily effort (i.e., angler-hours for each day as determined in angling pressure calculations above) times the mean daily catch rate (number of fish/hour) for each day (Table 7). Mean daily catch was then calculated as the average of the daily catch estimates.

Mean daily catch rate is typically calculated as the average of all the individual angler catch rates on a given day, and usually for anglers that have been fishing for some minimum length of time (Pollock et al. 1994). In this survey, we only included individual angler catch rate data for anglers that had been fishing for longer than 0.5 hour. However, this requirement along with the infrequent number of anglers observed fishing, resulted in very low sample sizes for catch rates for some strata. For example, the creel survey on Gribben Creek only encountered anglers that had been fishing longer than 0.5 hour on two weekdays during the entire summer of 2013 (Table 8). Also, both of these days were in July, so there were no samples for weekdays for any other month. Sample sizes at the lowest level of stratification (i.e., for a specific stream area, month, and day type combination) were often represented by a single day (n = 1; Table 8) which would have precluded variance and standard error estimates at that level. A preliminary two-way analysis of variance procedure (not shown) comparing catch rates among months and stream areas found that catch rates varied more among stream areas than among months. Thus, it was decided to combine catch rate data among months within stream areas to bolster sample sizes. This resulted in extrapolations for total catch for each stream area and day type combination but across the entire summer angling season. Harvest estimates were made similarly, but because harvest was not allowed during the two-week early and late catch-and-release seasons, harvest estimates were calculated separately for the early catch-and-release season (April 1-12), the summer

harvest season (April 13-September 14), and the late catch-and-release season (September 15-30). We specifically calculated harvest during the catch-and-release seasons in the event clerks observed and reported any illegal trout harvest. Finally, Minnesota state statute (Admin. Rule 6264.0400, Subp. 39) declares that on the third Saturday in May, general trout regulations, including harvest, shall be allowed on the catch-and-release portion of Camp Creek. Thus, we estimated fish harvest for this single day on this stream.

Comparisons of angling regulations (To meet objectives of Goal 1.3 Fishing Regulations) – Angler characteristics, reported above, were reorganized into groups representing each of the four regulation types to discern differences. To compare angler trip length among regulations, we used completed trip information from field interviews and from returned letter surveys. Mean trip lengths were compared among regulations with a one-way ANOVA followed by a Tukey's HSD post-hoc test. For all statistical tests in this report, α was set at 0.05 and all analyses were completed with Statistical Analysis Systems software, version 9.1. To determine if anglers were fishing one type of regulation more than another, we compared mean angler-pressure estimates among regulation types with repeated measures MANOVA. Streams represented statistical replicates within each regulation treatment group and months were the repeated measure. Data were assumed to come from a multivariate normal distribution because the error degrees of freedom exceeded 20 (Hatcher and Stepanski 1994). MANOVA was tested with the Wilk's Lambda statistic.

To test the question of differences in catch rates in streams with a catch-and-release regulation, we compared catch rates for all sizes of all trout species caught with a nested ANOVA, where streams were nested within regulation types. Catch rate data were $\log_{10} + 1$ transformed to better meet the assumption of normality.

Catch rates of larger trout, representing size groups of ≥12 inches, 12-16 inches, and ≥ 16 inches, exhibited non-normal and skewed data distributions because of the large number of zero catches. No transformation adequately approximated a normal distribution. Therefore, to test the questions of higher catch rates in catch-and-release, protected slot (artificial lures and flies only), and protected slot (no gear restrictions) streams, we compared each size group independently with a Kruskal-Wallis non-parametric ANOVA. For each size group we conducted Kruskal-Wallis test comparisons on two angler groups; one with all anglers (i.e., many where nothing was caught) and another on a subset of those anglers that had caught at least one trout in the size group of interest.

Results

Four creel clerks interviewed 1,314 anglers on 17 selected trout streams on 24 different routes in southeast Minnesota from April 1 to September 30, 2013 (Table 5). Five of those streams (Hay Creek, South Branch Root River, South Fork Root River, Trout Run and West Indian Creek) contained two sampling areas while one stream (Middle Branch Whitewater River) contained three sampling areas. This survey required 3.1 hours of clerk effort to obtain each interview. Twenty seven anglers refused interviews, mostly on the South Branch Root River (Lanesboro = 12, Park = 7). Other areas of refused interviews included East Beaver Creek (1), Middle Branch Whitewater River (1), North Branch Whitewater River (1), Willow Creek (1) and Wisel Creek (4). The refused-interview anglers on Middle Branch Whitewater River (Quincy) and North Branch Whitewater River were both in violation of the gear restriction (Table 9). Two of the refused-interview anglers at the Lanesboro Dam on the South Branch Root River indicated they did not speak English. Answers pertaining to questions of angler satisfaction were obtained from 692 interviews.

Angler characteristics -

Most anglers interviewed were between 20 and 69 years old (79.0%) (Figure 2). Mean and median interviewed angler age was 42 and 43, respectively. Only 9.7% of anglers interviewed were less than 16 years old whereas 7.2% were 70 years or older. Most anglers interviewed were male (90.1%).

Interviewed anglers were most commonly from Minnesota (92.0%) but also came from across the United States (Table 10). Of those from other states, Iowa was the most common home state (16.3%) (Table 11). The top seven other non-resident home states included Illinois (10.2%), Wisconsin (10.2%), Arizona (6.1%), Florida (5.1%), South Dakota (5.1%) and Texas (5.1%).

Anglers living in the eleven counties in the Lanesboro and Lake City management areas (Fillmore, Goodhue, Houston, Olmsted, Rice, Wabasha, Winona, Dodge, Freeborn, Mower and Steele) were defined as “Local” anglers. These anglers represented 53.7% of those interviewed. “Metro” anglers were defined as those living in the seven counties surrounding the Minneapolis/St. Paul area (Dakota, Ramsey, Washington, Anoka, Scott, Carver and Hennepin) and these anglers represented 37.3% of those interviewed. Those living outside these two areas made up the remainder of Minnesota resident anglers at 9.0%.

Anglers using bait represented 27.3% of all anglers interviewed (Table 12). Lure anglers were fewer in number at 24.2% while fly anglers dominated the gear choice at 42.8%. Mixed method angling (Bait/Lure, Bait/Fly, Fly/Lure and Bait/Lure/Fly) was relatively rare at 5.8%.

Most anglers were fishing for any trout species (90.2%). Anglers targeted a specific trout species in 9.6% of interviews. Only 0.1% of interviewed anglers stated they were fishing for White Suckers *Catostomus commersoni*. Brook Trout *Salvelinus fontinalis* were specifically targeted on Camp Creek, Middle Branch Whitewater (Crow Springs) and Mill Creek. Brook Trout were available in 33.3% of the surveyed routes and are absent in Camp and Mill creeks. Rainbow Trout *Oncorhynchus mykiss* were only targeted on Wisel Creek though they were available on 37.5% of the surveyed routes.

Most interviewed anglers (53.8%) had less than 16 years of trout fishing experience (Figure 3). Anglers with less than 5 years of trout fishing experience represented 29.2% of those interviewed. One angler fishing Pine Creek stated he had 75 years of trout fishing experience. He was 81 years old. For some this was their first trout fishing experience.

When gear type was examined with trout angling experience it was apparent that fly anglers had been fishing for trout for a longer period of time (mean = 24.8 years, median = 22 years, range 0-75 years) (Table 13). Anglers using bait were typically the least experienced (mean = 14.6 years, median = 8 years, range 0-75 years). Lure and mixed method anglers were somewhere between these two gear choices.

Anglers estimated they fish a mean of 5.6 times (median = 2, mode = 1) on their interviewed stream each year. Anglers also indicated that they fished other trout streams in Minnesota a mean of 14.1 times each year (median = 6, mode = 0).

Seven possible answers were provided to answer the question, “Why did you decide to fish here today?”. “Easy access” was the most frequent reply (43.5%) followed by “favorite stream” (21.5%) and “numbers of fish” (14.0%). “Live close by” was the primary reason for 13.1% of those interviewed followed by “like the regulation” (3.9%), “size of fish” (3.6%) and “dislike the regulation elsewhere” (0.1%). Though anglers and clerks were asked to pick one answer, at times two answers were chosen. This occurred on only 0.4% of the interviews.

When the answer to the question, “Why did you decide to fish here today?” was examined by stream some interesting patterns emerged (Table 14). Hay Creek (both sites combined) was most frequently answered with “numbers of fish” (33.9%). This was one of two streams with this as the most frequent answer. The other was South Fork Root River (20%). Other streams such as East Beaver Creek (31.0%), Crooked Creek (27.6%) and North Branch Whitewater River (19.2%) had “numbers of trout” as

the second most selected answer. West Beaver Creek was the only stream with "size of fish" as the primary answer. South Fork Root River (15.4%) had this answer as its second most chosen answer.

When gear choice was examined by time period is was clear that certain gear types dominate specific seasons (Table 15). No anglers using bait were interviewed in the early catch-and-release season (April 1 to April 12) and anglers fly fishing dominated the gear choice (78.6%) during that time. During the first few weeks of the harvest season (April 13 to April 30), bait anglers were the primary users (35.9%). The first two months of the summer (May and June), fly anglers were the primary user group. During July and August the gear choice was then evenly represented by all gear types. During September, trout fishing activity then switched back to fly angling as the dominate gear choice. Mixed method angling never dominated a time period but was most common during the last two weeks of the harvest season (September 1 to September 14). Anglers using lures were represented evenly throughout the trout angling seasons.

When examining age categories, those anglers younger than 16 years old used bait angling techniques more than any other method (53.6%) (Table 16). Bait angling was never the primary gear choice beyond this age category. Trout anglers in their 20's most frequently used lures. Once past this age category all older age categories most frequently used flies in this survey with the exception of those in their 80's who were more likely to use lures than bait or flies.

When examining gear categories, bait anglers were most frequently <16 years old (18.0%) and in their 50's (19.8%) (Table 17). Lure anglers were more commonly in their 20's (21.0%) and 30's (20.0%). Fly anglers were typically in their 30's (18.4%) and 60's (23.1%). Those that chose mixed method angling were most frequently <16 years old (21.1%) and in their 40's (18.3%) and 50's (18.3%).

Local and Metro anglers were primarily composed of anglers using flies at 36.9% and 43.5%, respectively (Table 18). This was the case for those living in other areas of the state as well (35.6%) but many were also anglers using bait (34.7%). Using lures was the second most common choice among Local anglers (29.6%) though it was the third choice for Metro (21.2%) and Other (21.8%) anglers. Mixed method angling was the least common choice for all resident categories (Local 5.5%, Metro 6.3%, Other 7.9%).

Estimates of trip length, catch rate and pressure -

Mean trip length was estimated from a total of 583 anglers from analysis of 277 returned letter surveys (representing 436 anglers) and interviews of 147 anglers intercepted at the end of their fishing trip. Overall mean trip length was 3.11 hours (SE = 0.07). The longest completed fishing trip by an

individual angler was 12 hours and the shortest was 8 minutes. Mean trip length was four hours or longer on four stream areas: South Fork Root River-Million dollar bridge (4.00 hours, SE = 0.38), North Branch Whitewater (4.05 hours, SE = 0.31), West Beaver Creek (4.32 hours, SE = 0.28), and South Branch Root River in Forestville State Park (4.35 hours, SE = 0.49). On average, anglers fished the shortest time on Gribben Creek (1.34 hours, SE = 0.42), Willow Creek (1.52 hours, SE = 0.19), and the Middle Branch Whitewater at Crow Springs (1.98 hours, SE = 0.50). From a seasonal perspective, anglers on average fished the longest time in May (mean = 4.40 hours, SE = 0.21, n = 73) and the shortest in July (mean = 2.54 hours, SE = 0.14, n = 133).

Anglers spent an estimated 44,673 hours (SE = 2,063) fishing the 24 selected stream areas during the summer angling season in 2013 (Table 19). The South Branch Root River below the Lanesboro dam had the highest estimated pressure (7,353 hours), which was more than 1.5 times higher than the next two highest stream areas on the South Branch Root River in Forestville State Park (4,401 hours) and Trout Run at Lohman's (4,101 hours). The next highest estimated pressure was nearly 3,000 angler hours on Trout Run below Bucksnort dam (2,935 hours) and Wisel Creek (2,849 hours). Angler pressure was estimated to be lowest at the West Indian Creek long-term monitoring area (442 hours), Middle Branch Whitewater at Crow Springs (627 hours), Hay Creek at State Forest (664 hours), and Gribben Creek (689 hours). Mean estimated pressure was highest in April (8,881 hours) and July (8,752 hours) and declined through late summer and early fall (Figure 4). Overall, an estimated 14,364 individual angler trips were completed during the summer angling season in 2013 (i.e., 44,673 hours/3.11 hours (mean trip length)).

The overall catch rate for all trout species and sizes combined was 1.45 trout/hour but varied among months and streams (Table 20). Mean catch rate for all trout was highest in May (2.14 trout/hour) and lowest in July (1.01 trout/hour). Among stream areas, mean catch rate was highest at the South Fork Root River (Long-Term Monitoring station (LTM)) and Crooked Creek sites where catch rates exceeded three trout/hour. Six stream areas had mean catch rates exceeding two trout/hour. Only six stream areas had catch rates lower than one trout/hour and included Trout Run (Bucksnort), Middle Branch Whitewater (Quincy), East Beaver Creek, South Branch Root River (Lanesboro and State Park) and Forestville Creek. While many anglers reported a catch rate of zero trout/hour, the highest individual catch rate reported was 16.22 trout/hour at South Fork Root River (LTM) in August.

The overall mean catch rate for all trout that were ≥ 12 inches TL was 0.32 trout/hour (Table 21). This indicates that on average, it took about three hours to catch one trout 12 inches or longer in these southeast Minnesota streams. Mean monthly catch rate was highest in May (0.50 trout/hour) and

lowest in August (0.15 trout/hour) for trout ≥12 inches. Following the August low, mean catch rates increased in September for trout in this size category (Figure 5). Among stream areas, mean catch rates for trout ≥ 12 inches were highest at Crooked Creek (1.11 trout/hour) and West Beaver Creek (0.83 trout/hour). Stream areas with the four lowest mean catch rates for trout ≥ 12 inches were West Indian Creek (LTM) (0.06/hour), Gribben Creek (0.09/hour), South Branch Root River (Forestville State Park) (0.13/hour), and Forestville Creek (0.14/hour).

The overall mean catch rate for large trout, those ≥ 16 inches TL, was 0.014 trout/hour (Table 22). This indicates that on average, it took approximately 71 hours to catch a large trout on these selected stream areas. However, large trout were only reportedly caught at 14 of the 24 stream areas. The two stream areas with the highest mean catch rates of large trout were the Hay Creek (Upper) and West Indian Creek (County 4) sites where mean catch rates were 0.05 trout/hour. Mean monthly catch rates for large trout increased slightly from April through June, declined in July, and then increased again to the highest value in September (Figure 5). However, there was considerable variability among monthly catch rates due to differences among streams and low sample sizes.

A total of 56,192 (SE = 4,462) trout were estimated to have been caught during the summer 2013 angling season. Brown Trout were the most common trout species caught representing 88.2% of the known trout catch (i.e., a few anglers only reported total trout caught and did not specify species). Rainbow Trout represented 9.5% of the known trout catch and Brook Trout 2.3%. Percent harvest based on estimated catch and harvest data was 9.0% for Brown Trout, 36.5% for Rainbow Trout, and 12.9% for Brook Trout. Harvest of trout was highest on Willow Creek where 47.4% of those trout caught were harvested (Table 23). West Indian Creek (LTM) and Hay Creek (State) were also high at 37.7% and 35.4%, respectively. The South Branch Root River (Lanesboro) receives numerous stockings of yearling Rainbow Trout (up to 5,500 annually) and is easily accessible for all anglers. Harvest rate for trout there was 33.5%. Mill Creek and North Branch Whitewater also receive stocked yearling Rainbow Trout. Harvest rate there was 29.2% and 23.9%, respectively. Mill Creek receives 2,500 Rainbow Trout yearlings and the North Branch Whitewater River receives 4,000 Rainbow Trout yearlings annually.

A total of 47,695 (SE = 4,046) Brown Trout were estimated to have been caught with about 24% of these being ≥ 12 inches, but only 1.2% being ≥ 16 inches (Table 24 and 25). The greatest number of Brown Trout was estimated to have been caught at Trout Run (Lohman's) (9,755) followed by the South Branch Root River (Lanesboro Dam) (4,047), Pine Creek (3,745), South Branch Root River (Forestville State Park) (3,301) and Wisel Creek (2,996). About one-third of all Brown Trout < 12 inches that were caught, were harvested at the West Indian Creek (LTM), Hay Creek (State Forest), and South Branch

Root River (Lanesboro Dam) sites (Table 26). Harvest percentages for 12-16 inch Brown Trout were similarly highest at the South Branch Root River (Lanesboro Dam) and Hay Creek (State Forest) sites, where more than half of the trout caught were harvested. Violations were noted for harvesting Brown Trout in the 12-16 inch protected slot on Forestville Creek and Hay Creek (Upper) (Table 26). No harvest violations were noted in either the early or late catch-and-release seasons. The one day on Camp Creek open to general fishing regulations (third Saturday in May) resulted in an estimate of 48 harvested Brown Trout, all between 10 and 11 inches. Finally, very few Brown Trout > 16 inches were caught (566) and of these, only 16 (3%) were estimated to have been harvested, all at Trout Run (Lohman's) (Table 26).

A total of 1,250 (SE = 397) Brook Trout were estimated to have been caught but only from eight stream areas which included Middle Branch Whitewater (Crow Springs and County 9), South Fork Root River (LTM), West Beaver Creek, West Indian Creek (County 4 and LTM), and Wisel Creek (Table 27). Two hundred and fifty eight (20%) of these trout were ≥ 10 inches. The highest estimated catch of Brook Trout ≥ 10 inches was from Wisel Creek (80), although 75 were estimated to have been caught from Middle Branch Whitewater (Crow Springs). The percentage of Brook Trout < 10 inches that were harvested was 0% at all sites except for Wisel Creek (96% harvested) and West Indian Creek (LTM) (100% harvested) (Table 28). The percentage of Brook Trout ≥ 10 inches that were harvested was similar with harvest only at Wisel Creek (61%) and West Indian Creek (LTM) (100% harvested).

A total of 5,138 (SE = 1,230) Rainbow Trout were estimated to have been caught from 10 of the 24 stream areas (Table 29). About a fourth of these trout were ≥ 12 inches. The highest estimated catch of Rainbow Trout was at the South Branch Root River (Lanesboro). The overall estimated percent harvest was similar for both Rainbow Trout ≤ 11 inches (36%) and for those trout ≥ 12 inches (38%) (Table 30). Multiple violations were noted on the North Branch Whitewater River for anglers harvesting Rainbow Trout in the 12-16 inch protected slot. This resulted in a total illegal harvest estimate of 63 Rainbow Trout. Also, some North Branch Whitewater anglers used bait, in violation of the gear restriction (artificial lures and flies only). The one day on Camp Creek open to general fishing regulations (May 18, 2013; third Saturday in May) resulted in an estimate of 98 harvested Rainbow Trout, all ≤ 11 inches.

Several other fish species were caught and harvested during summer 2013. Anglers reported catching two Tiger Trout, a Brook Trout x Brown Trout hybrid. Also caught were two Bluegill *Lepomis macrochirus,* one Channel Catfish *Ictalurus punctatus*, one unidentified redhorse (*Moxostoma* sp.*)* and one unidentified bullhead (*Ameiurus sp.)* which was subsequently harvested. Several Smallmouth Bass

Micropterus dolomieu and White Sucker *Catostomus commersoni* were caught and allowed estimates of total catch. An estimated 482 (SE = 308) Smallmouth Bass were caught, all from the South Branch Root River (Lanesboro Dam) (Table 31). All Smallmouth Bass were released. A total of 752 (SE = 650) White Suckers were caught from three stream areas which included Mill Creek, North Branch Whitewater River, and South Branch Root River (Lanesboro Dam) (Table 32). A total of 263 (SE = 183) of the White Sucker caught were harvested, all from the South Branch Root River at Lanesboro (Table 32).

As Rainbow Trout yearlings are typically stocked in area of relatively heavy harvest their release rate of 55.8% reflects this management strategy. For Brown Trout 92.7% of those caught were released and this rate was similar with Brook Trout at 91.2%. Mean harvested Brown Trout length was 10.5 inches with Rainbow Trout harvested at a mean length of 10.3 inches.

When harvest rates are examined by gear type it was apparent that anglers using bait harvested a much large portion of their catch (40.9%) (Table 33). Mixed method anglers harvested 21.4% of their catch while anglers using lures harvested 10.1%. Fly anglers harvested the smallest portion of their catch at 2.6%.

Angler satisfaction and potential factors influencing satisfaction -

Anglers were asked about their satisfaction with their overall fishing experience, the size of the trout they caught and the number of trout they caught. Most anglers indicated they were satisfied (53.3%) or very satisfied (32.8%) with their overall fishing experience (Table 34, Figure 6). Only 1.4% of anglers were very dissatisfied. Fly anglers were the most satisfied and very satisfied and mixed method anglers were the least satisfied and very satisfied (Table 35). All age categories were mostly satisfied or very satisfied with their overall fishing experience (Table 36).

All anglers were satisfied or very satisfied with their overall fishing experience that were interviewed on East Beaver Creek, Middle Branch Whitewater (County 9), South Fork Root River (LTM and Million Dollar), and West Indian Creek (LTM) (Table 37). The most dissatisfied and very dissatisfied anglers were interviewed on Forestville Creek, West Beaver Creek, Camp Creek and Trout Run (Bucksnort). No anglers were dissatisfied or very dissatisfied with their overall fishing experience on ten stream areas surveyed.

Most anglers indicated that they were satisfied (40.9%) or very satisfied (17.5%) with the size of trout they caught (Table 34). More were dissatisfied (14.6%) or very dissatisfied (1.7%) with the size of trout caught then were with their overall fishing experience. Lure anglers were the most satisfied and

very satisfied with the size of trout they caught while mixed method anglers were the least satisfied and very satisfied (Table 38).

Again all age categories were mostly satisfied or very satisfied with the size of the trout they caught (Table 39). Most dissatisfied and very dissatisfied with the size of trout they caught were in the 16-19, 20-29, 40-49 and 70-79 year old category. The most common answer for those in the <16 year old category was "neither".

All anglers were satisfied or very satisfied with the size of trout caught on East Beaver Creek and South Fork Root River (LTM) (Table 40). The most dissatisfied and very dissatisfied anglers were interviewed on Forestville Creek (50.0%), South Branch Root River (Park) (36.0%), West Indian Creek (County 4) (30.8%) and Willow Creek (33.3%). No anglers interviewed were dissatisfied or very dissatisfied with the size of their catch on East Beaver Creek, Middle Branch Whitewater (Crow Springs), Middle Branch Whitewater (County 9) and South Fork Root River (LTM).

Again most anglers were satisfied (38.3%) or very satisfied (17.2%) with the numbers of trout they caught on the interviewed stream (Table 34). More were dissatisfied (22.5%) or very dissatisfied (1.8%) with the numbers of trout they caught then were with their overall fishing experience and size of trout caught. Lure anglers were the most satisfied and very satisfied with the numbers of trout they caught and mixed method anglers were the least satisfied and very satisfied (Table 41).

All age categories were mostly satisfied or very satisfied with the numbers of trout they caught on the interviewed stream (Table 42). Most dissatisfied and very dissatisfied with the numbers of trout caught were in the 16-19, 20-29 and 70-79 year old category. The most common answer to those in the <16 year old category again was "neither".

All anglers were satisfied or very satisfied with the numbers of trout they caught on East Beaver Creek and South Fork Root River (LTM) (Table 43). The most dissatisfied and very dissatisfied anglers were interviewed on Willow Creek (66.7%), Forestville Creek (50%), West Indian Creek (County 4) (46.2%) and South Branch Root River (Park) (46.0%). No anglers interviewed were dissatisfied or very dissatisfied with the numbers of trout caught on East Beaver Creek, South Fork Root River (LTM and Million Dollar) and West Indian Creek (LTM).

Results – *Comparisons among angling regulations - Angler characteristics*-

Anglers fishing General regulation streams were most commonly in the 50-59 year age category (20.0%) (Table 44). This was the case for all other regulation types except protected slot (artificial lures and flies only) where the most common age category was 60-69 year olds. When each age category was

examined independently, those anglers <16 years old and between 16-19 years old most frequented those streams with general trout stream regulations (Table 45). Once anglers were in the 20-29 year category some of their effort switched to streams with a protected slot (artificial lures and flies only) regulation. This trend continued until anglers in the 40-49 and 50-59 year categories were shown to once again spend more time on trout streams with general regulations.

Resident anglers using special regulation trout streams were examined for differences in hometown region (Local, Metro and Other) (Table 46). Most anglers fishing general regulation streams were Local anglers (62.1%). This was also the case with anglers fishing slot (artificial lures and flies only) (55.3%) streams and stream with catch-and-release regulations (61.3%). Anglers fishing slot (no gear restrictions) were made of mostly Metro anglers (59.8%). Most of these anglers were fishing the South Branch Root River (Park).

Because lure and fly anglers were not restricted by trout stream regulations, preference for any regulation was examined (Table 47). Anglers fishing with lures and flies fished streams with a protected slot (artificial lures and flies) more than any other. The largest difference was that lure anglers fished general regulation streams 12.1% more than did fly anglers. On streams with catch-and-release regulations fly anglers fished these 11.7% more than lure anglers.

Trout angling experience (years) was somewhat different among the four different trout stream regulation types (Figure 7). The proportion of new anglers (those that started trout fishing since the most recent implementation of angling regulations on April 16, 2005 (Table 2)) was no different than the proportion of those traditional anglers (those that started trout fishing before the most recent implementation of regulations) on streams with general and slot (all gear) regulations. However the proportion of these two categories was different on streams with slot (artificial lures and flies only) and catch-and-release regulations. More traditional anglers seem to be using these more restrictive regulation types.

When streams were grouped by regulation, anglers fishing general trout stream, protected slot (no gear restriction) and catch-and-release regulation streams indicated that they were primarily there because it was “easy access” (Table 48). Those anglers fishing protected slot (artificial lures and flies only) streams indicated that they were there because it was their “favorite stream” (31.6%).

Results – *Comparisons among angling regulations - Estimates of trip length, catch rate and pressure -*

When harvest rates were examined by trout stream regulation (catch-and-release seasons and regulations excluded) anglers harvested a higher percentage of their catch in those streams with general

trout stream regulations (17.9%) then in those with any other type of regulation (Table 49). As predicted based on gear type harvest rates above, those streams with a gear restriction received the least portion of harvest relative to catch at 8.1%. This illustrates well the implications of applying social regulations on waters resulting in biological changes to the fishery.

Mean angler trip length was significantly different among angling regulations ($F = 3.79$, $df = 3$, $P = 0.01$). Anglers fished longer on streams with a 12-16 inch protected slot (no gear restrictions) regulation (mean = 3.57 hours) than on streams with either general regulations (mean = 2.97 hours) or a catch-and-release (mean = 2.76 hours) regulation (Table 50; Figure 8). This translates to an average of 36 fewer minutes on general regulation streams and 49 fewer minutes on catch-and-release streams than on protected slot (no gear restrictions) streams.

Although anglers fished longer on some regulation types than others, mean angler pressure overall did not differ among regulations. The regulation x month interaction was not significant ($F = 0.62$; $df = 15, 100$; $P = 0.85$) nor were the main effects of regulation ($F = 0.35$; $df = 3, 20$; $P = 0.79$) or month ($F = 1.13$; $df = 5, 100$; $P = 0.35$) (Figure 9). Because angler pressure did not differ between general regulation streams and those with special regulations, this suggests that the regulations neither increased nor reduced the number of angler trips during summer 2013.

If the catch-and-release regulation was working as intended, then catch rates for all species and sizes of trout combined should be significantly higher in stream areas with a catch-and-release regulation than in other stream areas, especially those with general angling regulations. The nested ANOVA, with individual stream areas nested within regulation groups, allowed an assessment of the overall effect of the regulations as well as testing differences among streams within each regulation group. Catch rates for all trout combined did not differ significantly among the regulations overall ($F = 0.79$, $df = 3$, $P = 0.51$) but did differ among stream areas within the regulations ($F = 5.21$, $df = 20$, $P = <0.01$). Not surprisingly, the overall regulation effect across streams accounted for 0% of the total variation in catch rates, whereas the individual streams areas within each regulation accounted for about 15% of the variation in catch rates. This suggests that the various regulations may have been more effective on some stream areas than others. For example, the catch-and-release regulation may have been more effective on the South Fork Root River (LTM) site because mean catch rate was highest there (3.91 trout/hour) (Figure 10). Conversely, the catch-and-release regulation may have been least effective on the Middle Branch Whitewater at Quincy bridges because mean catch rate was significantly lower there (0.90 trout/hour) than at the South Fork Root River (LTM) site. Among the five streams with a 12-16 protected slot (artificial lures and flies only) regulation, Trout Run (Lohman's) had the highest

mean catch rate (2.65 trout/hour) which was significantly higher than catch rates on Hay Creek (Upper) or Trout Run (Bucksnort) (Figure 11). The 12-16 inch protected slot (no gear restrictions) regulation may have been least effective on Forestville Creek because this area had the lowest mean catch rate (0.37 trout/hour), which was significantly different from the mean catch rate on Wisel Creek (Figure 12). Mean catch rates among streams with general fishing regulations were more variable, ranging from a low of 0.74 trout/hour on the South Branch Root River (Lanesboro Dam) to a high of 3.62 trout/hour on Crooked Creek (Figure 13). Mean catch rate was significantly higher on Crooked Creek than on Hay Creek (State Forest), Mill Creek, and the South Branch Root River (Lanesboro Dam) (Figure 13).

If the more restrictive regulations (i.e., catch-and-release and both types of 12-16 inch protected slots) were accomplishing their desired objective of increasing catch rates of medium- (≥ 12 inch or 12-16 inch) and large-sized (≥ 16 inch) trout, we would have expected higher catch rates for these trout sizes on the regulation stream areas as compared to the stream areas with general angling regulations. However, catch rates for all three size groups of trout did not differ significantly among the regulations, suggesting that the restrictive regulations had little success accomplishing this biological objective during summer 2013 (Table 51; Figure 14, 15, 16).

Results – *Comparisons among angling regulations - Angler satisfaction and potential factors influencing satisfaction -*

When examining the satisfaction of the overall fishing experience by trout stream regulation, little stood out (Table 52). Regardless of regulation, anglers were mostly satisfied and very satisfied. No anglers were very dissatisfied with their overall fishing experience on catch-and-release streams though the highest percentage of dissatisfied anglers (11.9%) was found here.

When examining satisfaction with the size of the trout caught by trout stream regulation, there were some differences (Table 53). The most dissatisfied and very dissatisfied anglers were interviewed fishing the protected slot (no gear restrictions) streams (27.0%). The most satisfied and very satisfied anglers were fishing on the general trout stream regulations water (63.9%) however those most very satisfied were fishing the protected slot (no gear restrictions) streams (27.0%).

Again using trout stream regulation, most anglers were satisfied or very satisfied in all regulation types with the numbers of trout they caught (Table 54). The most dissatisfied or very dissatisfied were fishing protected slot (no gear restrictions) streams however this was also the regulation where anglers were most satisfied or very satisfied. Anglers chose “neither” most frequently on protected slot (artificial lures and flies only) streams.

Discussion

Many of these streams and stream routes have been included in previous creels (i.e. Smith 1948, Schumacher 1957, Hirsch 1989, Wiechman 1990, Bushong 1996, Weiss 1999, Weiss 2000, Nelson 2002, Snook and Dieterman 2006). These trout streams are an important natural resource for the citizens of Minnesota and will be included in additional creel surveys in the future (Goal 3.2 Angler Use and Angler Attitudes, Action Item 22 and 23 in LRP).

Angler characteristics –

Demographics of southeast Minnesota trout anglers have changed little from a similar creel conducted in 2005 (Snook and Dieterman 2006). Our primary anglers continue to be residents. Few non-resident trout anglers fish southeast Minnesota (Table 10). The top three states for non-resident trout anglers continue to be Iowa, Illinois and Wisconsin (Table 11). Several new states for non-resident trout anglers were added in this survey and include South Carolina, Georgia, Wyoming, New Mexico and New Jersey. It is interesting to note that no anglers from Michigan or Ohio were interviewed during either creel survey. This could be that Michigan provides the trout stream resource that residents in those states most utilize.

Age and gender of trout anglers interviewed in this creel differ little from the general angling public and other salmonid fisheries across North America (Table 55). Our anglers however are getting older with the mean and median ages approximately 4 year older than in 2005 (Snook and Dieterman 2006). Mean age of anglers purchasing trout stamps in Minnesota has increased from a mean age of 38.4 years old in 2000 to a mean age of 39.6 years old in 2005 to a mean age of 43.1 years old in 2013 (MNDNR files).

Fewer anglers fishing with bait were noted in this creel relative to 2005 (Table 12). Fly anglers dominated the gear choice in both creel surveys with an apparent increase in this survey. Though there was an overlap in the stream areas surveyed more special regulation areas (catch-and-release and protected slot) were included in this survey.

Trout stream regulations were not a primary reason for anglers fishing where they were interviewed (Table 14). This was also the case in the 2005 creel (Snook and Dieterman 2006). Anglers were fishing at the location they were surveyed on because they liked the regulation most frequently on Mill Creek (general trout stream regulations), South Fork Root River (both catch-and-release and general

trout stream regulations), North Branch Whitewater (protected slot – artificial lures and flies only) and West Indian Creek (both protected slot – no gear restrictions and general trout stream regulations).

Easy access to the trout stream for anglers was of primary importance to where they were fishing while interviewed on eight streams (Table 14). Of those stream areas, all were pastured by cattle or were within a state park. Easy access was chosen least in areas that were heavily forested (North Branch Whitewater and West Indian Creek). The Lanesboro Dam on the South Branch Root River includes a parking area and was frequently chosen because of easy access.

Gear selection and age continue to be a controversial issue because of the possibility of excluding young anglers from trout fishing with restrictive regulations. Where restrictive angling regulations have been implemented, the mean age of anglers tends to be higher for this survey. Streams with the most restrictive regulations (catch-and-release) had a mean angler age of 44.7 years old. The less restrictive the regulations such as protected slot (artificial lures and flies only) and protected slots (all gear allowed) had a mean angler age of 44.5 and 42.7 years old, respectively. General regulation trout streams had a mean angler age of 40.0 year old.

For this creel survey, 42.8% of our anglers were fly anglers (Table 55). Weichman (1990) found that only 25% of trout anglers on six Minnesota streams were fly anglers. In western states, fly anglers are the most common gear type with one example on Rock Creek, Montana at 84% fly anglers. Some state fisheries managers, such as in Michigan, do not typically ask gear type related questions while conducting creel surveys.

Estimates of trip length, catch rate, and pressure -

Mean angler trip length has not been historically reported in creel surveys in southeast Minnesota. Snook and Dieterman (2006) were perhaps the first to report it, with an overall estimate of 3.77 hours for the 2005 summer angling season. Mean trip length during summer 2013 was slightly lower at 3.11 hours. Both surveys found mean trip lengths to vary among months, but with no consistent pattern. For example, the month with the highest mean trip length was September (5.39 hours) in 2005 but was May (4.40 hours) in 2013.

Angler pressure continues to fluctuate over the past 15 years based on sporadic creel surveys conducted in southeast Minnesota. Overall angler pressure per mile was 2,822 hours/mile (SE = 130) across the 24 stream areas in summer 2013. This is less than 4,581 hours/mile estimated during the 2005 creel survey across 33 stream areas (Snook and Dieterman 2006), but more than the 2,445 hours/mile estimated in 1998 across 12 stream areas (Weiss 1999). Fluctuations could simply be due to

the infrequent collection of creel information that coincides with either very wet and cold summers or conversely, years with more preferable weather conditions. Based on the limited creel information collected, there does not seem to be either increasing or decreasing trends in pressure.

In contrast, catch rates for trout (all species combined) appear to continue to increase over time in southeast Minnesota. In one of the earliest creel surveys conducted, Schumacher (1957) estimated catch rates to be 0.45 trout/hour on Duschee Creek. In the early 1980's, trout catch rates ranged from 0.31 to 0.91 trout/hour on the Middle Branch Whitewater River and Beaver Creek (Hirsch 1989). In the mid-1990's, Bushong (1996) estimated trout catch rates to exceed one trout per hour (mean = 1.23 trout/hour). In the late 1990's, Weiss (1999; 2000) estimated the highest mean catch rate ever reported for southeast Minnesota at about 1.90 trout/hour. Snook and Dieterman (2006) estimated catch rates at 1.10 trout/hour in 2005. The slight drop in catch rates may have been attributed to the increased number of streams in their creel, which included streams with smaller trout populations. The present creel in 2013 estimated a slightly higher mean catch rate at 1.45 trout/hour suggesting that southeast Minnesota streams continue to maintain some of the highest trout catch rates in the nation.

Angler satisfaction and potential factors influencing satisfaction –

Satisfaction with anglers overall fishing experience was very good in this survey (Table 34) and was comparable with the survey conducted in 2005 (Snook and Dieterman 2006). A relatively small percentage of anglers chose "neither" as their answer to their satisfaction with their overall fishing experience. Goals for optimizing angler satisfaction are important for any fisheries management agency (Pollock et al. 1994) and the present creel demonstrates good to very good angler satisfaction with the anglers that use the southeast Minnesota trout resource.

Setting high expectations for anglers through MNDNR communications and outreach could result in some anglers not achieving their fishing goals. This could then inadvertently lower the satisfaction of their overall fishing experience. Continued communications in several forms (newsletters, web, new releases, etc.) are important tools and are listed as such in the LRP (Goal 4.1, Action Item 24 and 25) (MNDNR 2010).

Anglers using bait kept a higher percentage of their catch on average (40.9%) then other anglers using flies (2.6%), lures (10.1%) or mixed method techniques (21.4%) (Table 33). Using bait was the most common method of trout angling for those individual <16 year old (Table 16) and bait angling was the most common method during April 13-30, July and August (Table 15). Bait anglers never stood out

as being most or least satisfied with their overall fishing experience, the size of trout they caught or the numbers of trout they caught (Table 35, 38, 41).

Anglers using lures released 89.9% of their catch (Table 33) and lure angling was the most common gear choice for those in the 16-19 and 80-89 year old categories (Table 16). Lure anglers were never the dominant gear choice but were most common in July and August (Table 15). Lure anglers stood out as the most satisfied with the size of the trout they caught and the numbers of trout they caught (Table 38 and 41).

Anglers using flies rarely kept any of their catch (Table 33). Fly fishing equipment was the most common gear choice for those in the 60-69 and 70-79 year old categories (Table 16). Fly angling dominated the early (April 1-12) and late (September 15-30) catch-and-release seasons (Table 15). Within the harvest season (April 13-September 14) fly angling was the most dominant gear choice except for late April (April 13-30), July and August (Table 15). Fly anglers were the most satisfied or very satisfied with their overall fishing experience (Table 35). However, anglers using this gear type did not stand out as being satisfied or dissatisfied when asked about their satisfaction with the size and numbers of trout caught (Table 38 and 41).

Mixed method anglers kept approximately half of the catch as did bait anglers (Table 33). All combinations of methods were noted during this survey though bait/lure anglers were the most dominant amongst mixed method choices. Using mixed methods for trout was the most common for the age category of <16 year olds (Table 16) and during the final days of the harvest season (September 1-14) (Table 15). Mixed method anglers were the second most satisfied or very satisfied with their overall fishing experience (Table 35) however they were the least satisfied or very satisfied with the size and numbers of their catch (Table 38 and 41). These anglers, as stated above, are young and perhaps trying out different trout fishing techniques to help improve their catch and thus satisfaction.

Comparisons of angling regulations –

Angling regulations should only be implemented to achieve some pre-regulation defined management goals and all such regulations should be evaluated (Noble and Jones 1999). Lack of adequate evaluations prohibits the determination of whether the regulations made any accomplishments. Management goals can include objectives for fish populations (e.g., changes in fish abundance), the general fishery (e.g., angler catch rates), or other societal benefits (Noble and Jones 1999).

This creel survey was implemented in part to gather information on the fishery and societal benefits of streams with differing regulations in southeast Minnesota. Development of a formal and comprehensive evaluation plan for these regulations, including treatment and control reaches, was strongly recommended at their inception (MNDNR 2003). However, the expensive and infrequent nature of creel surveys only allows a modest fishery and sociological evaluation of these regulations, where stream reaches with general regulations represent a control of sorts which can be compared to reaches with more restrictive regulation treatments. From a fishery perspective, the more restrictive regulations were implemented to increase opportunities to catch medium (12-16 inch) and large (≥16 inch) trout (i.e. higher catch rates). From a sociological perspective, the more restrictive regulations were implemented to increase opportunities for anglers preferring to fish streams with special regulations (MNDNR 2003). Societal benefits should be reflected in longer trip lengths, higher angler pressure, and higher satisfaction for anglers fishing special regulation stream areas.

Almost none of the fishery or sociological metrics assessed in this creel survey differed between catch-and-release areas and areas with general regulations. On average, trip lengths and overall pressure were usually lowest on catch-and-release streams (Table 50; Figure 7). Only 7.8% of anglers fishing catch-and-release areas did so because of the catch-and-release regulation there. This suggests that a minority of anglers actually preferred to fish streams with this special regulation, as suggested in the original coldwater resource plan (MNDNR 2003). Further, the percentage of anglers that were satisfied or very satisfied with the overall fishing experience was similar between catch-and-release (84.5%) and general regulation areas (86.2%) (Table 39). From a fishery perspective, overall catch rates for any size grouping of trout were not higher on catch-and-release streams than on general regulation streams, suggesting that the goal of increasing catch rates of medium and large trout was not met. This was also reflected in angler satisfaction responses. A smaller percentage of anglers were satisfied or very satisfied with the size of trout caught in catch-and-release (56.0%) than in general regulation areas (63.9%). Responses were similar for satisfaction with numbers of trout caught as 55.1% of anglers fishing catch-and-release streams were satisfied or very satisfied whereas 54.6% of anglers reported these responses on general regulation streams.

One catch-and-release stream area, the South Fork Root River (LTM) site, had significantly higher catch rates for all trout species and sizes than other stream areas, possibly suggesting that the catch-and-release regulation was increasing trout abundance there. Bushong and Anderson (1996) similarly found stream specific responses implemented on Hay Creek in 1985 resulted in increased

abundance and angler catch rates of trout ≥12 inches. However, a similar catch-and-release regulation implemented on the Middle Branch Whitewater River failed to increase abundance of trout ≥12 inches.

Most fishery and sociological metrics were similar among stream areas with a 12-16 inch protected slot with or without gear restrictions and general regulation areas. Overall, angler pressure was not greater on protected slot areas than on general regulation areas. Mean trip length also did not differ between protected slot (artificial lures and flies only) areas (3.18 hours) and general regulations (2.97 hours), but anglers did fish slightly longer on protected slot areas that did not have gear restrictions (3.57 hours). The fishery in general did not differ between protected slot and general regulation areas, as catch rates for each trout size group were statistically similar. A higher percentage of anglers were satisfied or very satisfied with their overall angling experience on protected slot (artificial lures and flies only) areas, but a smaller percentage was satisfied with size and numbers of trout caught there. Anglers were clearly not fishing longer, catching more or larger sizes of trout, or were more satisfied on stream areas with protected slot regulations than anglers fishing general regulation areas. Further investigation is needed here examining how trout stream regulations contribute to angler satisfaction.

This creel survey represents only current information on the fishery and societal benefits provided by these regulations and should not be over-interpreted. A more comprehensive evaluation that includes biological information on trout population abundance and size structure should be examined as well but was beyond the scope of this report. Such a comprehensive evaluation should also include any existing creel information prior to the implementation of these regulations to enable a more robust before-after-control-impact meta-analysis that includes data form this report. Development of a formal and comprehensive evaluation plan for these regulations, that included identification of control and treatment areas and adequate sample sizes, was recommended by MNDNR (2003) but was never enacted due in part to financial constraints (MNDNR 2010a).

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Table 1. Trout angling seasons in southeast Minnesota (Houston, Fillmore, Mower, Dodge, Olmsted, Winona, Wabasha, and Goodhue counties) during January 1 to December 31, 2013.

Season	Dates (2013 Example)
Winter trout stream angling, barbless hooks only	January 1 to March 31
Early trout catch-and-release, barbless hooks only	April 1 to April 12
Trout angling (multiple gear and harvest regulations)	April 13 to September 14
Late trout catch-and-release, barbless hooks only	September 15 to September 30
Trout angling closed	October 1 to December 31

Table 2. Trout stream regulations in southeast Minnesota (Houston, Fillmore, Mower, Dodge, Olmsted, Winona, Wabasha and Goodhue counties) during January 1 to December 31, 2013.

Regulation	Stream	Objective
General	All designated trout streams except those below	
Protected Slot (12-16 inches), no gear restrictions	East Beaver Creek Forestville Creek Mahoods Creek S. Br. Root River Spring Valley Creek West Indian Creek Wisel Creek	To increase catch rates of 12-16 inch trout
Protected Slot (12-16 inches), artificial lures and flies only	Canfield Creek Garvin Brook Gribben Creek Hay Creek Logan Creek Trout Run Creek N. Br. Whitewater River	To increase catch rates of 12-16 inch trout while eliminating the release mortality sometimes associated with bait angling.
Catch-and-release, artificial lures and flies only	Camp Creek Kedron Creek S. Fork Root River M. Br. Whitewater River	To increase overall trout catch rates with emphasis on two size groups (12-16 inches and >16 inches).
12 inch minimum Brook Trout, bag limit 1, artificial lures and flies only	Trout Valley Creek	To increase catch rates of Brook Trout up to 12 inches while eliminating the release mortality sometimes associated with bait angling.
Catch-and-release	Belle Creek M. Br. Root River N. Fork Zumbro River	To protect the limited trout population in coolwater streams and to provide continued trout production in small coldwater tributaries associated with these coolwater streams.

Table 3. Selected trout streams surveyed in the anglers creel in southeast Minnesota with Kittle Number, County and specific area description, April 1 to September 30, 2013. LTM = Long-term monitoring

Stream	Kittle Number	County	Specific Area
Camp Creek	M-009-025-003	Fillmore	Maust's pasture
Crooked Creek	M-004	Houston	Road side to mouth S. Fork Crooked
East Beaver Creek	M-009-010-003-008	Houston	State Park
Forestville Creek	M-009-025-009	Fillmore	State Park
Gribben Creek	M-009-024	Fillmore	Valley Rd to Dancer Rd
Hay Creek	M-046	Goodhue	Upper HI project, State Forest unit
M. Br. Whitewater River	M-031-019	Winona, Olmsted	Quincy Bridge, County 9, Crow Springs
Mill Creek	M-009-034	Fillmore	City Park
N. Br. Whitewater River	M-031-018	Winona, Olmsted	Upstream of Fairwater
Pine Creek	M-009-017-005	Winona	Downstream of Anderson's
South Branch Root River	M-009-025	Fillmore	State Park, Lanesboro Dam
South Fork Root River	M-009-010	Houston	LTM station, Million Dollar Bridge
Trout Run	M-009-029	Winona, Fillmore	Lohman's and Bucksnort Dam
West Beaver Creek	M-009-010-003-009	Houston	Skifton Bridge
West Indian Creek	M-034-017	Wabasha	LTM station, Downstream Cty 4 Bridge
Willow Creek	M-009-025-004	Fillmore	Soland's
Wisel Creek	M-009-010-010	Fillmore	Chickentown Bridge

Table 4. Selected trout streams surveyed in the anglers creel in southeast Minnesota with UTM Easting/Northing and length of surveyed route, April 1 to September 30, 2013. LTM = Long-term monitoring

Stream	UTM's upstream	UTM's downstream	Length of route on stream (feet)
Camp Creek	576,186 – 4,833,694	576,162 – 4,834,416	4,000
Crooked Creek	629,138 – 4,829,623	629,908 – 4,829,486	3,500
East Beaver Creek	614,882 – 4,832,885	614,016 – 4,833,274	3,500
Forestville Creek	562,517 – 4,831,643	562,872 – 4,832,262	3,500
Gribben Creek	587,378 – 4,840,982	587,323 – 4,841,748	3,500
Hay Creek (State)	534,678 – 4,927,400	534,622 – 4,928,115	3,500
Hay Creek (Upper)	532,822 – 4,925,009	532,123 – 4,924,405	4,300
M. Br. Whitewater River (Crow Springs)	570,075 – 4,872,119	570,445 – 4,872,913	3,200
M. Br. Whitewater River (County 9)	570,871 – 4,874,544	571,512 – 4,875,064	3,500
M. Br. Whitewater River (Quincy)	571,618 – 4,876,549	572,096 – 4,876,500	3,500
Mill Creek	564,721 – 4,854,605	565,151 – 4,854,084	3,300
N. Br. Whitewater River	574,346 – 4,882,783	575,174 – 4,882,681	3,500
Pine Creek	592,017 – 4,857,747	592,861 – 4,857,495	3,500
South Branch Root River (Lanesboro)	582,252 – 4,840,925	582,387 – 4,841,763	3,500
South Branch Root River (Park)	562,741 – 4,830,295	563,234 – 4,831,051	3,500
South Fork Root River (LTM)	591,587 – 4,830,056	592,383 – 4,830,359	3,500
South Fork Root River (Million Dollar)	595,151 – 4,832,557	595,112 – 4,833,113	3,500
Trout Run (Lohman's)	576,481 – 4,853,839	576,364 – 4,853,230	3,600
Trout Run (Bucksnort)	576,421 – 4,852,322	576,157 – 4,851,823	4,000
West Beaver Creek	611,758 – 4,831,584	612,104 – 4,832,315	3,500
West Indian Creek (LTM)	568,377 – 4,898,499	568,141 – 4,898,960	3,500
West Indian Creek (County 4)	567,787 – 4,899,865	567,082 – 4,900,011	2,500
Willow Creek	572,329 – 4,832,049	572,319 – 4,832,858	2,900
Wisel Creek	595,790 – 4,827,875	595,141 – 4,828,439	3,500

Table 5. Selected trout streams as assigned for each of four creel clerks and the reason for route inclusion (regulation or habitat improvement evaluation) in the southeast Minnesota angling creel conducted from April 1 to September 30, 2013. General southeast Minnesota trout stream regulation is five trout of any species in the daily/possession limit with only one of those >16 inches. Protected slot is for trout in the 12 to 16 inch range. Catch-and-release includes an artificial lures and flies only restriction. LTM = Long-term monitoring

Clerk	Area	Stream	Regulations	Habitat Improvement
1	A	1) Hay Creek (State Land)	General	Pre-project
		2) Hay Creek (Upper)	Slot-Artificials only	
		3) West Indian Creek (LTM)	Slot-No gear restriction	
	B	1) North Branch Whitewater	Slot-Artificials only	
		2) M. Br. Whitewater (Quincy)	Catch-and-Release	Project completed 2006
		3) West Indian Creek (County 4)	General	Pre-project
2	C	1) Pine Creek (Andersons)	General	Project completed 2012
		2) M. Br. Whitewater (County 9)	Catch-and-Release	Project completed 2009
		3) M. Br. Whitewater (Crow Springs)	Catch-and-Release	
	D	1) Trout Run (Lohman's)	Slot-Artificials only	Project completed 2007
		2) Trout Run (Bucksnort)	Slot-Artificials only	
		3) Mill Creek (City Property)	General	Pre-project
3	E	1) Willow Creek	General	Pre-project
		2) Forestville Creek (State Park)	Slot-No gear restriction	
		3) South Branch Root River (State Park)	Slot-No gear restriction	
	F	1) South Branch Root River (Lanesboro)	General	
		2) Camp Creek (Maust's)	Catch-and-Release	
		3) Gribben Creek	Slot-Artificials only	
4	G	1) South Fork Root River (Million Dollar)	General	
		2) South Fork Root River (LTM)	Catch-and-Release	
		3) Wisel Creek (Chickentown)	Slot-No gear restriction	Pre-project
	H	1) West Beaver Creek	General	
		2) East Beaver Creek	Slot-No gear restriction	
		3) Crooked Creek	General	Pre-project

Table 6. Example calculations to estimate angler-pressure for a summer creel survey in southeast Minnesota in 2013 for a hypothetical stream area in the month of April. Calculations follow Pollock et al. (1994) for a roving-roving angler survey. Creel clerks counted anglers during a randomly selected 2-hr survey period. The entire survey day was 15 hours.

Date or statistic	Angler count in 2-hour survey period	Survey period effort (angler count x 2 hours)	Daily effort (survey period effort / 0.133)
		Weekdays (WD)	
April 1	3	3 x 2 = 6 angler-hours	6 / 0.133 = 45.11 angler-hours
April 5	1	1 x 2 = 2 angler-hours	2 / 0.133 = 15.04 angler-hours
April 9	0	0 x 2 = 0 angler-hours	0 / 0.133 = 00.00 angler-hours
April 22	1	1 x 2 = 2 angler-hours	2 / 0.133 = 15.04 angler-hours
April 24	0	0 x 2 = 0 angler-hours	0 / 0.133 = 00.00 angler-hours
Number of WD surveyed (n_1) = 5			
Mean daily pressure estimate (e_1)			15.03 angler-hours
Total WD available (N_1) = 22			15.03 x 22 = 330.66 angler-hours
		Weekends and Holidays (WEH)	
April 7	2	2 x 2 = 4 angler-hours	4 / 0.133 = 30.07 angler-hours
April 14	1	1 x 2 = 2 angler-hours	2 / 0.133 = 15.04 angler-hours
April 20	4	4 x 2 = 8 angler-hours	8 / 0.133 = 60.15 angler-hours
April 27	1	1 x 2 = 2 angler-hours	2 / 0.133 = 15.04 angler-hours
Number of WEH surveyed (n_2) = 4			
Mean daily pressure estimate (e_2)			30.07 angler-hours
Total WEH available (N_2) = 8			30.07 x 8 = 240.56 angler-hours

Table 7. Example calculations to estimate fish catch or harvest for a summer creel survey in southeast Minnesota in 2013 for a hypothetical stream area in the month of April. Calculations follow Pollock et al. (1994) for a roving-roving angler survey.

Date or statistic	Daily effort (angler-hours; see Table 6)	Daily catch rate[a] (fish/hour)	Daily catch
		Weekdays (WD)	
April 1	45.11	1.90	45.11 x 1.90 = 85.71
April 5	15.04	0	15.04 x 0 = 0.00
April 9	0	0	0.00
April 22	15.04	12.74	15.04 x 12.74 = 191.61
April 24	0	0	0.00
Sub-Total			277.32
Number of WD surveyed (n_1) = 5			
Mean daily WD catch estimate (c_1)			277.32 / 5 = 55.46 fish/day
Total WD available (N_1) = 22			55.46 x 22 = 1,220 total fish caught
		Weekends and Holidays (WEH)	
April 7	30.07	0.57	30.07 x 0.57 = 17.14
April 14	15.04	0	15.04 x 0 = 0.00
April 20	60.15	0	60.15 x 0 = 0.00
April 27	15.04	3.50	15.04 x 3.50 = 52.64
Sub-Total			69.78
Number of WEH surveyed (n_2) = 4			
Mean daily WEH catch estimate (c_2)			69.78 / 4 = 17.44 fish/day
Total WEH available (N_2) = 8			17.44 x 8 = 140 total fish caught

[a] We used the average of the individual catch rates for each angler for each day, and we ignored all short trips (less than 0.5 hour).

Table 8. Monthly sample sizes (i.e., days) for estimating fish catch rates and harvest rates (number of fish/hour) from a roving-roving creel survey of 24 selected stream areas in southeast Minnesota April 1 to September 30, 2013. The first number in each cell represents the number of days surveyed, but the number in parentheses represents the number of days when encountered anglers were interviewed and found to have actually fished for longer than 0.5 hours (minimum time required to estimate catch and harvest rates). Weekdays are denoted as WD and weekend and holidays denoted as WEH. LTM = Long-term monitoring

		Months						
Stream areas	Day type	Apr	May	Jun	Jul	Aug	Sep	Totals
Camp Creek	WD	7 (0)	5 (1)	6 (0)	7 (2)	7 (1)	5 (1)	37 (5)
	WEH	4 (1)	5 (1)	4 (0)	5 (1)	5 (2)	3 (0)	26 (5)
Crooked Creek	WD	7 (4)	6 (2)	5 (0)	6 (0)	7 (1)	7 (1)	38 (8)
	WEH	3 (3)	4 (2)	4 (0)	4 (1)	5 (0)	4 (1)	24 (7)
East Beaver Creek	WD	7 (3)	6 (1)	5 (0)	6 (1)	7 (2)	7 (2)	38 (9)
	WEH	3 (2)	4 (3)	4 (1)	4 (0)	5 (0)	4 (0)	24 (6)
Forestville Creek	WD	7 (0)	6 (1)	6 (1)	6 (0)	6 (1)	6 (0)	37 (3)
	WEH	4 (2)	4 (0)	5 (1)	4 (2)	4 (1)	5 (2)	26 (8)
Gribben Creek	WD	7 (0)	5 (0)	6 (0)	7 (2)	7 (0)	5 (0)	37 (2)
	WEH	4 (0)	5 (1)	4 (1)	5 (1)	5 (1)	3 (1)	26 (5)
Hay Creek (State Forest)	WD	6 (1)	7 (1)	7 (0)	6 (0)	7 (2)	5 (0)	38 (4)
	WEH	4 (3)	5 (1)	6 (4)	4 (0)	5 (1)	5 (1)	29 (10)
Hay Creek (Upper)	WD	6 (2)	7 (1)	7 (1)	6 (3)	7 (3)	5 (1)	38 (11)
	WEH	4 (2)	5 (1)	5 (4)	4 (1)	5 (1)	5 (2)	28 (11)
Mid. Br. Whitewater (Crow Springs)	WD	8 (0)	5 (1)	7 (0)	6 (0)	6 (0)	6 (1)	38 (2)
	WEH	4 (2)	4 (0)	5 (2)	4 (0)	4 (2)	5 (0)	26 (6)
Mid. Br. Whitewater (County 9)	WD	8 (0)	5 (0)	7 (1)	6 (0)	6 (1)	6 (1)	38 (3)
	WEH	4 (0)	4 (0)	5 (3)	4 (1)	4 (2)	5 (1)	26 (7)
Mid. Br. Whitewater (Quincy)	WD	7 (1)	6 (3)	4 (2)	6 (2)	7 (1)	6 (3)	36 (12)
	WEH	4 (1)	4 (1)	5 (1)	5 (3)	4 (4)	5 (2)	27 (12)
Mill Creek	WD	6 (0)	7 (0)	5 (2)	6 (0)	7 (0)	5 (0)	36 (2)
	WEH	4 (1)	6 (3)	3 (0)	5 (1)	5 (1)	3 (2)	26 (8)
North Branch Whitewater	WD	7 (1)	6 (2)	4 (0)	6 (4)	7 (1)	6 (0)	36 (8)
	WEH	4 (2)	4 (2)	5 (0)	5 (2)	4 (0)	5 (1)	27 (7)
Pine Creek	WD	8 (0)	5 (1)	7 (0)	6 (1)	6 (1)	6 (0)	38 (3)
	WEH	4 (2)	4 (1)	5 (1)	4 (1)	4 (1)	5 (1)	26 (7)
South Branch Root (Lanesboro)	WD	7 (2)	5 (3)	6 (1)	7 (4)	7 (3)	5 (1)	37 (14)
	WEH	3 (2)	5 (2)	4 (3)	5 (5)	5 (4)	3 (3)	25 (19)
South Branch Root (State Park)	WD	7 (2)	6 (1)	6 (3)	6 (2)	6 (2)	6 (3)	37 (13)
	WEH	5 (1)	4 (1)	5 (3)	4 (4)	4 (1)	5 (2)	27 (12)
South Fork Root (LTM)	WD	7 (0)	5 (2)	7 (1)	6 (0)	7 (0)	5 (0)	37 (3)
	WEH	4 (1)	5 (1)	4 (0)	4 (0)	4 (1)	5 (3)	26 (6)
South Fork Root (Million Dollar)	WD	7 (1)	5 (0)	7 (1)	6 (0)	7 (1)	5 (0)	37 (3)
	WEH	4 (3)	5 (1)	4 (2)	4 (1)	4 (1)	5 (2)	26 (10)
Trout Run (Bucksnort)	WD	6 (2)	7 (4)	5 (1)	6 (3)	7 (1)	5 (1)	36 (12)
	WEH	4 (1)	6 (2)	4 (3)	5 (4)	5 (1)	3 (2)	27 (13)
Trout Run (Lohman's)	WD	6 (1)	7 (2)	5 (4)	6 (5)	7 (2)	5 (3)	36 (17)
	WEH	4 (3)	6 (4)	4 (3)	5 (3)	5 (4)	3 (0)	27 (17)
West Beaver Creek	WD	7 (0)	6 (0)	5 (0)	6 (0)	7 (2)	7 (1)	37 (3)
	WEH	3 (1)	4 (2)	4 (1)	4 (0)	5 (1)	4 (0)	26 (5)
West Indian Creek (County 4)	WD	7 (2)	6 (3)	4 (0)	6 (0)	7 (0)	6 (0)	36 (5)
	WEH	4 (0)	4 (1)	5 (1)	5 (0)	4 (1)	5 (0)	27 (3)
West Indian Creek (LTM)	WD	6 (0)	7 (1)	7 (2)	6 (0)	7 (2)	5 (0)	38 (5)
	WEH	4 (1)	5 (0)	5 (0)	4 (1)	5 (0)	5 (1)	28 (3)
Willow Creek	WD	7 (0)	6 (0)	6 (0)	6 (0)	6 (0)	6 (2)	37 (2)
	WEH	4 (1)	4 (0)	5 (1)	4 (1)	4 (1)	5 (0)	26 (4)
Wisel Creek	WD	7 (2)	5 (3)	7 (2)	6 (0)	7 (1)	5 (1)	37 (9)
	WEH	4 (2)	5 (2)	4 (2)	4 (2)	4 (1)	5 (2)	26 (11)

Table 9. Noted gear restriction violations during survey (using bait in artificial lures and flies only regulation) of anglers fishing southeast Minnesota trout streams, April 1 to September 30, 2013.

Stream	Month	# of observed violations	# of total anglers surveyed	Violation rate	Hometown
Camp Creek	April	3			Minneapolis
	July	2			Lanesboro
			32	15.6	
Gribben Creek	May	4			Stewartville
			17	23.5	
Hay Creek	April	3			Faribault, Wanamingo, Harris
	May	1			Wanamingo
			42	9.5	
M. Br. Whitewater (Quincy)	July	4			Minneapolis
	August	4			St. Paul, Minneapolis
			103	7.8	
N. Br. Whitewater	April	3			St. Paul, Minneapolis, Plainview
	May	1			Stewartville
	July	15			St. Paul, Owasso, Hastings, Minneapolis
	September	3			South St. Paul
			56	39.3	
Trout Run	July	1			Altura
			234	0.4	
Total		44	484	9.1	

Table 10. Percent resident and non-resident anglers (# in category) surveyed on selected trout streams between April 1 and September 30, 2013 in southeast Minnesota. Percent resident and non-resident anglers (# in category) surveyed on trout streams in 2005 (Snook and Dieterman 2006) and 1998 (Weiss 1999) are presented for comparison.

State of residence	2013	2005	1998 (Lanesboro streams)	1998 (Lake City streams)
Minnesota	92 (1,092)	91 (1,168)	93 (761)	98 (501)
Other	8 (95)	9 (69)	7 (53)	2 (9)

Table 11. Percent composition of non-resident anglers by state of residence surveyed on selected trout streams in southeast Minnesota, April 1 to September 30, 2013. Information from creel survey in 2005 (Snook and Dieterman 2006) also presented for comparison.

State of residence	2013 Percent	2005 Percent
Iowa	16.3	10.1
Illinois	10.2	10.1
Wisconsin	10.2	42.0
Arizona	6.1	
Florida	5.1	1.5
South Dakota	5.1	1.5
Texas	5.1	
Missouri	4.1	4.4
North Dakota	4.1	
Alaska	3.1	1.5
California	3.1	
Indiana	3.1	1.5
Alabama	2.0	1.5
Arkansas	2.0	
Colorado	2.0	
Kansas	2.0	
Nebraska	2.0	4.4
New York	2.0	1.5
Washington	2.0	7.3
Holland (country)	1.0	
Kentucky	1.0	2.9
Montana	1.0	
North Carolina	1.0	1.5
Oklahoma	1.0	
Oregon	1.0	
Pennsylvania	1.0	
Utah	1.0	
Virginia	1.0	
West Virginia	1.0	
South Carolina		1.5
Georgia		1.5
Wyoming		1.5
New Mexico		1.5
New Jersey		1.5

Table 12. Percent gear choice among surveyed anglers fishing selected trout streams in southeast Minnesota, April 1 to September 30, 2013. Information added from a similar 2005 creel (Snook and Dieterman 2006) for comparison.

Gear	2013 - percent anglers	2005 – percent anglers
Bait	27.3	37.0
Lure	24.2	20.7
Fly	42.8	35.3
Mixed	5.8	7.0

Table 13. Years of trout angling experience relative to gear choice taken from surveys of anglers fishing selected trout streams in southeast Minnesota, April 1 to September 30, 2013.

Gear	Mean experience (years)	Median experience (years)
Bait	14.6	8
Lure	18.4	12
Fly	24.8	22
Mixed	17.3	12

Table 14. Percent answer to "Why did you decide to fish here today?" by stream. A. Favorite stream, B. Live close by, C. Easy access, D. Like regulation, E. Dislike regulation elsewhere, F. Numbers of fish, G. Size of fish.

Stream	A	B	C	D	E	F	G	A/C	A/F	B/C	C/F
Camp Creek	20.4	6.1	63.3	2.0	-	8.2	-	-	-	-	-
Crooked Creek	37.9	10.3	24.1	-	-	27.6	-	-	-	-	-
E. Beaver Creek	10.3	-	55.2	3.5	-	31.0	-	-	-	-	-
Forestville Creek	15.5	-	79.3	-	-	5.2	-	-	-	-	-
Gribben Creek	47.1	5.9	23.5	-	-	11.8	11.8	-	-	-	-
Hay Creek	6.8	23.7	28.8	1.7	-	33.9	5.1	-	-	-	-
M. Br. Whitewater River	8.7	23.3	41.8	5.8	-	14.6	5.8	-	-	-	-
Mill Creek	14.8	44.3	23.0	13.1	-	3.3	-	-	-	1.6	-
N. Br. Whitewater River	46.2	5.8	11.5	11.5	1.9	19.2	3.9	-	-	-	-
Pine Creek	30.7	17.8	30.7	4.8	-	16.1	-	-	-	-	-
S. Br. Root River	15.4	4.4	72.8	-	-	6.7	0.7	-	-	-	-
S. Fork Root River	20.0	7.7	20.0	13.9	-	20.0	15.4	1.5	-	-	1.5
Trout Run	31.0	14.6	28.8	4.0	-	18.1	2.7	0.4	0.4	-	-
W. Beaver Creek	16.7	11.1	22.2	-	-	11.1	38.9	-	-	-	-
W. Indian Creek	19.2	38.5	11.5	11.5	-	15.4	3.9	-	-	-	-
Willow Creek	7.1	21.4	67.9	-	-	3.6	-	-	-	-	-
Wisel Creek	33.9	12.3	27.7	1.5	-	15.4	9.2	-	-	-	-

Table 15. Percent gear choice within time period among surveyed anglers fishing selected trout streams in southeast Minnesota, April 1 to September 30, 2013.

Time Period	Bait	Lure	Fly	Mixed
April 1 – 12	0.0	14.3	78.6	7.1
April 13 – 30	35.9	25.2	33.8	5.1
May	23.2	24.6	45.8	6.4
June	21.5	21.5	51.8	5.1
July	39.1	27.0	29.8	4.0
August	34.8	28.4	31.8	5.0
September 1 – 14	11.0	19.2	58.9	11.0
September 15 – 30	7.3	18.8	68.1	5.8

Table 16. Percent gear choice within age category among surveyed anglers fishing selected trout streams in southeast Minnesota, April 1 to September 30, 2013.

Gear	< 16	16-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89
Bait	53.6	40.8	27.7	25.7	24.4	28.1	14.3	19.7	25.0
Lure	25.9	42.9	37.1	27.0	28.0	20.0	13.1	9.2	41.7
Fly	7.1	8.2	30.0	42.3	40.0	48.9	67.4	67.1	33.3
Mixed	13.4	8.2	5.3	5.0	7.7	3.0	5.1	4.0	0.0
Sample size	112	49	170	222	168	235	175	76	12

Table 17. Percent age category within gear choice among surveyed anglers fishing selected trout streams in southeast Minnesota, April 1 to September 30, 2013.

Age (years)	Bait	Lure	Fly	Mixed
< 16	18.0	9.6	1.6	21.1
16-19	6.0	7.0	0.8	5.6
20-29	14.1	21.0	10.0	12.7
30-39	17.1	20.0	18.4	15.5
40-49	12.3	15.6	13.1	18.3
50-59	19.8	15.6	13.1	18.3
60-69	7.5	7.6	23.1	12.7
70-79	4.5	2.3	10.0	4.2
80-89	0.9	1.7	0.8	0.0

Table 18. Local, Metro or Other Minnesota resident category with percent composition of gear choice. Local are those living in Fillmore, Goodhue, Houston, Olmsted, Rice, Wabasha, Winona, Dodge, Freeborn, Mower and Steele counties. Metro are those living in Dakota, Ramsey, Washington, Anoka, Scott, Carver and Hennepin counties. Other was those living in any county in Minnesota except for those mentioned above.

Resident category	Bait	Lure	Fly	Mixed
Local	28.1	29.6	36.9	5.5
Metro	29.1	21.2	43.5	6.3
Other	34.7	21.8	35.6	7.9

Table 19. Angling-hours calculated from information on surveys of anglers fishing selected trout streams in southeast Minnesota, April 1 to September 30, 2013.

Stream	Month	Day type	# of days of day type surveyed	# of days of day type in survey	Angler-hours	SE (±)
Camp Creek	April	WD	7	22	0.0	0.0
		WEH	4	8	300.8	143.2
	May	WD	5	22	132.3	81.0
		WEH	5	9	433.1	433.1
	June	WD	6	20	0.0	0.0
		WEH	4	10	74.2	75.2
	July	WD	7	22	330.8	191.0
		WEH	5	9	108.3	27.1
	August	WD	7	22	47.3	47.3
		WEH	5	9	51.1	33.2
	September	WD	5	20	300.8	134.5
		WEH	3	10	0.0	0.0
	Subtotal				1,783	528
Crooked Creek	April	WD	7	22	236.3	94.5
		WEH	3	8	401.0	174.8
	May	WD	6	22	55.1	55.1
		WEH	4	9	203.0	130.0
	June	WD	5	20	0.0	0.0
		WEH	4	10	0.0	0.0
	July	WD	6	22	0.0	0.0
		WEH	4	9	101.5	101.5
	August	WD	7	22	47.3	47.3
		WEH	5	9	0.0	0.0
	September	WD	7	20	43.0	43.0
		WEH	4	10	37.6	37.6
	Subtotal				1,125	274
East Beaver Creek	April	WD	7	22	236.3	118.9
		WEH	3	8	80.2	40.1
	May	WD	6	22	110.3	69.8
		WEH	4	9	169.2	64.8
	June	WD	5	20	0.0	0.0
		WEH	4	10	188.0	112.8
	July	WD	6	22	110.3	110.3
		WEH	4	9	169.2	169.2
	August	WD	7	22	47.3	47.3
		WEH	5	9	108.3	78.9
	September	WD	7	20	171.9	128.9
		WEH	4	10	0.0	0.0
	Subtotal				1,391	322
Forestville Creek	April	WD	7	22	0.0	0.0
		WEH	4	8	210.5	173.0
	May	WD	6	22	55.1	55.1
		WEH	4	9	135.3	135.3
	June	WD	6	20	200.5	200.5
		WEH	5	10	30.1	30.1
	July	WD	6	22	55.1	55.1
		WEH	4	9	203.0	87.4
	August	WD	6	22	110.3	110.3
		WEH	4	9	67.7	67.7
	September	WD	6	20	0.0	0.0
		WEH	5	10	54.3	73.7
	Subtotal				1,188	354

Table 19 (continued).

Stream	Month	Day type	# of days of day type surveyed	# of days of day type in survey	Angler-hours	SE (±)
Gribben Creek	April	WD	7	22	0.0	0.0
		WEH	4	8	60.1	60.2
	May	WD	5	22	0.0	0.0
		WEH	5	9	135.3	104.8
	June	WD	6	20	0.0	0.0
		WEH	4	10	112.8	112.8
	July	WD	7	22	94.5	61.0
		WEH	5	9	27.1	27.1
	August	WD	7	22	94.5	94.5
		WEH	5	9	54.1	54.1
	September	WD	5	20	60.2	60.2
		WEH	3	10	50.1	50.1
	Subtotal				689	223
Hay Creek – State	April	WD	6	22	55.1	55.1
		WEH	4	8	210.5	102.7
	May	WD	7	22	94.5	94.5
		WEH	5	9	27.1	27.1
	June	WD	7	20	0.0	0.0
		WEH	6	10	125.3	46.2
	July	WD	6	22	0.0	0.0
		WEH	4	9	0.0	0.0
	August	WD	7	22	94.5	61.0
		WEH	5	9	27.1	27.1
	September	WD	5	20	0.0	0.0
		WEH	5	10	30.1	30.1
	Subtotal				664	175
Hay Creek – Upper	April	WD	6	22	165.4	113.0
		WEH	4	8	210.5	172.8
	May	WD	7	22	94.5	94.5
		WEH	5	9	108.3	108.2
	June	WD	7	20	43.0	43.0
		WEH	5	10	210.5	60.2
	July	WD	6	22	275.7	101.7
		WEH	4	9	101.5	101.5
	August	WD	7	22	236.3	118.9
		WEH	5	9	27.1	27.1
	September	WD	5	20	120.3	120.3
		WEH	5	10	90.2	60.2
	Subtotal				1,683	350
M. Br. Whitewater (Crow)	April	WD	8	22	82.7	54.1
		WEH	4	8	90.2	57.6
	May	WD	5	22	66.2	66.2
		WEH	4	9	0.0	0.0
	June	WD	7	20	85.9	55.5
		WEH	5	10	150.4	67.3
	July	WD	6	22	0.0	0.0
		WEH	4	9	0.0	0.0
	August	WD	6	22	0.0	0.0
		WEH	4	9	101.5	33.8
	September	WD	6	20	50.1	50.1
		WEH	5	10	0.0	0.0
	Subtotal				627	148

Table 19 (continued).

Stream	Month	Day type	# of days of day type surveyed	# of days of day type in survey	Angler-hours	SE (±)
M. Br. Whitewater (Cty 9)	April	WD	8	22	0.0	0.0
		WEH	4	8	30.1	30.1
	May	WD	5	22	66.2	66.2
		WEH	4	9	33.8	33.8
	June	WD	7	20	85.9	55.5
		WEH	5	10	150.4	47.6
	July	WD	6	22	55.1	55.1
		WEH	4	9	67.7	67.7
	August	WD	6	22	165.4	113.0
		WEH	4	9	135.3	0.0
	September	WD	6	20	50.1	50.1
		WEH	5	10	30.1	30.1
	Subtotal				870	189
M. Br. Whitewater (Quincy)	April	WD	7	22	47.3	47.3
		WEH	4	8	60.2	60.2
	May	WD	6	22	441.1	236.5
		WEH	4	9	101.5	101.5
	June	WD	4	20	300.8	212.7
		WEH	5	10	60.2	36.8
	July	WD	6	22	220.6	139.5
		WEH	5	9	189.5	101.3
	August	WD	7	22	47.3	47.3
		WEH	4	9	406.0	156.3
	September	WD	6	20	150.4	67.3
		WEH	5	10	150.4	95.1
	Subtotal				2,175	434
Mill Creek	April	WD	6	22	110.3	110.3
		WEH	4	8	271.0	102.8
	May	WD	7	22	0.0	0.0
		WEH	6	9	203.0	83.8
	June	WD	5	20	240.6	60.2
		WEH	3	10	200.5	132.6
	July	WD	6	22	0.0	0.0
		WEH	5	9	54.1	54.1
	August	WD	7	22	47.3	47.3
		WEH	5	9	54.1	33.2
	September	WD	5	20	0.0	0.0
		WEH	3	10	150.4	86.8
	Subtotal				1,331	254
N. Br. Whitewater	April	WD	7	22	189.0	122.1
		WEH	4	8	330.8	252.2
	May	WD	6	22	110.3	69.7
		WEH	4	9	236.8	150.0
	June	WD	4	20	0.0	0.0
		WEH	5	10	60.2	60.2
	July	WD	6	22	771.9	338.1
		WEH	5	9	297.7	236.0
	August	WD	7	22	141.8	98.4
		WEH	4	9	101.5	101.5
	September	WD	6	20	0.0	0.0
		WEH	5	10	90.2	90.2
	Subtotal				2,330	555

Table 19 (continued).

Stream	Month	Day type	# of days of day type surveyed	# of days of day type in survey	Angler-hours	SE (±)
Pine Creek	April	WD	8	22	82.7	54.1
		WEH	4	8	210.5	124.0
	May	WD	5	22	264.7	123.8
		WEH	4	9	101.5	33.8
	June	WD	7	20	43.0	43.0
		WEH	5	10	60.2	60.2
	July	WD	6	22	165.4	113.0
		WEH	4	9	236.8	194.4
	August	WD	6	22	110.3	110.3
		WEH	4	9	101.5	64.8
	September	WD	6	20	0.0	0.0
		WEH	5	10	150.4	116.5
	Subtotal				1,527	347
S. Br. Root River (Lanesboro)	April	WD	7	22	189.0	122.0
		WEH	3	8	360.9	360.9
	May	WD	5	22	330.8	181.2
		WEH	5	9	379.0	168.0
	June	WD	6	20	200.5	200.5
		WEH	4	10	300.8	162.4
	July	WD	7	22	1,228.8	503.9
		WEH	5	9	1,218.1	176.5
	August	WD	7	22	992.5	314.7
		WEH	5	9	839.1	258.2
	September	WD	5	20	962.4	440.0
		WEH	3	10	350.9	50.1
	Subtotal				7,353	959
S. Br. Root River (Park)	April	WD	7	22	47.3	47.3
		WEH	5	8	769.9	354.0
	May	WD	6	22	330.8	170.8
		WEH	4	9	203.0	203.0
	June	WD	6	20	401.0	241.4
		WEH	5	10	751.9	242.5
	July	WD	6	22	330.8	148.0
		WEH	4	9	541.4	146.2
	August	WD	6	22	386.0	157.9
		WEH	4	9	67.7	67.7
	September	WD	6	20	300.8	205.5
		WEH	5	10	270.7	137.8
	Subtotal				4,401	670
S. Fork Root River (LTM)	April	WD	7	22	189.0	141.8
		WEH	4	8	270.7	172.8
	May	WD	5	22	132.3	81.0
		WEH	5	9	27.1	27.0
	June	WD	7	20	214.8	170.1
		WEH	4	10	75.2	75.2
	July	WD	6	22	55.1	55.1
		WEH	4	9	0.0	0.0
	August	WD	7	22	0.0	0.0
		WEH	4	9	33.8	33.8
	September	WD	5	20	0.0	0.0
		WEH	5	10	240.6	102.0
	Subtotal				1,239	326

Table 19 (continued).

Stream	Month	Day type	# of days of day type surveyed	# of days of day type in survey	Angler-hours	SE (±)
S. Fork Root River (Million)	April	WD	7	22	236.3	118.9
		WEH	4	8	300.8	104.1
	May	WD	5	22	0.0	0.0
		WEH	5	9	108.3	78.9
	June	WD	7	20	128.9	128.9
		WEH	4	10	225.6	179.0
	July	WD	6	22	0.0	0.0
		WEH	4	9	203.0	67.7
	August	WD	7	22	94.5	94.5
		WEH	4	9	33.8	33.8
	September	WD	5	20	0.0	0.0
		WEH	5	10	150.4	95.1
	Subtotal				1,482	322
Trout Run (Bucksnort)	April	WD	6	22	110.3	69.7
		WEH	4	8	240.6	170.1
	May	WD	7	22	283.6	151.9
		WEH	6	9	112.8	64.6
	June	WD	5	20	180.5	73.7
		WEH	4	10	451.1	184.2
	July	WD	6	22	496.2	280.1
		WEH	5	9	270.7	74.1
	August	WD	7	22	236.3	94.5
		WEH	5	9	162.4	99.4
	September	WD	5	20	240.6	112.5
		WEH	3	10	150.4	0.0
	Subtotal				2,935	465
Trout Run (Lohman's)	April	WD	6	22	441.1	184.5
		WEH	4	8	330.8	165.6
	May	WD	7	22	330.8	125.0
		WEH	6	9	293.2	107.2
	June	WD	5	20	721.8	120.3
		WEH	4	10	451.1	267.6
	July	WD	6	22	330.8	85.4
		WEH	5	9	216.5	54.1
	August	WD	7	22	283.6	112.5
		WEH	5	9	189.5	54.1
	September	WD	5	20	360.9	221.0
		WEH	3	10	150.4	86.8
	Subtotal				4,101	510
West Beaver Creek	April	WD	7	22	0.0	0.0
		WEH	3	8	120.3	120.3
	May	WD	6	22	0.0	0.0
		WEH	4	9	169.2	67.8
	June	WD	5	20	0.0	0.0
		WEH	4	10	37.6	37.6
	July	WD	6	22	55.1	55.1
		WEH	4	9	0.0	0.0
	August	WD	7	22	141.8	98.4
		WEH	5	9	135.3	135.3
	September	WD	7	20	43.0	43.0
		WEH	4	10	37.6	37.6
	Subtotal				740	233

Table 19 (continued).

Stream	Month	Day type	# of days of day type surveyed	# of days of day type in survey	Angler-hours	SE (±)
West Indian Creek (Cty 4)	April	WD	7	22	236.3	139.1
		WEH	4	8	0.0	0.0
	May	WD	6	22	275.7	132.8
		WEH	4	9	101.5	101.5
	June	WD	4	20	0.0	0.0
		WEH	5	10	60.2	60.2
	July	WD	6	22	0.0	0.0
		WEH	5	9	0.0	0.0
	August	WD	7	22	0.0	0.0
		WEH	4	9	101.5	101.5
	September	WD	6	20	0.0	0.0
		WEH	5	10	0.0	0.0
	Subtotal				775	247
West Indian (LTM)	April	WD	6	22	0.0	0.0
		WEH	4	8	30.1	30.1
	May	WD	7	22	94.5	94.5
		WEH	5	9	0.0	0.0
	June	WD	7	20	128.9	89.4
		WEH	5	10	0.0	0.0
	July	WD	6	22	0.0	0.0
		WEH	4	9	33.8	33.8
	August	WD	7	22	94.5	61.0
		WEH	5	9	0.0	0.0
	September	WD	5	20	0.0	0.0
		WEH	5	10	60.2	60.2
	Subtotal				442	162
Willow Creek	April	WD	7	22	0.0	0.0
		WEH	4	8	8.3	180.5
	May	WD	6	22	0.0	0.0
		WEH	4	9	169.2	64.8
	June	WD	6	20	0.0	0.0
		WEH	5	10	90.2	90.2
	July	WD	6	22	0.0	0.0
		WEH	4	9	33.8	33.8
	August	WD	6	22	0.0	0.0
		WEH	4	9	169.2	169.2
	September	WD	6	20	150.4	102.7
		WEH	5	10	60.2	60.2
	Subtotal				974	298
Wisel Creek	April	WD	7	22	283.6	133.7
		WEH	4	8	751.9	412.0
	May	WD	5	22	661.7	431.3
		WEH	5	9	81.2	54.1
	June	WD	7	20	171.9	129.0
		WEH	4	10	300.8	162.4
	July	WD	6	22	0.0	0.0
		WEH	4	9	101.5	64.8
	August	WD	7	22	94.5	61.0
		WEH	4	9	101.5	64.8
	September	WD	5	20	120.3	73.7
		WEH	5	10	180.5	110.5
	Subtotal				2,849	670
Total					44,673	2,063

Table 20. Mean catch rate (number/hour) for all trout species and sizes combined from a roving-roving creel survey of 24 selected stream areas in southeast Minnesota April 1 to September 30, 2013. Numbers in parentheses represent SE and sample size (number of anglers). Catch rate data was only compiled for anglers that fished for longer than 0.5 hours. n/a means no data were available.

	Months						
Stream areas	April	May	June	July	August	September	Totals
Camp Creek	0.53 (0.53, 2)	1.00 (0.40, 5)	n/a	2.93 (0.61, 3)	0.60 (0.47, 3)	0.00 (n/a, 1)	1.19 (0.33, 14)
Crooked Creek	2.20 (0.87, 8)	4.79 (0.91, 8)	n/a	3.89 (1.39, 3)	3.28 (n/a, 1)	4.41 (3.01, 2)	3.62 (0.56, 22)
East Beaver Creek	1.47 (n/a, 1)	0.88 (0.47, 6)	0.53 (0.48, 3)	0.00 (0.00, 2)	0.00 (0.00, 2)	1.58 (0.74, 4)	0.81 (0.26, 18)
Forestville Creek	1.32 (n/a, 1)	0.00 (n/a, 1)	1.00 (n/a, 1)	0.72 (0.52, 4)	0.10 (0.10, 4)	0.00 (0.00, 4)	0.37 (0.17, 15)
Gribben Creek	n/a	n/a	1.09 (0.15, 3)	1.58 (0.84, 3)	1.69 (1.69, 2)	0.00 (n/a, 1)	1.27 (0.42, 9)
Hay Creek (State Forest)	1.23 (0.42, 7)	0.00 (0.00, 2)	1.16 (1.10, 5)	n/a	0.77 (0.77, 2)	2.76 (n/a, 1)	1.10 (0.37, 17)
Hay Creek (Upper)	0.73 (0.32, 10)	1.51 (0.46, 4)	2.79 (0.68, 6)	0.87 (0.34, 6)	0.96 (0.52, 6)	0.84 (0.32, 5)	1.22 (0.21, 37)
M. Br. Whitewater (Crow Springs)	4.73 (2.69, 2)	5.00 (n/a, 1)	0.65 (0.65, 2)	n/a	0.38 (0.38, 2)	4.00 (n/a, 1)	2.56 (0.94, 8)
M. Br. Whitewater (County 9)	n/a	n/a	1.61 (0.34, 8)	0.00 (0.00, 2)	2.81 (2.04, 3)	6.01 (2.32, 2)	2.22 (0.63, 15)
M. Br. Whitewater (Quincy)	0.49 (0.25, 3)	0.57 (0.22, 11)	2.30 (0.76, 5)	1.05 (0.51, 12)	0.69 (0.32, 12)	0.69 (0.31, 7)	0.90 (0.18, 50)
Mill Creek	0.30 (n/a, 1)	1.87 (1.27, 3)	0.15 (0.15, 3)	1.33 (1.33, 2)	2.47 (0.11, 2)	0.53 (0.53, 4)	1.07 (0.36, 15)
North Branch Whitewater	1.23 (0.50, 7)	1.38 (0.76, 8)	n/a	1.32 (0.32, 17)	1.09 (0.29, 2)	1.99 (0.87, 3)	1.36 (0.24, 37)
Pine Creek	4.66 (2.31, 3)	5.31 (2.01, 3)	0.31 (n/a, 1)	1.38 (0.60, 4)	2.20 (1.91, 3)	0.14 (0.08, 4)	2.38 (0.71, 18)
South Branch Root (Lanesboro)	2.12 (0.54, 8)	0.68 (0.26, 13)	0.40 (0.27, 10)	0.73 (0.16, 41)	0.48 (0.11, 36)	1.07 (0.35, 10)	0.74 (0.09, 118)
South Branch Root (State Park)	1.39 (0.53, 3)	0.61 (0.26, 4)	0.55 (0.20, 17)	0.66 (0.24, 19)	3.07 (1.63, 3)	0.34 (0.17, 7)	0.76 (0.16, 53)
South Fork Root (LTM)	n/a	7.68 (3.44, 3)	4.22 (n/a, 1)	n/a	16.22 (n/a, 1)	0.92 (0.38, 8)	3.91 (1.49, 13)
South Fork Root (Million Dollar)	2.06 (0.45, 4)	0.80 (0.56, 3)	3.24 (2.24, 4)	1.17 (n/a, 1)	0.25 (0.25, 3)	1.14 (0.79, 4)	1.58 (0.52, 19)
Trout Run (Bucksnort)	1.47 (0.29, 5)	1.92 (0.43, 6)	1.67 (0.62, 6)	0.12 (0.07, 14)	0.25 (0.16, 7)	1.89 (0.95, 5)	0.97 (0.19, 43)
Trout Run (Lohman's)	4.09 (1.05, 12)	5.43 (0.72, 6)	1.36 (0.41, 14)	1.84 (0.29, 12)	2.05 (1.25, 10)	2.63 (1.44, 4)	2.65 (0.38, 58)
West Beaver Creek	n/a	0.78 (0.02, 2)	6.21 (n/a, 1)	n/a	2.98 (1.11, 3)	3.52 (n/a, 1)	2.89 (0.82, 7)
West Indian Creek (County 4)	2.27 (0.55, 2)	1.75 (0.84, 8)	2.32 (0.00, 2)	n/a	2.00 (n/a, 1)	n/a	1.93 (0.51, 13)
West Indian Creek (LTM)	1.96 (n/a, 1)	0.96 (n/a, 1)	1.02 (0.52, 3)	n/a	1.79 (1.52, 2)	1.09 (0.00, 2)	1.30 (0.32, 9)
Willow Creek	1.80 (n/a, 1)	n/a	0.00 (0.00, 2)	1.60 (n/a, 1)	0.00 (0.00, 4)	7.66 (0.23, 3)	2.40 (1.04, 11)
Wisel Creek	0.66 (0.24, 7)	4.09 (1.64, 7)	0.97 (0.41, 7)	1.64 (0.87, 3)	0.95 (0.81, 2)	1.11 (0.47, 5)	1.69 (0.45, 31)
Totals	1.93 (0.24, 88)	2.14 (0.27, 105)	1.30 (0.16, 104)	1.01 (0.11, 149)	1.11 (0.21, 116)	1.49 (0.22, 88)	1.45 (0.08, 650)

Table 21. Mean catch rate (number/hour) for all trout species ≥ 12 inches TL combined from a roving-roving creel survey of 24 selected stream areas in southeast Minnesota April 1 to September 30, 2013. Numbers in parentheses represent SE and sample size (number of anglers). Catch rate data was only compiled for anglers that fished for longer than 0.5 hours. n/a means no data were available.

	Months						
Stream areas	April	May	June	July	August	September	Totals
Camp Creek	0.00 (0.00, 2)	0.11 (0.11, 5)	n/a	1.12 (0.69, 3)	0.00 (0.00, 3)	0.00 (n/a, 1)	0.28 (0.18, 14)
Crooked Creek	0.36 (0.18, 6)	1.57 (0.75, 8)	n/a	1.45 (0.63, 3)	0.66 (n/a, 1)	1.24 (1.12, 2)	1.11 (0.34, 20)
East Beaver Creek	0.00 (n/a, 1)	0.55 (0.31, 6)	0.00 (0.00, 3)	0.00 (0.00, 2)	0.00 (0.00, 2)	0.41 (0.15, 4)	0.28 (0.12, 18)
Forestville Creek	0.20 (n/a, 1)	0.00 (n/a, 1)	1.00 (n/a, 1)	0.22 (0.18, 4)	0.00 (0.00, 4)	0.00 (0.00, 4)	0.14 (0.08, 15)
Gribben Creek	n/a	n/a	0.00 (0.00, 3)	0.00 (0.00, 3)	0.42 (0.42, 2)	0.00 (n/a, 1)	0.09 (0.09, 9)
Hay Creek (State Forest)	0.41 (0.20, 7)	0.00 (0.00, 2)	0.18 (0.18, 5)	n/a	0.00 (0.00, 2)	1.11 (n/a, 1)	0.29 (0.11, 17)
Hay Creek (Upper)	0.17 (0.09, 10)	0.00 (0.00, 4)	0.50 (0.17, 6)	0.06 (0.06, 6)	0.24 (0.17, 6)	0.32 (0.17, 5)	0.22 (0.05, 37)
M. Br. Whitewater (Crow Springs)	0.15 (0.15, 2)	1.92 (n/a, 1)	0.00 (0.00, 2)	n/a	0.00 (0.00, 2)	0.00 (n/a, 1)	0.28 (0.24, 8)
M. Br. Whitewater (County 9)	n/a	n/a	0.46 (0.16, 8)	0.00 (0.00, 2)	0.53 (0.26, 3)	1.00 (1.00, 2)	0.49 (0.15, 15)
Mid. Br. Whitewater (Quincy)	0.00 (0.00, 3)	0.12 (0.11, 11)	0.61 (0.37, 5)	0.17 (0.11, 12)	0.13 (0.09, 12)	0.22 (0.11, 7)	0.19 (0.06, 50)
Mill Creek	0.30 (n/a, 1)	0.86 (0.86, 3)	0.00 (0.00, 3)	0.67 (0.67, 2)	0.12 (0.12, 2)	0.00 (0.00, 4)	0.30 (0.19, 15)
North Branch Whitewater	0.50 (0.20, 7)	0.06 (0.04, 8)	n/a	0.10 (0.07, 17)	0.40 (0.01, 2)	0.00 (0.00, 3)	0.18 (0.06, 37)
Pine Creek	1.01 (0.57, 3)	1.56 (0.78, 3)	0.31 (n/a, 1)	0.00 (0.00, 4)	1.00 (1.00, 3)	0.06 (0.06, 4)	0.63 (0.24, 18)
South Branch Root (Lanesboro)	0.74 (0.66, 6)	0.10 (0.09, 12)	0.00 (0.00, 10)	0.24 (0.07, 41)	0.09 (0.04, 36)	0.24 (0.11, 10)	0.18 (0.05, 115)
South Branch Root (State Park)	0.00 (0.00, 3)	0.00 (0.00, 4)	0.18 (0.16, 17)	0.09 (0.08, 19)	0.14 (0.14, 3)	0.24 (0.18, 7)	0.13 (0.06, 53)
South Fork Root (LTM)	n/a	0.93 (0.20, 2)	0.56 (n/a, 1)	n/a	0.41 (n/a, 1)	0.00 (0.00, 8)	0.23 (0.11, 12)
South Fork Root (Million Dollar)	0.45 (0.26, 4)	0.16 (0.08, 3)	1.71 (1.43, 4)	0.00 (n/a, 1)	0.00 (0.00, 3)	0.26 (0.20, 4)	0.53 (0.31, 19)
Trout Run (Bucksnort)	0.25 (0.25, 5)	0.41 (0.16, 6)	0.19 (0.12, 6)	0.02 (0.02, 14)	0.05 (0.05, 7)	0.60 (0.26, 5)	0.20 (0.06, 43)
Trout Run (Lohman's)	1.05 (0.36, 12)	0.67 (0.35, 6)	0.26 (0.15, 14)	0.75 (0.14, 12)	0.10 (0.07, 10)	0.22 (0.13, 4)	0.54 (0.10, 58)
West Beaver Creek	n/a	0.52 (0.27, 2)	1.24 (n/a, 1)	n/a	0.81 (0.50, 3)	1.10 (n/a, 1)	0.83 (0.22, 7)
West Indian Creek (County 4)	0.35 (0.35, 2)	0.27 (0.19, 8)	0.56 (0.28, 2)	n/a	0.00 (n/a, 1)	n/a	0.30 (0.13, 13)
West Indian Creek (LTM)	0.24 (n/a, 1)	0.00 (n/a, 1)	0.10 (0.10, 3)	n/a	0.00 (0.00, 2)	0.00 (0.00, 2)	0.06 (0.04, 9)
Willow Creek	0.00 (n/a, 1)	n/a	0.00 (0.00, 2)	0.00 (n/a, 1)	0.00 (0.00, 4)	2.67 (0.57, 3)	0.73 (0.40, 11)
Wisel Creek	0.27 (0.27, 7)	1.62 (0.98, 7)	0.06 (0.04, 7)	1.07 (0.54, 3)	0.00 (0.00, 2)	0.42 (0.27, 5)	0.61 (0.25, 31)
Totals	0.44 (0.09, 84)	0.50 (0.11, 103)	0.29 (0.07, 104)	0.26 (0.04, 149)	0.15 (0.04, 116)	0.35 (0.07, 88)	0.32 (0.03, 644)

Table 22. Mean catch rate (number/hour) for all trout species ≥ 16 inches TL combined from a roving-roving creel survey of 24 stream areas in southeast Minnesota April 1 toSeptember 30, 2013. Numbers in parentheses represent SE and sample size (number of anglers). Catch rate data was only compiled for anglers that fished for longer than 0.5 hours. n/a means no data were available.

	Months						
Stream areas	April	May	June	July	August	September	Totals
Camp Creek	0.00 (0.00, 2)	0.00 (0.00, 5)	n/a	0.00 (0.00, 3)	0.00 (0.00, 3)	0.00 (n/a, 1)	0.00 (0.00, 14)
Crooked Creek	0.00 (0.00, 6)	0.03 (0.03, 8)	n/a	0.00 (0.00, 3)	0.00 (n/a, 1)	0.00 (0.00, 2)	0.01 (0.01, 20)
East Beaver Creek	0.00 (n/a, 1)	0.00 (0.00, 6)	0.00 (0.00, 3)	0.00 (0.00, 2)	0.00 (0.00, 2)	0.00 (0.00, 4)	0.00 (0.00, 18)
Forestville Creek	0.00 (n/a, 1)	0.00 (n/a, 1)	0.00 (n/a, 1)	0.00 (0.00, 4)	0.00 (0.00, 4)	0.00 (0.00, 4)	0.00 (0.00, 15)
Gribben Creek	n/a	n/a	0.00 (0.00, 3)	0.00 (0.00, 3)	0.00 (0.00, 2)	0.00 (n/a, 1)	0.00 (0.00, 9)
Hay Creek (State Forest)	0.00 (0.00, 7)	0.00 (0.00, 2)	0.00 (0.00, 5)	n/a	0.00 (0.00, 2)	0.00 (n/a, 1)	0.00 (0.00, 17)
Hay Creek (Upper)	0.01 (0.01, 10)	0.00 (0.00, 4)	0.00 (0.00, 6)	0.00 (0.00, 6)	0.16 (0.10, 6)	0.14 (0.09, 5)	0.05 (0.02, 37)
M. Br. Whitewater River (Crow Springs)	0.00 (0.00, 2)	0.00 (n/a, 1)	0.00 (0.00, 2)	n/a	0.00 (0.00, 2)	0.00 (n/a, 1)	0.00 (0.00, 8)
M. Br. Whitewater River (County 9)	n/a	n/a	0.08 (0.08, 8)	0.00 (0.00, 2)	0.00 (0.00, 3)	0.00 (0.00, 2)	0.04 (0.04, 15)
M. Br. Whitewater River (Quincy)	0.00 (0.00, 3)	0.00 (0.00, 11)	0.06 (0.06, 5)	0.00 (0.00, 12)	0.00 (0.00, 12)	0.00 (0.00, 7)	0.01 (0.01, 50)
Mill Creek	0.00 (n/a, 1)	0.00 (0.00, 3)	0.00 (0.00, 3)	0.00 (0.00, 2)	0.00 (0.00, 2)	0.00 (0.00, 4)	0.00 (0.00, 15)
N. Br. Whitewater River	0.00 (0.00, 7)	0.00 (0.00, 8)	n/a	0.00 (0.00, 17)	0.00 (0.00, 2)	0.00 (0.00, 3)	0.00 (0.00, 37)
Pine Creek	0.18 (0.18, 3)	0.00 (0.00, 3)	0.00 (n/a, 1)	0.00 (0.00, 4)	0.00 (0.00, 3)	0.00 (0.00, 4)	0.03 (0.03, 18)
South Branch Root River (Lanesboro)	0.00 (0.00, 6)	0.00 (0.00, 12)	0.00 (0.00, 10)	0.01 (0.01, 41)	0.00 (0.00, 36)	0.02 (0.02, 10)	0.004 (0.003, 115)
South Branch Root River (State Park)	0.00 (0.00, 3)	0.00 (0.00, 4)	0.00 (0.00, 17)	0.00 (0.00, 19)	0.00 (0.00, 3)	0.12 (0.08, 7)	0.02 (0.01, 53)
South Fork Root (LTM)	n/a	0.00 (0.00, 2)	0.00 (n/a, 1)	n/a	0.41 (n/a, 1)	0.00 (0.00, 8)	0.03 (0.03, 12)
South Fork Root (Million Dollar)	0.00 (0.00, 4)	0.00 (0.00, 3)	0.14 (0.14, 4)	0.00 (n/a, 1)	0.00 (0.00, 3)	0.00 (0.00, 4)	0.03 (0.03, 19)
Trout Run (Bucksnort)	0.00 (0.00, 5)	0.04 (0.04, 6)	0.02 (0.02, 6)	0.00 (0.00, 14)	0.00 (0.00, 7)	0.08 (0.08, 5)	0.02 (0.01, 43)
Trout Run (Lohman's)	0.02 (0.02, 12)	0.04 (0.04, 6)	0.00 (0.00, 14)	0.05 (0.04, 12)	0.00 (0.00, 10)	0.00 (0.00, 4)	0.02 (0.01, 58)
West Beaver Creek	n/a	0.00 (0.00, 2)	0.00 (n/a, 1)	n/a	0.00 (0.00, 3)	0.22 (n/a, 1)	0.03 (0.03, 7)
West Indian Creek (County 4)	0.00 (0.00, 2)	0.05 (0.05, 8)	0.14 (0.14, 2)	n/a	0.00 (n/a, 1)	n/a	0.05 (0.03, 13)
West Indian Creek (LTM)	0.00 (n/a, 1)	0.00 (n/a, 1)	0.00 (0.00, 3)	n/a	0.00 (0.00, 2)	0.00 (0.00, 2)	0.00 (0.00, 9)
Willow Creek	0.00 (n/a, 1)	n/a	0.00 (0.00, 2)	0.00 (n/a, 1)	0.00 (0.00, 4)	0.00 (0.00, 3)	0.00 (0.00, 11)
Wisel Creek	0.00 (0.00, 7)	0.05 (0.03, 7)	0.00 (0.00, 7)	0.08 (0.08, 3)	0.00 (0.00, 2)	0.00 (0.00, 5)	0.02 (0.01, 31)
Totals	0.010 (0.006, 84)	0.014 (0.006, 103)	0.018 (0.009, 104)	0.008 (0.004, 149)	0.012 (0.007, 116)	0.026 (0.010, 88)	0.014 (0.003, 644)

Table 23. Percent harvest of trout by stream and overall (all trout species) calculated from surveys given to anglers fishing selected trout streams in southeast Minnesota, April 1 to September 30, 2013. The early (April 1 to April 12, 2013) and late (September 15 to September 30, 2013) catch-and-release seasons were excluded.

Stream	Regulation	Percent harvest
Willow Creek	General	47.4
West Indian Creek (LTM)	Slot – no gear restrictions	37.7
Hay Creek (State)	General	35.4
S. Br. Root River (Lanesboro)	General	33.5
Mill Creek	General	29.2
N. Br. Whitewater River	Slot – artificial lures/flies	23.9
Forestville Creek	Slot – no gear restrictions	17.5
Pine Creek	General	14.0
West Beaver Creek	General	11.8
East Beaver Creek	Slot – no gear restrictions	11.1
Trout Run (Bucksnort)	Slot – artificial lures/flies	10.9
S. Br. Root River (Park)	Slot – no gear restrictions	8.9
Hay Creek (Upper)	Slot – artificial lures/flies	8.3
Wisel Creek	Slot – no gear restrictions	6.8
West Indian Creek (County 4)	General	5.4
Gribben Creek	Slot – artificial lures/flies	4.2
South Fork Root River (Million Dollar)	General	2.7
Crooked Creek	General	2.8
Trout Run (Lohman's)	Slot – artificial lures/flies	2.5
Overall		13.0

Table 24. Brown Trout catch and harvest calculated from surveys given to anglers fishing selected trout streams in southeast Minnesota, April 1 and September 30, 2013.

Stream	Day type	Brown Trout			
		Total catch	SE (±)	Total harvest	SE (±)
Camp Creek	WD	739	474		
	WEH	390	219		
	All	1,129	522		
Crooked Creek	WD	752	437		
	WEH	1,326	606	42	30
	All	2,078	747	42	30
East Beaver Creek	WD	519	387		
	WEH	161	114	45	45
	All	680	404	45	45
Forestville Creek	WD	0	0		
	WEH	165	92	38	24
	All	165	92	38	24
Gribben Creek	WD	104	104		
	WEH	342	189	17	17
	All	446	216	17	17
Hay Creek – State	WD	104	104	104	75
	WEH	508	209	141	79
	All	612	233	245	109
Hay Creek – Upper	WD	835	299	206	125
	WEH	1,167	374	96	68
	All	2,002	479	302	142
M. Br. Whitewater (Crow)	WD	431	307	162	102
	WEH	139	98	165	94
	All	570	322	327	139
M. Br. Whitewater (Cty 9)	WD	1,119	738		
	WEH	444	210		
	All	1,563	767		
M. Br. Whitewater (Quincy)	WD	1,516	538		
	WEH	552	202		
	All	2,068	574		
Mill Creek	WD	0	0		
	WEH	453	356		
	All	453	356		
N. Br. Whitewater River	WD	678	395		
	WEH	1,012	487		
	All	1,690	628		
Pine Creek	WD	1,671	1,119	37	37
	WEH	2,074	1,178	243	133
	All	3,745	1,625	280	138
S. Br. Root River (Lanesboro)	WD	1,167	379	509	171
	WEH	2,880	1,226	1,157	404
	All	4,047	1,283	1,666	438
S. Br. Root River (Park)	WD	1,579	592		
	WEH	1,722	843	143	104
	All	3,301	1,030	143	104
S. Fork Root River (LTM)	WD	741	414		
	WEH	849	608		
	All	1,590	736		
S. Fork Root River (Million)	WD	633	591		
	WEH	1,334	556	20	20
	All	1,967	811	20	20
Trout Run (Bucksnort)	WD	969	472	226	132
	WEH	1,834	768	62	62
	All	2,803	902	289	146

Table 24. continued (Brown Trout)

Stream	Day type	Brown Trout			
		Total catch	SE (±)	Total harvest	SE (±)
Trout Run (Lohman's)	WD	5,405	1,419	44	33
	WEH	4,350	1,300	173	114
	All	9,755	1,925	217	119
West Beaver Creek	WD	457	260		
	WEH	1,148	851	66	41
	All	1,605	890	66	41
West Indian Creek (Cty 4)	WD	1,158	586	180	118
	WEH	321	225		
	All	1,479	628	180	118
West Indian Creek (LTM)	WD	371	173	171	72
	WEH	127	88		
	All	498	194	171	72
Willow Creek	WD	0	0		
	WEH	457	425		
	All	457	425		
Wisel Creek	WD	1,748	918		
	WEH	1,248	435	7	7
	All	2,996	1,016	7	7
Total	All	47,695	4,046	4,055	577

Table 25. Brown Trout >12 inches and >16 inches catch and harvest calculated from surveys given to anglers fishing selected trout streams in southeast Minnesota, April 1 to September 30, 2013.

Stream	Day type	Brown Trout >12 inches				Brown Trout >16 inches			
		Total catch	SE (±)	Total harvest	SE (±)	Total catch	SE (±)	Total harvest	SE (±)
Camp Creek	WD	75	60			0	0		
	WEH	103	103			0	0		
	All	178	119			0	0		
Crooked Creek	WD	220	125			12	12		
	WEH	255	153	19	19	0	0		
	All	475	197	19	19	12	12		
East Beaver Creek	WD	200	140			0	0		
	WEH	59	59			0	0		
	All	259	152			0	0		
Forestville Creek	WD	0	0			0	0		
	WEH	39	27	5	5	0	0		
	All	39	27	5	5	0	0		
Gribben Creek	WD	0	0			0	0		
	WEH	31	30			0	0		
	All	31	30			0	0		
Hay Creek – State	WD	62	62	62	62	0	0		
	WEH	117	55	35	35	0	0		
	All	179	83	97	71	0	0		
Hay Creek – Upper	WD	171	73	39	39	63	37		
	WEH	171	73			18	14		
	All	342	103	39	39	81	39		
M. Br. Whitewater (Crow)	WD	109	109			0	0		
	WEH	20	20			0	0		
	All	129	111			0	0		
M. Br. Whitewater (Cty 9)	WD	217	140			0	0		
	WEH	126	66			13	13		
	All	343	155			13	13		
M. Br. Whitewater (Quincy)	WD	317	137			17	17		
	WEH	125	58			0	0		
	All	442	153			17	17		
Mill Creek	WD	0	0			0	0		
	WEH	213	213			0	0		
	All	213	213			0	0		
N. Br. Whitewater	WD	60	48			0	0		
	WEH	237	227			0	0		
	All	297	232			0	0		
Pine Creek	WD	643	451			0	0		
	WEH	350	242	56	56	42	42		
	All	993	512	56	56	42	42		
S. Br. Root River (Lanesboro)	WD	254	132	113	80	43	43		
	WEH	1,088	609	735	353	0	0		
	All	1,342	623	472	362	43	43		
S. Br. Root River (Park)	WD	366	319			106	106		
	WEH	897	832			0	0		
	All	1,263	891			106	106		
S. Fork Root River (LTM)	WD	141	82			0	0		
	WEH	15	15			15	15		
	All	156	84			15	15		
S. Fork Root River (Million)	WD	148	148			0	0		
	WEH	409	252			21	21		
	All	557	292			21	21		
Trout Run (Bucksnort)	WD	230	140			30	29		
	WEH	392	204			36	36		
	All	622	247			66	47		

Table 25. continued

Stream	Day type	Brown trout >12 inches				Brown trout >16 inches			
		Total catch	SE (±)	Total harvest	SE (±)	Total catch	SE (±)	Total harvest	SE (±)
Trout Run (Lohman's)	WD	634	171			8	8		
	WEH	1,026	405	16	16	42	25	16	16
	All	1,660	439	16	16	50	26	16	16
West Beaver Creek	WD	94	67			11	11		
	WEH	449	356	44	35	0	0		
	All	543	362	44	35	11	11		
West Indian Creek (Cty 4)	WD	156	94			20	20		
	WEH	34	34			9	9		
	All	190	100			29	22		
West Indian Creek (LTM)	WD	15	14			0	0		
	WEH	8	8			0	0		
	All	23	16			0	0		
Willow Creek	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
Wisel Creek	WD	988	509			51	51		
	WEH	213	122			9	9		
	All	1,201	524			60	52		
Total	All	11,474	1,568	1,124	378	565	151	16	16

Table 26. Estimated total catch, harvest, and percent harvest of three size groups of Brown Trout caught during the summer angling season April 1 to September 30, 2013 on selected stream areas in southeast Minnesota.

	< 12 inches			12-16 inches			> 16 inches		
Stream	Catch	Harvest	% Harvest	Catch	Harvest	% Harvest	Catch	Harvest	% Harvest
Camp Creek	951	0	0%	178	0	0%	0		
Crooked Creek	1603	23	1%	463	19	4%	12	0	0%
East Beaver Creek	421	45	11%	259	0	0%	0		
Forestville Creek	126	33	26%	39	5[a]	13%[a]	0		
Gribben Creek	415	17	4%	31	0	0%	0		
Hay Creek (State)	433	148	34%	179	97	54%	0		
Hay Creek (Upper)	1660	263	16%	261	39[a]	15%[a]	81	0	0%
M. Br. Whitewater (Crow)	441	0	0%	129	0	0%	0		
M. Br. Whitewater (County 9)	1220	0	0%	330	0	0%	13	0	0%
M. Br. Whitewater (Quincy)	1626	0	0%	425	0	0%	17	0	0%
Mill Creek	240	0	0%	213	0	0%	0		
N. Br. Whitewater	1393	327	23%	297	0	0%	0		
Pine Creek	2752	224	8%	951	145	15%	42	0	0%
S. Br. Root (Lanesboro)	2705	818	30%	1299	848	65%	43	0	0%
S. Br. Root (Park)	2038	143	7%	1157	0	0%	106	0	0%
S. Fork Root (LTM)	1434	0	0%	141	0	0%	15	0	0%
S. Fork Root (Million)	1410	20	1%	536	0	0%	21	0	0%
Trout Run (Bucksnort)	2181	289	13%	556	0	0%	66	0	0%
Trout Run (Lohman's)	8095	201	2%	1610	0	0%	50	16	32%
West Beaver Creek	1062	22	2%	532	44	8%	11	0	0%
West Indian Creek (County 4)	1289	180	14%	161	0	0%	29	0	0%
West Indian Creek (LTM)	475	171	36%	23	0	0%	0		
Willow Creek	457	0	0%	0			0		
Wisel Creek	1795	130	7%	1141		0%	60	0	0%
Totals	36,222	3,054	8%	10,911	1,197	11%	566	16	3%

[a] Illegal harvest

Table 27. Brook Trout and Brook Trout (>10 inches) catch and harvest calculated from surveys given to anglers fishing selected trout streams in southeast Minnesota, April 1 to September 30, 2013.

Stream	Day type	Brook Trout				Brook Trout >10 inches			
		Total catch	SE (±)	Total harvest	SE (±)	Total catch	SE (±)	Total harvest	SE (±)
Camp Creek	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
Crooked Creek	WD	0	0			0	0		
	WEH	34	28			9	9		
	All	34	28			9	9		
East Beaver Creek	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
Forestville Creek	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
Gribben Creek	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
Hay Creek – State	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
Hay Creek – Upper	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
M. Br. Whitewater (Crow)	WD	78	60			57	57		
	WEH	373	217			18	18		
	All	451	226			75	59		
M. Br. Whitewater (Cty 9)	WD	237	176			3	3		
	WEH	0	0			0	0		
	All	237	176			3	3		
M. Br. Whitewater (Quincy)	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
Mill Creek	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
N. Br. Whitewater	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
Pine Creek	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
S. Br. Root River (Lanesboro)	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
S. Br. Root River (Park)	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
S. Fork Root River (LTM)	WD	0	0			0	0		
	WEH	46	34			11	11		
	All	46	34			11	11		
S. Fork Root River (Million)	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
Trout Run (Bucksnort)	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		

Table 27. continued (Brook Trout)

Stream	Day type	Brook Trout				Brook Trout >10 inches			
		Total catch	SE (±)	Total harvest	SE (±)	Total catch	SE (±)	Total harvest	SE (±)
Trout Run (Lohman's)	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
West Beaver Creek	WD	0	0			0	0		
	WEH	236	236			59	59		
	All	236	236			59	59		
West Indian Creek (Cty 4)	WD	52	52			0	0		
	WEH	0	0			0	0		
	All	52	52			0	0		
West Indian Creek (LTM)	WD	63	63	63	47	21	21	21	21
	WEH	0	0			0	0		
	All	63	63	63	47	21	21	21	21
Willow Creek	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
Wisel Creek	WD	103	103	98	69	52	52	49	49
	WEH	28	28			28	28		
	All	131	107	98	69	80	58	49	49
Total	All	1,250	397	161	83	256	105	70	53

Table 28. Estimated total catch, harvest, and percent harvest of two size groups of Brook Trout caught during the summer angling season April 1 to September 30, 2013 on selected trout streams areas in southeast Minnesota.

Stream	< 10 inches			≥ 10 inches		
	Catch	Harvest	% Harvest	Catch	Harvest	% Harvest
Camp Creek	0			0		
Crooked Creek	25	0	0%	9	0	0%
East Beaver Creek	0			0		
Forestville Creek	0			0		
Gribben Creek	0			0		
Hay Creek (State)	0			0		
Hay Creek (Upper)	0			0		
M. Br. Whitewater (Crow)	376	0	0%	75	0	0%
M. Br. Whitewater (County 9)	234	0	0%	3	0	0%
M. Br. Whitewater (Quincy)	0			0		
Mill Creek	0			0		
N. Br. Whitewater	0			0		
Pine Creek	0			0		
S. Br. Root (Lanesboro)	0			0		
S. Br. Root (Park)	0			0		
S. Fork Root (LTM)	35	0	0%	11	0	0%
S. Fork Root (Million)	0			0		
Trout Run (Bucksnort)	0			0		
Trout Run (Lohman's)	0			0		
West Beaver Creek	177	0	0%	59	0	0%
West Indian Creek (County 4)	52	0	0%	0		
West Indian Creek (LTM)	42	42	100%	21	21	100%
Willow Creek	0			0		
Wisel Creek	51	49	96%	80	49	61%
Totals	992	91	9%	258	70	27%

Table 29. Rainbow Trout and Rainbow Trout (>12 inches) catch and harvest calculated from surveys given to anglers fishing selected trout streams in southeast Minnesota, April 1 to September 30, 2013.

Stream	Day type	Rainbow Trout				Rainbow Trout (>12 inches)			
		Total catch	SE (±)	Total harvest	SE (±)	Total catch	SE (±)	Total harvest	SE (±)
Camp Creek	WD	17	17			17	17		
	WEH	285	285			0	0		
	All	302	302			17	17		
Crooked Creek	WD	203	145			56	33		
	WEH	249	178	11	11	158	100	11	11
	All	452	229	11	11	214	105	11	11
East Beaver Creek	WD	0	0			0	0		
	WEH	4	4			0	0		
	All	4	4			0	0		
Forestville Creek	WD	0	0			0	0		
	WEH	36	36			36	36		
	All	36	36			36	36		
Gribben Creek	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
Hay Creek – State	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
Hay Creek – Upper	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
M. Br. Whitewater (Crow)	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
M. Br. Whitewater (Cty 9)	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
M. Br. Whitewater (Quincy)	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
Mill Creek	WD	28	28			0	0		
	WEH	281	149	189	95	85	85	82	61
	All	309	152	189	95	85	85	82	61
N. Br. Whitewater	WD	319	275	303	271	0	0		
	WEH	383	254	384	243	63	63	63	63
	All	702	374	687	364	63	63	63	63
Pine Creek	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
S. Br. Root River (Lanesboro)	WD	1,158	590	149	71	204	146	67	41
	WEH	716	279	580	248	209	106	168	99
	All	1,874	652	729	258	413	181	235	107
S. Br. Root River (Park)	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
S. Fork Root River (LTM)	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
S. Fork Root River (Million)	WD	0	0			0	0		
	WEH	104	104			0	0		
	All	104	104			0	0		
Trout Run (Bucksnort)	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		

Table 29. continued (Rainbow Trout)

Stream	Day type	Rainbow Trout				Rainbow Trout (>12 inches)			
		Total catch	SE (±)	Total harvest	SE (±)	Total catch	SE (±)	Total harvest	SE (±)
Trout Run (Lohman's)	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
West Beaver Creek	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
West Indian Creek (Cty 4)	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
West Indian Creek (LTM)	WD	0	0			0	0		
	WEH	0	0			0	0		
	All	0	0			0	0		
Willow Creek	WD	1,196	874	208	150	417	417	83	83
	WEH	32	32			0	0		
	All	1,228	874	208	150	417	417	83	83
Wisel Creek	WD	115	115	55	55	0	0		
	WEH	14	14			0	0		
	All	129	116	55	55	0	0		
Total	All	5,138	1,230	1,879	483	1,244	412	474	162

Table 30. Estimated total catch, harvest, and percent harvest of two size groups of Rainbow Trout caught during the summer angling season April 1 to September 30, 2013 on selected trout stream areas in southeast Minnesota.

Stream	< 12 inches			12-16 inches		
	Catch	Harvest	% Harvest	Catch	Harvest	% Harvest
Camp Creek	285	0	0%	17	0	0%
Crooked Creek	238	0	0%	214	11	5%
East Beaver Creek	4	0	0%	0		
Forestville Creek	0			36	0	0%
Gribben Creek	0			0		
Hay Creek (State)	0			0		
Hay Creek (Upper)	0			0		
M. Br. Whitewater (Crow)	0			0		
M. Br. Whitewater (County 9)	0			0		
M. Br. Whitewater (Quincy)	0			0		
Mill Creek	224	107	48%	85	82	96%
N. Br. Whitewater	639	624	98%	63	63[a]	100%[a]
Pine Creek	0			0		
S. Br. Root (Lanesboro)	1461	494	34%	413	235	57%
S. Br. Root (Park)	0			0		
S. Fork Root (LTM)	0			0		
S. Fork Root (Million)	104	0	0%	0		
Trout Run (Bucksnort)	0			0		
Trout Run (Lohman's)	0			0		
West Beaver Creek	0			0		
West Indian Creek (County 4)	0			0		
West Indian Creek (LTM)	0			0		
Willow Creek	811	125	15%	417	83	20%
Wisel Creek	129	55	43%	0		
Totals	3,895	1,405	36%	1,245	474	38%

[a] Illegal harvest

Table 31. Smallmouth Bass catch and harvest calculated from surveys given to anglers fishing selected trout streams in southeast Minnesota, April 1 to September 30, 2013.

Stream	Day type	# of days surveyed	Total Smallmouth Bass caught	SE (±)	Total Smallmouth Bass harvested	SE (±)
S. Br. Root River (Lanesboro)	WD	31	259	180	0	0
	WEH	25	223	128	0	0
	All		482	222	0	0
Total	All		482	308	0	0

Table 32. White Sucker catch and harvest calculated from surveys given to anglers fishing selected trout streams in southeast Minnesota, April 1 to September 30, 2013.

Stream	Day type	# of days surveyed	Total White Suckers caught	SE (±)	Total White Suckers harvested	SE (±)
Mill Creek	WD	32	56	56	0	0
	WEH	20	110	110	0	0
	All		166	124	0	0
N. Br. Whitewater River	WD	33	0	0	0	0
	WEH	23	81	59	0	0
	All		81	59	0	0
S. Br. Root River (Lanesboro)	WD	31	264	184	263	183
	WEH	25	241	241	0	0
	All		505	303	263	183
Total	All		752	650	263	183

Table 33. Percent harvest of catch within each gear choice taken from surveys of anglers fishing southeast Minnesota trout streams, April 13 to September 14, 2013. Catch-and-release streams and seasons were excluded from these calculations.

Gear	Percent harvest of catch
Bait	40.9
Lure	10.1
Fly	2.6
Mixed	21.4
Bait/Lure (14)	23.5
Bait/Fly (1)	100.0
Fly/Lure (3)	6.3
Bait/Lure/Fly (1)	0.0

Table 34. Percent satisfaction of overall fishing experience, size of trout caught and number of trout caught of anglers surveyed fishing trout streams in southeast Minnesota, April 1 to September 30, 2013.

Question	Very Dissatisfied	Dissatisfied	Neither	Satisfied	Very Satisfied
Overall fishing experience	1.4	6.4	6.1	53.3	32.8
Size of trout caught	1.7	14.6	25.3	40.9	17.5
Number of trout caught	1.8	22.5	20.2	38.3	17.2

Table 35. Percent satisfaction of overall fishing experience relative to each gear type category of anglers surveyed fishing trout streams in southeast Minnesota, April 1 to September 30, 2013.

Gear	Very Dissatisfied	Dissatisfied	VD + D	Neither	S + VS	Satisfied	Very Satisfied
Bait	2.2	5.7	7.9	6.5	85.7	64.4	21.3
Lure	3.1	7.4	10.5	6.2	83.3	48.2	35.2
Fly	0.0	6.3	6.3	4.6	89.1	51.2	38.0
Mixed	0.0	13.9	13.9	8.3	77.8	61.1	16.7

Table 36. Percent satisfaction of overall fishing experience relative to each age category of anglers surveyed fishing trout streams in southeast Minnesota, April 1 to September 30, 2013.

Age category (years old)	Very Dissatisfied	Dissatisfied	Neither	Satisfied	Very Satisfied
<16	4.1	12.2	0.0	63.3	20.4
16-19	0.0	2.8	8.3	38.9	50.0
20-29	2.8	5.6	8.3	60.2	23.2
30-39	0.8	7.3	7.3	50.4	34.2
40-49	3.4	3.4	6.7	44.9	41.6
50-59	0.6	7.0	3.8	59.5	29.1
60-69	0.0	5.1	6.1	49.0	39.8
70-79	0.0	11.1	5.6	47.2	36.1
80-89	0.0	0.0	40.0	60.0	0.0

Table 37. Percent angler satisfaction (overall fishing experience) by stream of those surveyed fishing selected trout streams in southeast Minnesota, April 1 to September 30, 2013.

Stream	Very Dissatisfied	Dissatisfied	VD + D	Neither	S + VS	Satisfied	Very Satisfied
Camp Creek	0.0	16.7	16.7	5.6	77.7	44.4	33.3
Crooked Creek	6.9	0.0	6.9	0.0	92.4	37.9	55.2
East Beaver Creek	0.0	0.0	0.0	0.0	100.0	20.0	80.0
Forestville Creek	6.3	18.8	25.1	18.8	56.3	50.0	6.3
Gribben Creek	0.0	14.3	14.3	0.0	85.7	71.4	14.3
Hay Creek – State	0.0	0.0	0.0	15.8	84.2	26.3	57.9
Hay Creek – Upper	0.0	5.3	5.3	7.9	86.9	55.3	31.6
M. Br. Whitewater – Quincy	0.0	20.0	20.0	2.0	78.0	60.0	18.0
M. Br. Whitewater – Crow	0.0	0.0	0.0	18.2	81.8	63.6	18.2
M. Br. Whitewater – Cty 9	0.0	0.0	0.0	0.0	100.0	40.0	60.0
Mill Creek	0.0	11.1	11.1	0.0	88.9	77.8	11.1
N. Br. Whitewater	0.0	2.6	2.6	26.3	71.1	57.9	13.2
Pine Creek	0.0	5.0	5.0	5.0	90.0	70.0	20.0
S. Br. Root River – Lanesboro	3.6	6.3	9.9	10.8	79.3	62.2	17.1
S. Br. Root River – State Park	0.0	10.0	10.0	0.0	90.0	70.0	20.0
S. Fork Root River – LTM	0.0	0.0	0.0	0.0	100.0	14.3	85.7
S. Fork Root River – Million	0.0	0.0	0.0	0.0	100.0	16.7	83.3
Trout Run – Lohman's	0.0	5.9	5.9	1.5	92.6	63.2	29.4
Trout Run – Bucksnort	7.3	7.3	14.6	2.4	82.9	70.7	12.2
West Beaver Creek	0.0	22.2	22.2	0.0	77.8	22.2	55.6
West Indian Creek – LTM	0.0	0.0	0.0	0.0	100.0	77.8	22.2
West Indian Creek – Cty 4	0.0	0.0	0.0	25.0	75.0	75.0	0.0
Willow Creek	0.0	0.0	0.0	0.0	100.0	100.0	0.0
Wisel Creek	0.0	2.4	2.4	2.4	95.3	28.6	66.7

Table 38. Percent satisfaction of size of trout caught relative to each gear type category of anglers surveyed fishing trout streams in southeast Minnesota, April 1 to September 30, 2013.

Gear	Very Dissatisfied	Dissatisfied	VD + D	Neither	S + VS	Satisfied	Very Satisfied
Bait	4.1	14.2	18.3	27.4	58.5	47.0	11.4
Lure	0.6	13.8	14.4	22.5	63.8	43.8	20.0
Fly	0.7	18.6	19.3	19.9	61.5	38.5	23.0
Mixed	0.0	24.3	24.3	32.4	43.2	35.1	8.1

Table 39. Percent satisfaction with the size of trout caught relative to each age category of anglers surveyed fishing trout streams in southeast Minnesota, April 1 to September 30, 2013.

Age category (years old)	Very Dissatisfied	Dissatisfied	Neither	Satisfied	Very Satisfied
<16	4.1	12.2	53.1	22.5	8.2
16-19	0.0	23.8	14.3	57.1	4.8
20-29	3.7	14.0	28.0	40.2	14.0
30-39	2.5	9.9	24.8	47.9	14.9
40-49	1.1	17.1	18.2	40.9	22.7
50-59	0.6	16.5	26.7	37.5	18.8
60-69	0.0	14.7	17.9	44.2	23.2
70-79	2.9	17.1	14.3	40.0	25.7
80-89	0.0	0.0	40.0	60.0	0.0

Table 40. Percent angler satisfaction (size of trout caught) by stream of those surveyed fishing selected trout streams in southeast Minnesota, April 1 to September, 2013.

Stream	Very Dissatisfied	Dissatisfied	VD + D	Neither	S + VS	Satisfied	Very Satisfied
Camp Creek	0.0	22.2	22.2	27.8	50.0	44.4	5.6
Crooked Creek	3.5	6.9	10.4	3.5	86.2	27.6	58.6
East Beaver Creek	0.0	0.0	0.0	0.0	100.0	31.3	68.8
Forestville Creek	12.5	37.5	50.0	37.5	12.5	12.5	0.0
Gribben Creek	0.0	28.6	28.6	42.9	28.6	28.6	0.0
Hay Creek – State	0.0	15.8	15.8	42.1	42.1	26.3	15.8
Hay Creek – Upper	0.0	10.5	10.5	39.8	52.6	44.7	7.9
M. Br. Whitewater – Quincy	0.0	24.0	24.0	42.0	34.0	30.0	4.0
M. Br. Whitewater – Crow	0.0	0.0	0.0	27.3	72.8	54.6	18.2
M. Br. Whitewater – Cty 9	0.0	0.0	0.0	13.3	86.7	60.0	26.7
Mill Creek	0.0	5.6	5.6	50.0	44.4	44.4	0.0
N. Br. Whitewater	0.0	15.8	15.8	31.6	52.7	47.4	5.3
Pine Creek	0.0	5.0	5.0	10.0	85.0	65.0	20.0
S. Br. Root River – Lanesboro	2.7	18.9	21.6	22.5	55.9	51.4	4.5
S. Br. Root River – State Park	12.0	24.0	36.0	26.0	38.0	36.0	2.0
S. Fork Root River – LTM	0.0	0.0	0.0	0.0	100.0	14.3	85.7
S. Fork Root River – Million	0.0	4.2	4.2	16.7	79.2	29.2	50.0
Trout Run – Lohman's	0.0	7.3	7.3	34.2	58.6	53.7	4.9
Trout Run – Bucksnort	0.0	18.2	18.2	18.2	63.6	50.0	13.6
West Beaver Creek	0.0	20.0	20.0	0.0	80.0	30.0	50.0
West Indian Creek – LTM	0.0	11.1	11.1	11.1	77.8	77.8	0.0
West Indian Creek – Cty 4	0.0	30.8	30.8	30.8	38.5	30.8	7.7
Willow Creek	0.0	33.3	33.3	0.0	66.7	66.7	0.0
Wisel Creek	0.0	2.6	2.6	0.0	97.5	30.8	66.7

Table 41. Percent satisfaction of number of trout caught relative to each gear type category of anglers surveyed fishing trout streams in southeast Minnesota, April 1 to September 30, 2013.

Gear	Very Dissatisfied	Dissatisfied	VD + D	Neither	S + VS	Satisfied	Very Satisfied
Bait	3.9	25.3	29.3	18.8	52.0	42.4	9.6
Lure	0.6	16.2	16.8	23.6	59.6	38.5	21.1
Fly	0.7	25.3	25.9	16.5	57.6	36.4	21.2
Mixed	2.8	36.1	38.9	36.1	25.0	13.9	11.1

Table 42. Percent satisfaction with the number of trout caught relative to each age category of anglers surveyed fishing trout streams in southeast Minnesota, April 1 to September 30, 2013.

Age category (years old)	Very Dissatisfied	Dissatisfied	Neither	Satisfied	Very Satisfied
<16	4.1	30.6	38.8	20.4	6.1
16-19	0.0	52.4	19.1	28.6	0.0
20-29	3.7	26.2	21.5	38.3	10.3
30-39	2.5	12.5	23.3	46.7	15.0
40-49	1.1	27.3	15.9	37.5	18.2
50-59	0.6	20.1	17.0	40.3	22.0
60-69	0.0	19.0	15.8	37.9	27.4
70-79	2.9	28.6	14.3	31.4	22.9
80-89	0.0	0.0	40.0	60.0	0.0

Table 43. Percent angler satisfaction (number of trout caught) by stream of those surveyed fishing selected trout streams in southeast Minnesota, April 1 to September 30, 2013.

Stream	Very Dissatisfied	Dissatisfied	VD + D	Neither	S + VS	Satisfied	Very Satisfied
Camp Creek	0.0	38.9	38.9	5.6	55.6	38.9	16.7
Crooked Creek	3.5	10.3	13.8	6.9	79.3	41.4	37.9
East Beaver Creek	0.0	0.0	0.0	0.0	100.0	43.8	56.3
Forestville Creek	12.5	37.5	50.0	31.3	18.8	18.8	0.0
Gribben Creek	0.0	71.4	71.4	0.0	28.6	14.3	14.3
Hay Creek – State	0.0	10.5	10.5	42.1	47.4	31.6	15.8
Hay Creek – Upper	0.0	13.2	13.2	34.2	52.6	50.0	2.6
M. Br. Whitewater – Quincy	0.0	29.2	29.2	41.7	29.2	22.9	6.3
M. Br. Whitewater – Crow	0.0	18.2	18.2	9.1	72.8	54.6	18.2
M. Br. Whitewater – Cty 9	0.0	6.7	6.7	6.7	86.7	66.7	20.0
Mill Creek	0.0	38.9	38.9	38.9	22.2	22.2	0.0
N. Br. Whitewater	0.0	16.2	16.2	29.7	54.0	43.2	10.8
Pine Creek	0.0	15.0	15.0	15.0	70.0	60.0	10.0
S. Br. Root River – Lanesboro	2.7	30.6	33.3	22.5	44.1	42.3	1.8
S. Br. Root River – State Park	12.0	34.0	46.0	10.0	44.0	42.0	2.0
S. Fork Root River – LTM	0.0	0.0	0.0	0.0	100.0	14.3	85.7
S. Fork Root River – Million	0.0	0.0	0.0	12.5	87.5	29.2	58.3
Trout Run – Lohman's	0.0	18.2	18.2	22.7	59.1	47.0	12.1
Trout Run – Bucksnort	0.0	24.4	24.4	29.3	46.4	41.5	4.9
West Beaver Creek	0.0	20.0	20.0	0.0	80.0	30.0	50.0
West Indian Creek – LTM	0.0	0.0	0.0	11.1	88.9	88.9	0.0
West Indian Creek – Cty 4	0.0	46.2	46.2	23.1	30.8	23.1	7.7
Willow Creek	0.0	66.7	66.7	25.0	33.3	25.0	8.3
Wisel Creek	0.0	7.7	7.7	18.0	92.4	18.0	74.4

Table 44. Trout stream regulation and age category present in percent of anglers surveyed fishing trout streams in southeast Minnesota, April 1 to September 30, 2013.

Regulation	Age (years)								
	<16	16-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89
General	13.0	6.4	13.4	14.6	15.5	20.0	11.4	4.1	1.8
Slot (no gear restrictions)	8.4	3.1	12.2	19.9	17.9	20.6	11.1	6.9	0.0
Slot (artificial lures and flies only)	5.8	3.2	17.3	19.0	11.0	15.9	19.3	7.5	1.2
Catch-and-release	7.4	1.7	11.4	22.7	10.2	21.6	17.1	8.0	0.0

Table 45. Percent age category relative to which trout stream regulation type surveyed anglers were fishing on selected trout streams in southeast Minnesota, April 1 to September 30, 2013.

Age category (years)	General	Slot (no gear restrictions)	Slot (artificial lures and flies only)	Catch-and-release
<16	50.9	19.6	17.9	11.6
16-19	56.0	16.0	22.0	6.0
20-29	34.5	18.7	35.1	11.7
30-39	28.8	23.4	29.7	18.0
40-49	37.8	27.5	22.2	10.5
50-59	37.5	23.0	23.4	16.2
60-69	28.4	16.5	38.1	17.1
70-79	23.7	23.7	34.2	18.4
80-89	66.7	0.0	33.3	0.0

Table 46. Percent use by hometown region (Local = Fillmore, Goodhue, Houston, Olmsted, Rice, Wabasha, Winona, Dodge, Freeborn, Mower and Steele counties; Metro = Dakota, Ramsey, Washington, Anoka, Scott, Carver and Hennepin counties; Other = all other counties in Minnesota) of special regulation trout streams in southeast Minnesota, April 1 to September 30, 2013.

Regulation	Local	Metro	Other
General	62.1	30.2	7.7
Slot (no gear restrictions)	24.9	59.8	15.3
Slot (artificial lure and flies only)	55.3	37.2	7.5
Catch-and-release	61.3	29.4	9.4

Table 47. Percent use of trout stream regulation type by anglers choosing lures or flies taken from surveys of anglers fishing selected trout streams in southeast Minnesota, April 1 to September 30, 2013.

Gear choice	General	Slot (no gear restrictions)	Slot (artificial lures and flies only)	Catch-and-release
Lure	31.1	12.8	44.4	11.8
Fly	19.0	14.4	43.1	23.5

Table 48. Percent answer to "Why did you decide to fish here today?" by regulation. A. Favorite stream, B. Live close by, C. Easy access, D. Like regulation, E. Dislike regulation elsewhere, F. Numbers of fish, G. Size of fish.

Regulation	A	B	C	D	E	F	G	A/C	A/F	B/C	C/F
General	17.8	16.0	49.1	3.5	-	10.4	2.6	0.2	-	0.2	0.2
Slot (no gear restrictions)	21.3	4.8	55.9	1.1	-	14.3	2.6	-	-	-	-
Slot (artificial lure and flies only)	31.6	14.0	25.3	4.5	0.3	20.2	3.6	0.3	0.3	-	-
Catch-and-release	11.7	16.2	43.6	7.8	-	12.9	7.8	-	-	-	-

Table 49. Percent harvest of catch within each regulation type taken from surveys of anglers fishing southeast Minnesota trout streams, April 13 to September 14, 2013. General southeast Minnesota trout stream regulation is 5 trout of any species in daily/possession limit

Regulation	Percent harvest
General	17.9
Slot (no gear restriction)	14.4
Slot (artificial lures & flies only)	8.1

Table 50. Mean fishing trip length (angler-hours, ± 1 SE, N) estimated from completed trip information during a summer creel (April 1 to September 30) in 2013 for 24 selected southeast Minnesota trout streams.

Stream (area)	Month						Totals
	April	May	June	July	August	September	
General southeast Minnesota trout regulation streams							
Crooked Creek	1.83 (0.16, 6)	4.60 (0.42, 10)	No data	No data	5.50 (nd, 1)	5.25 (0.75, 2)	3.84 (0.40, 19)
Hay Creek (State Forest)	2.87 (0.66, 4)	No data	No data	No data	4.50 (0.50, 2)	No data	3.42 (0.55, 6)
Mill Creek	No data	No data	2.33 (0.17, 3)	1.75 (0.25, 2)	3.08 (1.17, 3)	1.86 (0.65, 4)	2.27 (0.35, 12)
Pine Creek	No data	4.00 (0, 3)	0.42 (nd, 1)	2.78 (0.25, 12)	3.10 (0.61, 8)	3.23 (0.33, 14)	3.05 (0.21, 38)
South Branch Root River (Lanesboro)	2.00 (0.61, 5)	7.20 (0.80, 5)	4.50 (0, 2)	1.96 (0.24, 43)	2.64 (0.27, 38)	2.87 (0.38, 8)	2.60 (0.19, 101)
South Fork Root River (Million Dollar)	No data	4.00 (0, 6)	3.00 (0, 4)	5.58 (0.45, 6)	0.33 (0, 2)	5.00 (1.00, 2)	4.00 (0.38, 20)
West Beaver Creek	3.00 (nd, 1)	4.00 (0, 2)	2.00 (nd, 1)	5.00 (0, 4)	4.56 (0.47, 8)	4.00 (nd, 1)	4.32 (0.28, 17)
West Indian Creek (County 4)	2.17 (0.17, 3)	2.20 (0.34, 5)	No data	No data	2.67 (0.83, 3)	No data	2.32 (0.25, 11)
Willow Creek	2.00 (0, 2)	No data	No data	No data	1.70 (0.30, 4)	0.97 (0.14, 3)	1.52 (0.19, 9)
Subtotal							**2.97 (0.11, 233)**
12-16 inch protected slot (no gear restrictions)							
East Beaver Creek	4.67 (0.33, 3)	4.00 (0, 2)	2.00 (0.31, 5)	2.00 (0, 4)	2.50 (0.50, 2)	No data	2.81 (0.30, 16)
Forestville Creek	No data	5.00 (0, 3)	2.50 (0, 2)	No data	1.77 (0.56, 6)	3.50 (0, 2)	2.89 (0.45, 13)
South Branch Root River (State Park)	5.25 (0.75, 2)	6.20 (1.34, 5)	3.87 (0.63, 4)	3.10 (1.43, 3)	3.46 (1.06, 10)	4.84 (0.86, 7)	4.35 (0.49, 31)
West Indian Creek (LTM)	5.00 (nd, 1)	No data	2.00 (0, 2)	No data	3.00 (nd, 1)	2.00 (0, 2)	2.67 (0.49, 6)
Wisel Creek	2.42 (0.47, 6)	3.75 (0.31, 10)	3.62 (1.87, 4)	3.17 (0.83, 3)	5.90 (0.86, 5)	3.19 (0.72, 8)	3.64 (0.34, 36)
Subtotal							**3.57 (0.21, 102)**

Table 50 (continued).

Stream (area)	Month Apr	May	Jun	Jul	Aug	Sep	Totals
			12-16 inch protected slot(artificial lures and flies only)				
Gribben Creek	No data	No data	No data	0.50 (nd, 1)	1.18 (0, 2)	2.50 (nd, 1)	1.34 (0.42, 4)
Hay Creek (Upper)	3.33 (0.17, 9)	6.75 (1.25, 2)	3.04 (0.55, 6)	2.60 (0.19, 5)	3.13 (0.52, 4)	4.00 (0.29, 3)	3.42 (0.24, 29)
North Branch Whitewater River	4.25 (0.72, 8)	4.83 (0.68, 8)	2.08 (0.77, 6)	3.00 (0.33, 10)	6.00 (0, 3)	5.50 (0.63, 8)	4.05 (0.31, 44)
Trout Run (Bucksnort)	No data	No data	2.50 (0.65, 5)	1.94 (0.31, 20)	1.98 (0.51, 13)	3.31 (0.49, 12)	2.33 (0.23, 50)
Trout Run (Lohman's)	No data	3.75 (0.75, 4)	3.21 (0.89, 7)	2.86 (0.30, 14)	3.08 (0.36, 16)	4.31 (0.59, 7)	3.27 (0.22, 48)
Subtotal							**3.18 (0.14, 175)**
			Catch-and-release streams				
Camp Creek	No data	2.67 (0.67, 3)	2.00 (0, 2)	1.77 (0.91, 4)	2.31 (0.86, 3)	2.77 (0.68, 5)	2.34 (0.33, 17)
M. Br. Whitewater (Crow Spring)	No data	No data	1.00 (nd, 1)	No data	2.37 (0.63, 5)	1.00 (nd, 1)	1.98 (0.50, 7)
M. Br. Whitewater (County 9)	No data	No data	2.83 (0.17, 3)	No data	1.78 (0.20, 6)	3.75 (0.75, 2)	2.42 (0.29, 11)
M. Br. Whitewater (Quincy)	4.00 (2.00, 2)	3.00 (0, 2)	2.37 (0.37, 4)	4.00 (nd, 1)	2.87 (1.05, 4)	3.50 (1.50, 2)	3.07 (0.39, 15)
South Fork Root River (LTM)	3.36 (0.30, 7)	3.83 (0.44, 3)	3.57 (0.37, 7)	2.50 (nd, 1)	4.00 (nd, 1)	2.13 (0.13, 4)	3.26 (0.19, 23)
Subtotal							**2.76 (0.15, 73)**
Totals	**3.14 (0.19) (59)**	**4.40 (0.21) (73)**	**2.80 (0.19) (69)**	**2.54 (0.14) (133)**	**2.91 (0.16) (150)**	**3.47 (0.18) (98)**	**3.11 (0.07) (583)**

Table 51. Kruskal-Wallis non-parametric analysis of variance results comparing catch rates (Number/hour) for all trout species combined (Brown Trout, Brook Trout, Rainbow Trout) among four types of angling regulations in streams of southeast Minnesota, April 1 to September 30, 2013. Comparisons were made independently for three size groups of trout (medium trout ≥ 12 inches; medium trout 12-16 inches, and large trout ≥ 16 inches) and two groups of anglers (all anglers and those anglers that caught at least one trout of the designated size group). Anglers had to have fished for at least 0.5 hour to be considered. General regulation streams allowed harvest of five trout (only one > 16 inches) in the daily/possession limit. Slot (no gear restrictions) streams required immediate release of all trout between 12 and 16 inches and allowed all gear types, whereas slot (artificial lures and flies only) are the same but only allow artificial lures and flies. Catch-and-release streams required release of all trout and only allow artificial lures and flies.

Regulation	Mean catch rate	N	Kruskal-Wallis X^2	df	P
Medium and large trout = ≥ 12 inches, all anglers					
General regulations	0.391	235	5.243	3	0.15
Slot (no gear restrictions)	0.265	126			
Slot (artificial lures and flies only)	0.299	184			
Catch-and-release	0.260	99			
Medium and large trout = ≥ 12 inches, only anglers that caught a trout of this size					
General regulations	1.120	82	2.187	3	0.53
Slot (no gear restrictions)	1.045	32			
Slot (artificial lures and flies only)	0.799	69			
Catch-and-release	0.858	30			
Medium trout = 12-16 inches, all anglers					
General regulations	0.380	235	5.535	3	0.14
Slot (no gear restrictions)	0.254	126			
Slot (artificial lures and flies only)	0.280	184			
Catch-and-release	0.246	99			
Medium trout = 12-16 inches, only anglers that caught a trout of this size					
General regulations	1.088	82	2.263	3	0.52
Slot (no gear restrictions)	1.032	31			
Slot (artificial lures and flies only)	0.778	66			
Catch-and-release	0.871	28			
Large trout = ≥ 16 inches, all anglers					
General regulations	0.011	235	2.975	3	0.40
Slot (no gear restrictions)	0.011	126			
Slot (artificial lures and flies only)	0.020	184			
Catch-and-release	0.014	99			
Large trout = ≥ 16 inches, only anglers that caught a trout of this size					
General regulations	0.322	8	2.292	3	0.51
Slot (no gear restrictions)	0.289	5			
Slot (artificial lures and flies only)	0.304	12			
Catch-and-release	0.453	3			

Table 52. Angler satisfaction (overall fishing experience) by angling regulation of those surveyed fishing selected trout streams in southeast Minnesota, April 1 to September 30, 2013.

Regulation	Very Dissatisfied	Dissatisfied	VD + D	Neither	S + VS	Satisfied	Very Satisfied
General southeast MN	2.2	4.7	6.9	7.0	86.2	54.6	31.6
Protected slot – all gear	0.6	7.7	11.9	2.6	84.4	50.6	38.5
Protected slot -artificial only	1.6	5.8	8.3	7.9	89.1	62.8	22.0
Catch-and-release	0.0	11.9	7.3	3.7	84.8	49.5	34.9

Table 53. Angler satisfaction (size of trout caught) by angling regulation of those surveyed fishing selected trout streams in southeast Minnesota, April 1 to September 30, 2013.

Regulation	Very Dissatisfied	Dissatisfied	VD + D	Neither	S + VS	Satisfied	Very Satisfied
General southeast MN	1.5	15.9	17.4	20.3	63.9	44.3	19.6
Protected slot – all gear	5.7	21.3	27.0	17.7	61.0	34.0	27.0
Protected slot -artificial only	0.0	14.2	14.2	29.0	56.8	48.4	8.4
Catch-and-release	0.0	14.7	14.7	29.4	56.0	36.7	19.3

Table 54. Angler satisfaction (numbers of trout caught) by angling regulation of those surveyed fishing selected trout streams in southeast Minnesota, April 1 to September 30, 2013.

Regulation	Very Dissatisfied	Dissatisfied	VD + D	Neither	S + VS	Satisfied	Very Satisfied
General southeast MN	1.5	25.1	26.6	18.9	54.6	38.2	16.4
Protected slot – all gear	6.0	26.2	32.2	10.7	57.1	30.9	26.2
Protected slot -artificial only	0.0	20.1	20.1	27.0	52.9	44.4	8.5
Catch-and-release	0.0	23.0	22.9	22.0	55.1	33.9	21.1

Table 55. Stream, gear type and demographic comparisons with creel surveys from across the United States and this creel on selected trout streams in southeast Minnesota, April 1 to September 30, 2013.

Stream	Gear type (%)				Angler gender distribution	Angler age distribution	Angler residence
	Bait	Fly	Lure	Mixed			
SE MN trout stream creel 2013 (Snook and Dieterman 2014)	27.3	42.8	24.2	5.8	90.1% male 9.9% female	Mean age = 42.3 yrs old Median age = 43 yrs old	92% residents 53.7% Local 37.3% Metro
SE MN trout stream creel 2005 (Snook and Dieterman 2006)	37.0	35.3	20.7	7.0	90.2% male 9.8% female	Mean age = 38.8 yrs old Median age = 39 yrs old	90.6% residents 52.3% Local 31.1% Metro
Madison River, MT (Lere 1996)							94% non-residents
Rock Creek, MT (Peters and Robison 1997)	1.9	84.0	10.9		94% male 6% female		62% MT residents
Blackfoot Creek, MT (Schmetterling and Bohneman 2000)	6	63			65-66% male 34-35% female	Wade (mean) = 36 yrs old Float (mean) = 38 yrs old	Wade – 70% resident Float – 69% resident
Four Wisconsin streams[1] (Avery and Hunt 1981)	61	10-12	14-15	12-13	94% male 6% female		
Straight River, MN (Evarts and Sewell 2002)	31	43			<2% female	27.2% male <16 yrs old 32.3% male 26-35 yrs old	
Nine Minnesota streams[2] (Weiss 1999)							
Lanesboro area streams							93% MN residents 21% Metro 20% Rochester
Lake City area streams							98% MN residents 37% Metro 17% Rochester
Five Minnesota streams[3] (Bushong 1996)							38.1% Metro area 26.8% southeast MN 3.9% non-residents
Six Minnesota streams[4] (Weichman 1990)	49	25	8	17			

[1]Emmons Creek, Radley Creek, South Branch Wedde Creek and Mecan River
[2]South Branch Root River, South Fork Root River, Camp Creek, Gribben Creek, Diamond Creek, North Branch Whitewater River, Beaver Creek (Whitewater), West Indian Creek and Cold Spring Brook
[3]Hay Creek, Spring Creek, South Branch Whitewater River, Main Whitewater River, Middle Branch Whitewater River
[4]Garvin Brook, Main Branch Whitewater River, Rupprecht Creek, South Branch Root River, Trout Run Creek, West Indian Creek

Table 56. Stream, catch rate, mean size harvested, release rate and estimated pressure comparisons with creel surveys across the United States and this creel conducted on selected trout streams in southeast Minnesota, April 1 to September 30, 2013.

Stream		Catch rate (mean)	Mean size harvested			Release rate	Estimated pressure
			Brown Trout	Brook Trout	Rainbow Trout		
SE MN trout stream creel 2013 (Snook and Dieterman 2014)		1.45 trout/hour	10.5”		10.3”	92.7% BNT 55.8% RBT 91.2% BKT	44,673 angler-hours on 24 selected trout streams
SE MN trout stream creel 2005 (Snook and Dieterman 2006)		1.10 trout/hour	10.7”		11.1”	82.7% BNT 65.6% RBT	190,859 angler-hours on 33 selected trout streams
Madison River, MT (Lere 1996)	Pine Butte Upper river Lower river	0.63 RBT/hour 0.19 RBT/hour 0.19 RBT/hour					
Rock Creek, MT (Peters and Robison 1997)						97.7% trout 98.3% BNT 94.3% BKT	
Blackfoot River, MT (Schmetterling and Bohneman 2000)		0.79 fish/hour 0.26 RBT/hour 0.06 BNT/hour				95% all fish 94% RBT 94% BNT 99% Westslope cutthroat trout	2,514 angler days (1989) 16,081 angler days (1999)
Four Wisconsin streams[1] (Avery and Hunt 1981)			8.9 to 9.0”				331 to 428 angler-hours/acre
Straight River, MN (Evarts and Sewell 2002)		0.28 trout/hour	14.0”			79% BNT	
Nine Minnesota streams[2] (Weiss 1999)		1.90 trout/hour	11.2”	10.1”	11.1”	83% trout	
Four Minnesota streams[3] (Weiss 2000)		1.90 trout/hour	10.6”			79% trout	
Four Minnesota streams[4] (Hirsch 1989)							
1981 – Middle Branch Whitewater		0.44 trout/hour	11.3”			51% trout	
Beaver Creek (Whitewater)		0.75 trout/hour	9.6”				
1982 – Middle Branch Whitewater		0.31 trout/hour	10.0”			46% trout	
Beaver Creek (Whitewater)		0.63 trout/hour	10.2”			61% trout	
1983 – Beaver Creek (Whitewater)		0.91 trout/hour	10.2”			NA	
Duschee Creek, MN (Schumacher 1957)		0.45 trout/hour				68% trout	7,377 (May 1 - Sept 15, 1954)
Three Michigan streams[5] (Peck 1992)						NA	37,000 angler-hours annually
Five Minnesota streams[6] (Bushong 1996)		0.116 BKT/hour 0.220 BNT/hour 1.23 trout/hour	8.9 to 13.0”			19.7 to 82.6% trout	369 angler-hours/mile 397 angler-hours/acre
	State regulations Special regulations	0.363 to 1.179 trout/hour 0.816 to 3.475 trout/hour 1.013 BNT/hour					
Seven Michigan streams[7] (Wills 2005)		1.013 BNT/hour					

Table 56. continued

Stream	Catch rate (mean)	Mean size harvested			Release rate	Estimated pressure
		Brown Trout	Brook Trout	Rainbow Trout		
Boardman River[8] (Su et al. 2007, Su and Clapp 2013)	0.0039 BNT/hour 0.1267 RBT/hour					16,724 angler-hours
Sucker River[9] (Su et al. 2007, Su and Clapp 2013)	0.1229 RBT/hour 0.0016 BKT/hour					
AuSable River[10] (Michigan DNR 2009, Su and Clapp 2013)						
M-33 to Power Line (boat)	1.9454 BNT/hour 0.5793 RBT/hour					327 angler-hours
M-33 to Power Line (shore)	0.7525 BNT/hour 1.9024 RBT/hour					3,352 angler-hours
Comins Flats to McKinley Bridge (boat)	0.5027 BNT/hour 0.5939 RBT/hour					4,378 angler-hours
Comins Flats to McKinely Bridge (shore)	0.7217 BNT/hour 0.7819 RBT/hour					7,186 angler-hours
Betsie River[11] (Michigan DNR 2011, Su and Clapp 2013)						117,952 angler-hours
Pere Marquette River[12] (Michigan DNR 2012, Su and Clapp 2013)						
M37 to Gleason's Landing (boat)	0.0412 RBT/hour 0.0532 BNT/hour					7,425 angler-hours
M37 to Gleason's Landing (shore)	0.0727 RBT/hour 0.0777 BNT/hour					57,590 angler-hours
Gleason's Landing to Rainbow Rapids (boat)	0.0599 RBT/hour 0.0749 BNT/hour					3,263 angler-hours
Gleason's Landing to Rainbow Rapids (shore)	0.0168 RBT/hour 0.0538 BNT/hour					18,391 angler-hours

[1]Emmons Creek, Radley Creek, South Branch Wedde Creek and Mecan River
[2]S. Br. Root River, S. Fork Root River, Camp Creek, Gribben Creek, Diamond Creek, N. Br. Whitewater River, Beaver Creek (Whitewater), West Indian Creek and Cold Spring Brook
[3]Camp Creek, Rush Creek, Trout Run Creek and Winnebago Creek
[4]South Branch Whitewater River, Middle Branch Whitewater River, Beaver Creek (Whitewater)
[5]Dead River, Carp River, and Chocolay River
[6]Spring Creek, Hay Creek, Main Whitewater River, South Branch Whitewater River and Middle Branch Whitewater River
[7]Coldwater River, Fish Creek, Indian River, Manistee River, Muskegon River, Paint Creek and Rogue River
[8]Boardman River, April 26 to September 30, 2005
[9]Sucker River, April 17 to May 13, 2002.
[10]AuSable River, April 25 to September 30, 2009
[11]Betsie River, 2010
[12]Pere Marquette River, April 1 to September 30, 2011

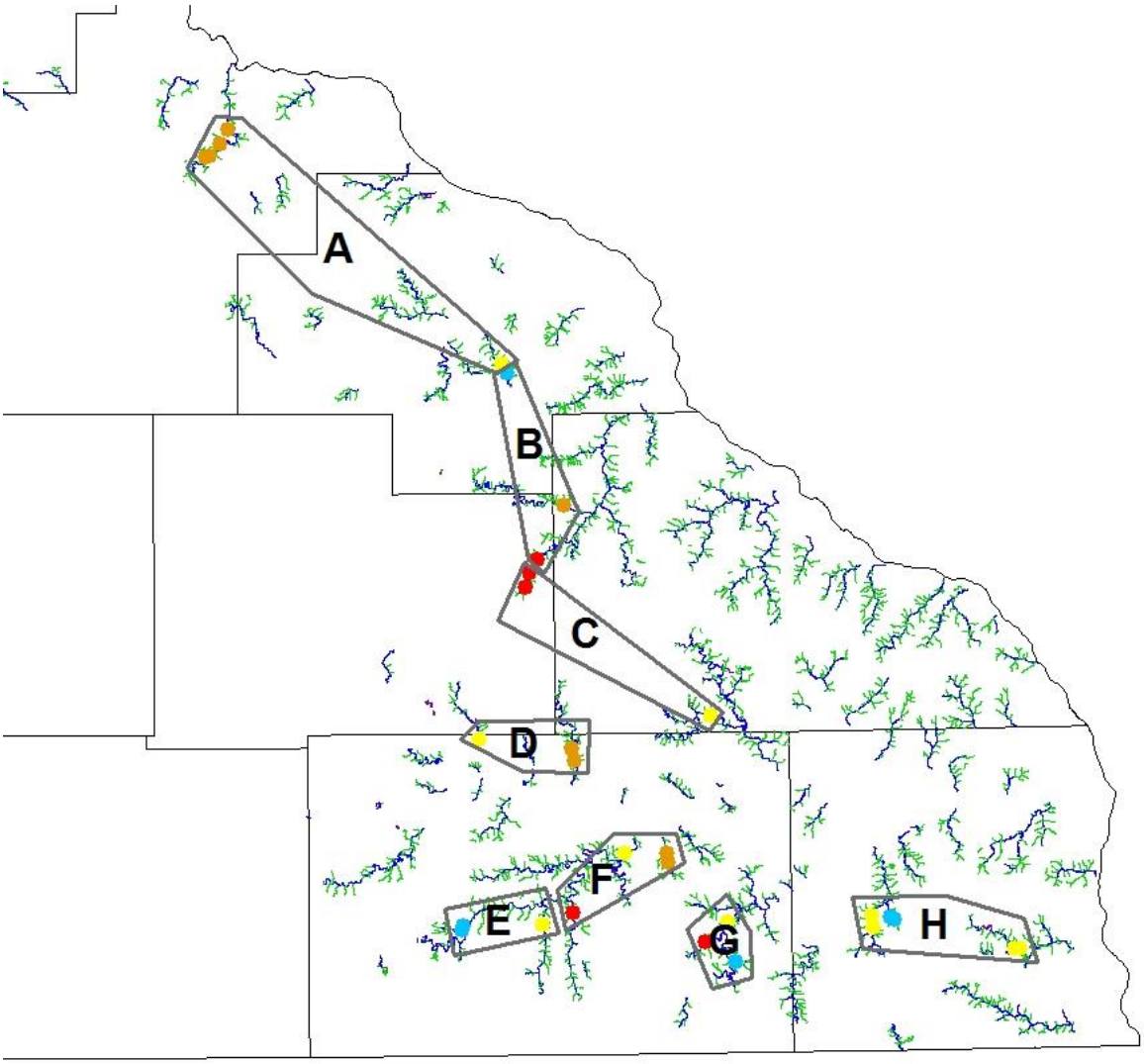

Figure 1. Map of selected trout streams surveyed in southeast Minnesota, April 1 to September 30, 2013. A = Hay Creek (State), Hay Creek (Upper), West Indian Creek (LTM); B = North Branch Whitewater, Middle Branch Whitewater (Quincy), West Indian Creek (County 4); C = Pine Creek, Middle Branch Whitewater (County 9), Middle Branch Whitewater (Crow Springs); D = Trout Run (Lohman's), Trout Run (Bucksnort), Mill Creek; E = Willow Creek, Forestville Creek (State Park), South Branch Root River (State Park); F = South Branch Root River (Lanesboro), Camp Creek (Maust's), Gribben Creek; G = South Fork Root River (Million Dollar), South Fork Root River (LTM), Wisel Creek; H = West Beaver Creek, East Beaver Creek, Crooked Creek. LTM = Long-term monitoring

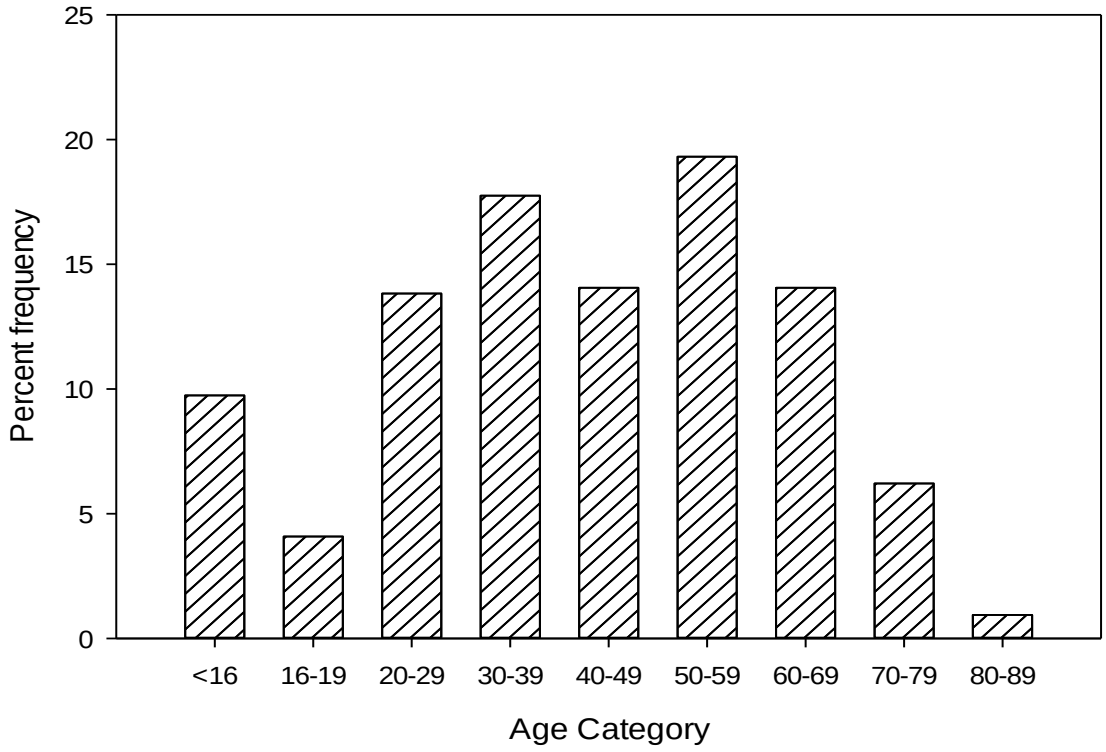

Figure 2. Age distribution of anglers fishing southeast Minnesota trout streams, April 1 to September 30, 2013.

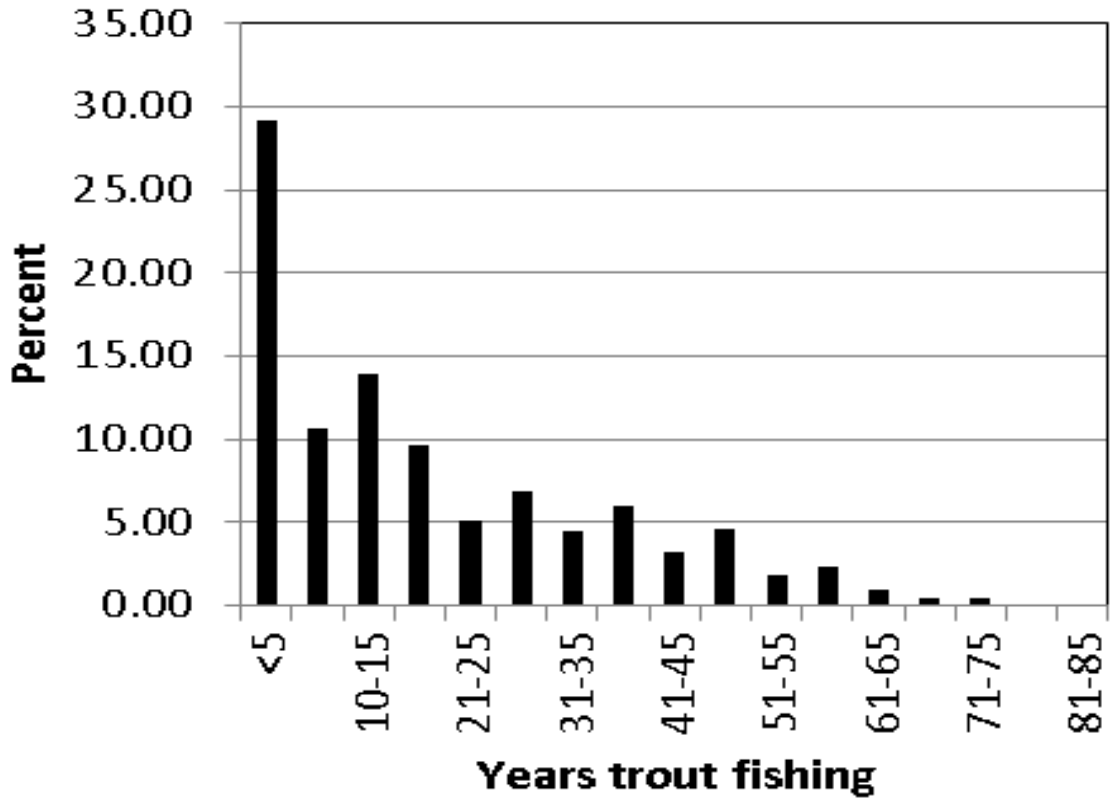

Figure 3. Years of trout angling experience taken from surveys of anglers fishing selected southeast Minnesota trout streams, April 1 to September 30, 2013.

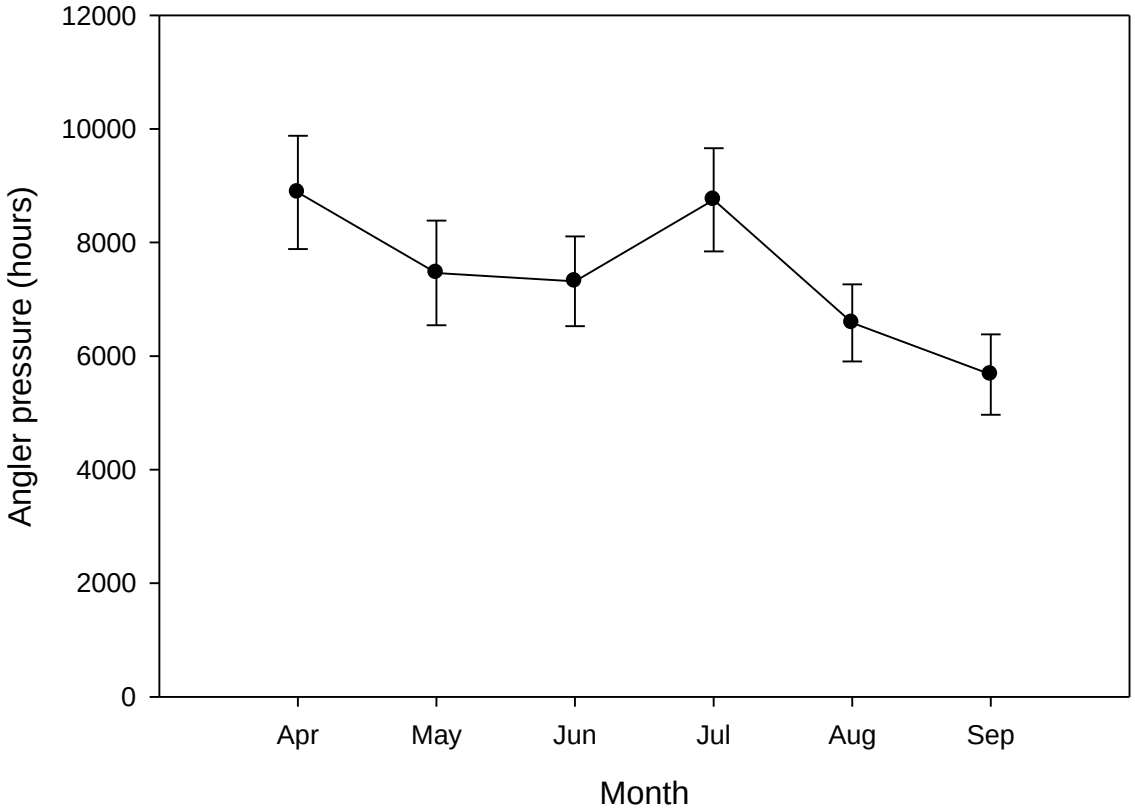

Figure 4. Monthly changes in estimated angler pressure (± 1 SE) for 24 selected stream areas in southeast Minnesota during the summer angling season, April 1 to September 30, 2013.

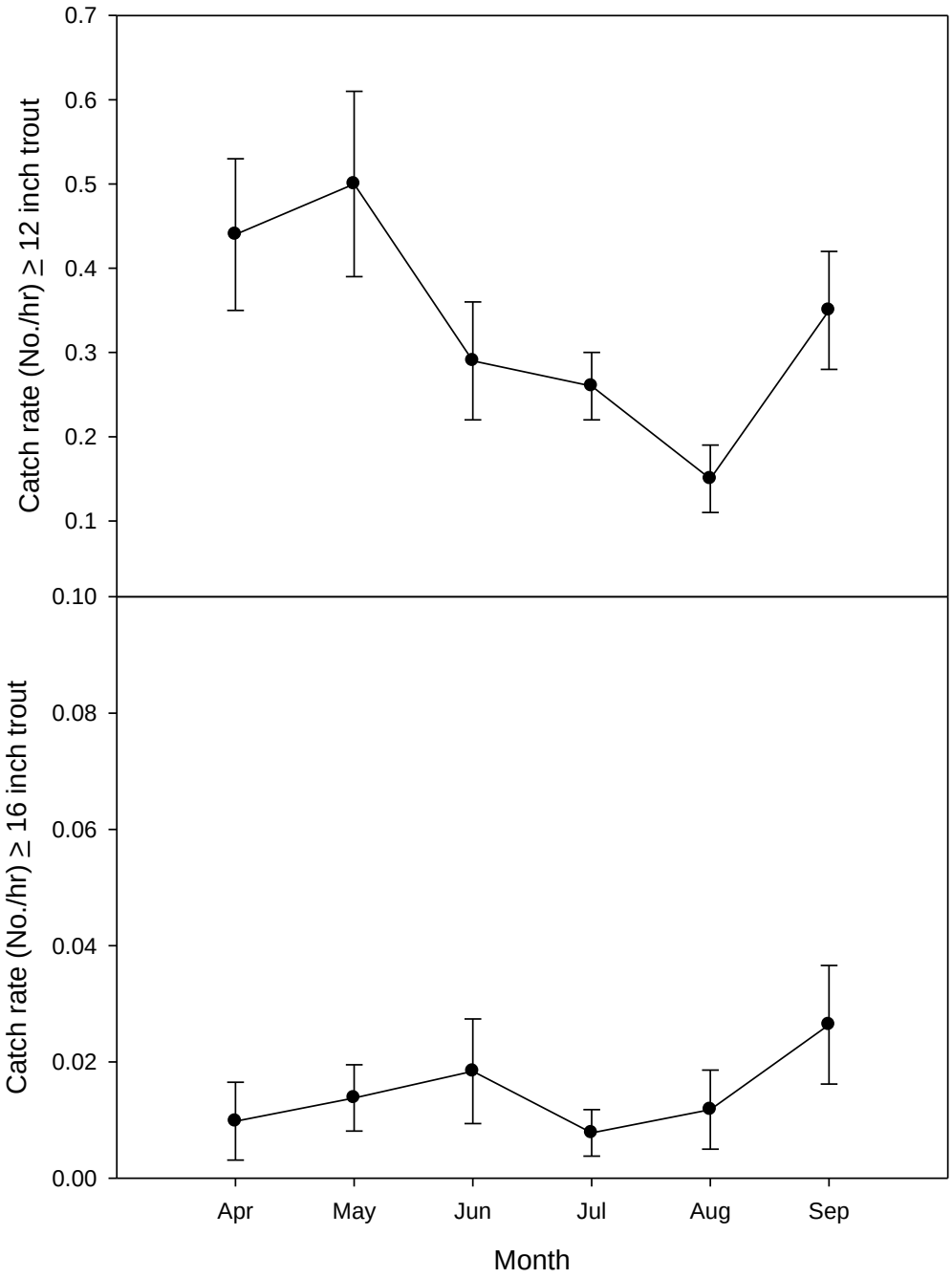

Figure 5. Monthly changes in mean angler catch rates (± 1 SE) for all trout ≥12 inches TL (top figure) and all trout ≥ 16 inches TL (bottom figure) caught from 24 selected stream areas in southeast Minnesota during the summer angling season, April 1 to September 30, 2013.

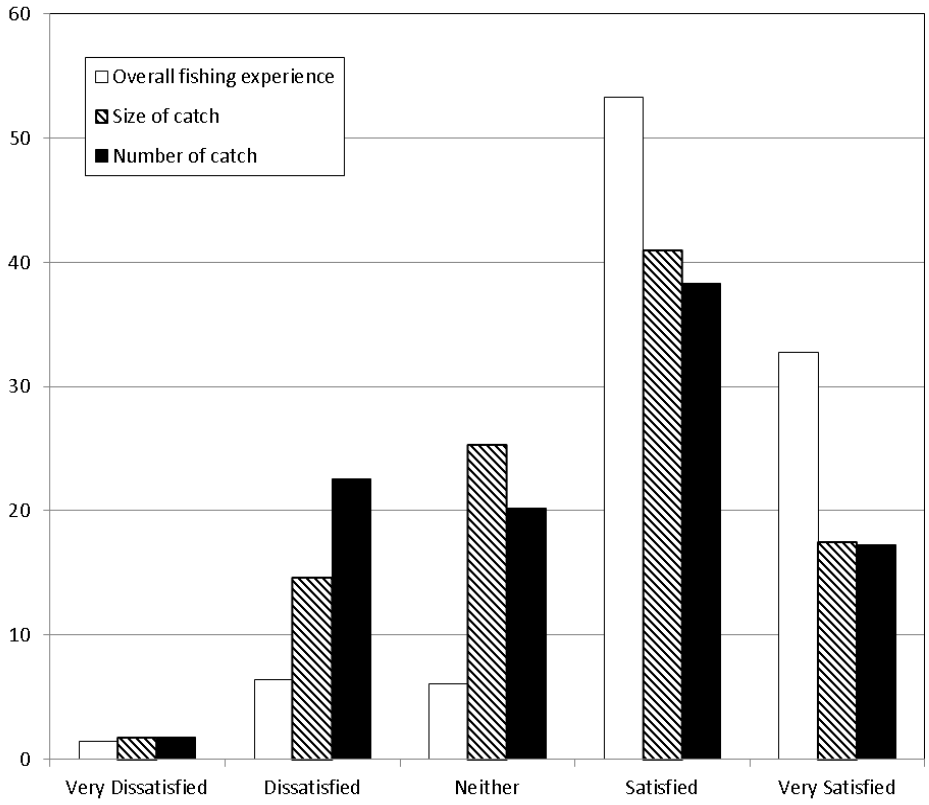

Figure 6. Satisfaction of overall fishing experience, size of catch and numbers of catch by anglers fishing trout streams in southeast Minnesota, April 1 to September 30, 2013

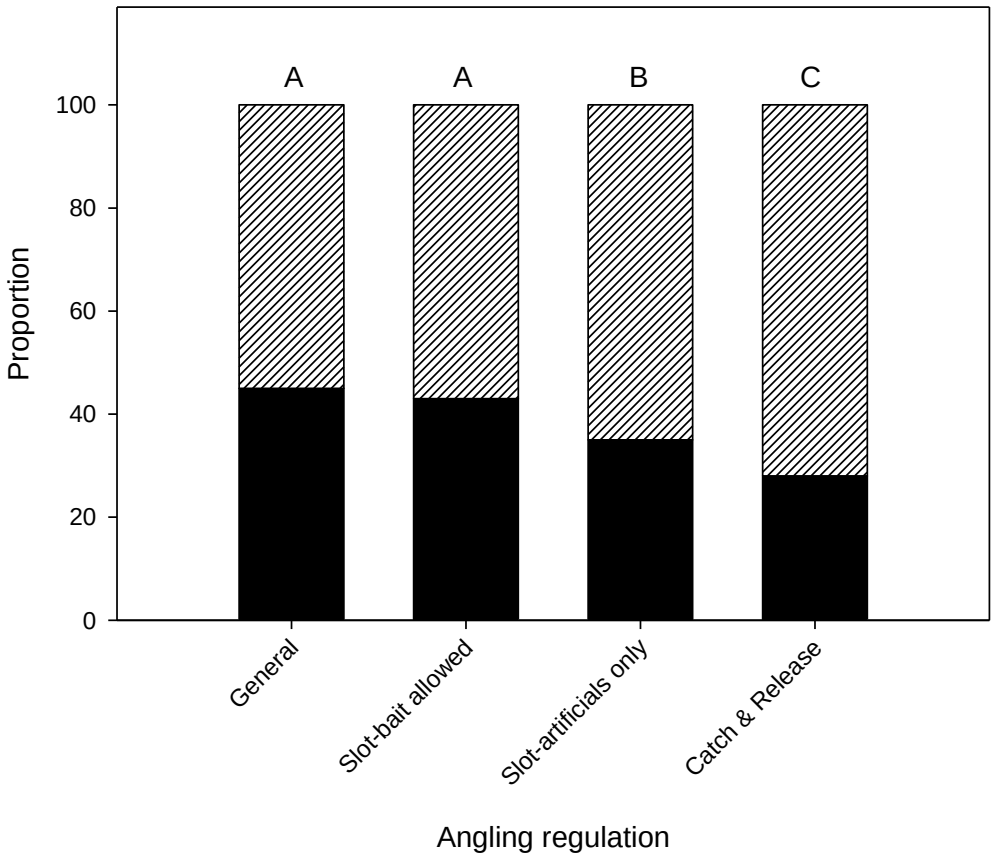

Figure 7. Proportion of new versus experienced anglers fishing selected trout streams in southeast Minnesota grouped by angling regulation type, April 1 to September 30, 2013. New anglers (solid black bars) were defined as anglers that had only started trout fishing since the most recent establishment of summer angling regulations in 2005 (i.e., within the past eight years). Traditional anglers (cross-hatched bars) had been fishing for trout for more than eight years. Bars with different letters indicate significant differences in proportions of new vs. traditional anglers (Chi-square Goodness of Fit tests, $P \leq 0.05$).

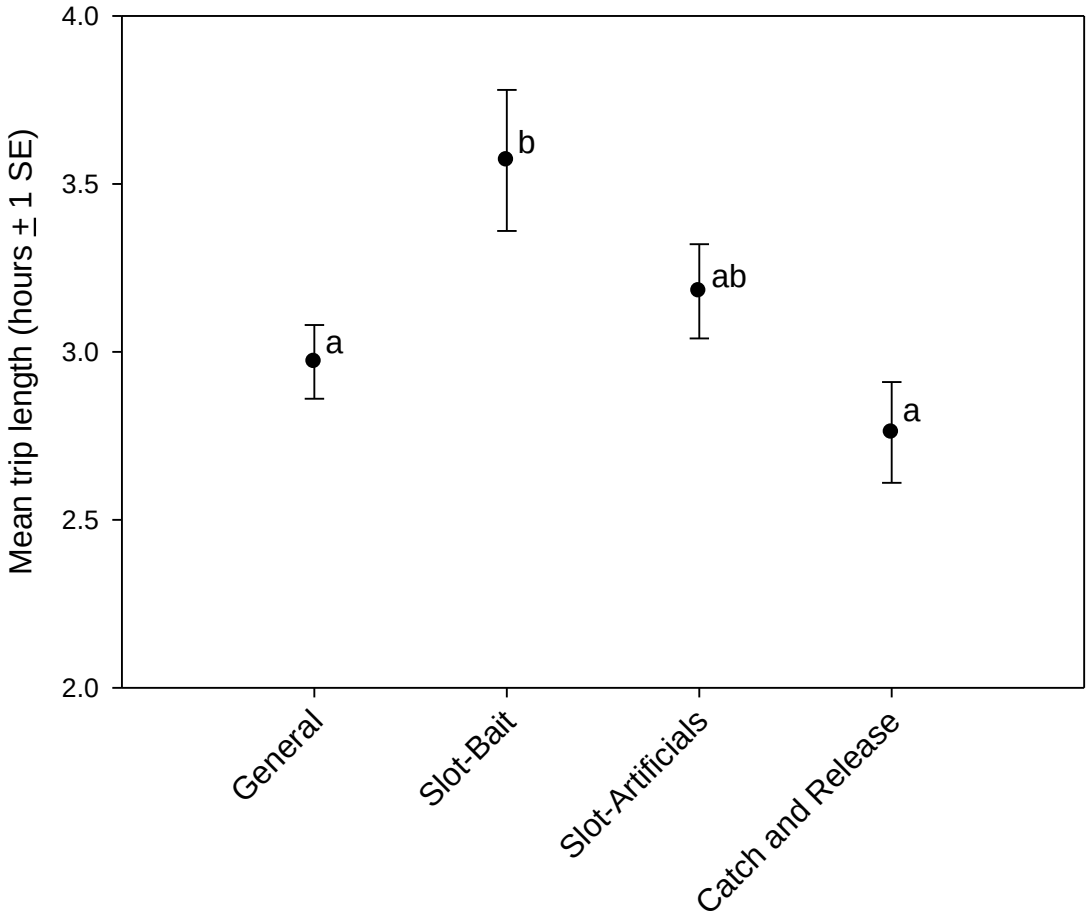

Figure 8. Comparisons of mean angler trip length among four types of angling regulations in southeast Minnesota, April 1 to September 30, 2013. General regulation streams allowed harvest of five trout (only one > 16 inches) in the daily/possession limit. Slot-bait streams required immediate release of all trout between 12 and 16 inches and allowed all gear types, whereas slot-artificials were the same but only allowed artificial lures and flies. Catch-and-release streams required release of all trout and allow only artificial lures and flies. Means with the same letter were not significantly different ($P < 0.05$).

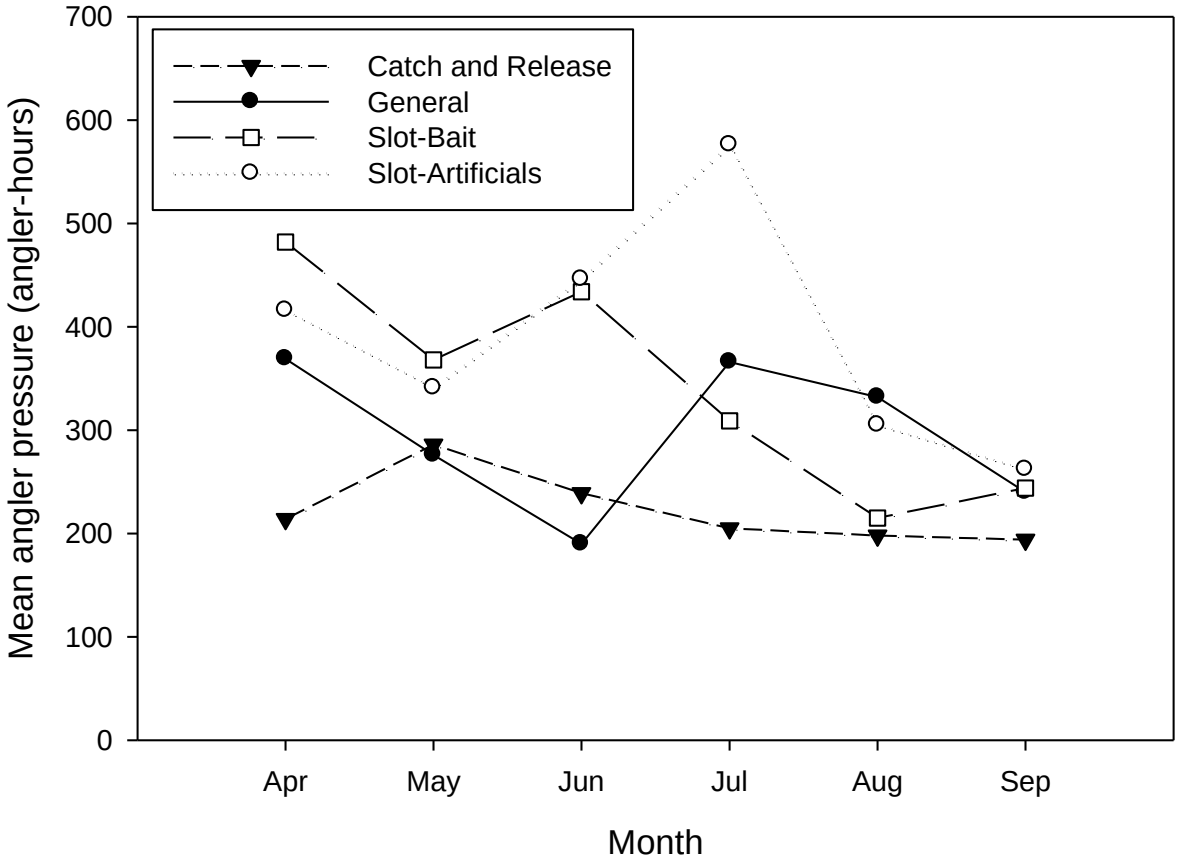

Figure 9. Monthly mean angler pressure across streams grouped by one of four types of angling regulations in southeast Minnesota, April 1 to September 30, 2013. General regulation streams allowed harvest of five trout (only one > 16 inches) in the daily/possession limit. Slot-bait streams required immediate release of all trout between 12 and 16 inches and allowed all gear types, whereas slot-artificials were the same but only allowed artificial lures and flies. Catch-and-release streams required release of all trout and allow only artificial lures and flies.

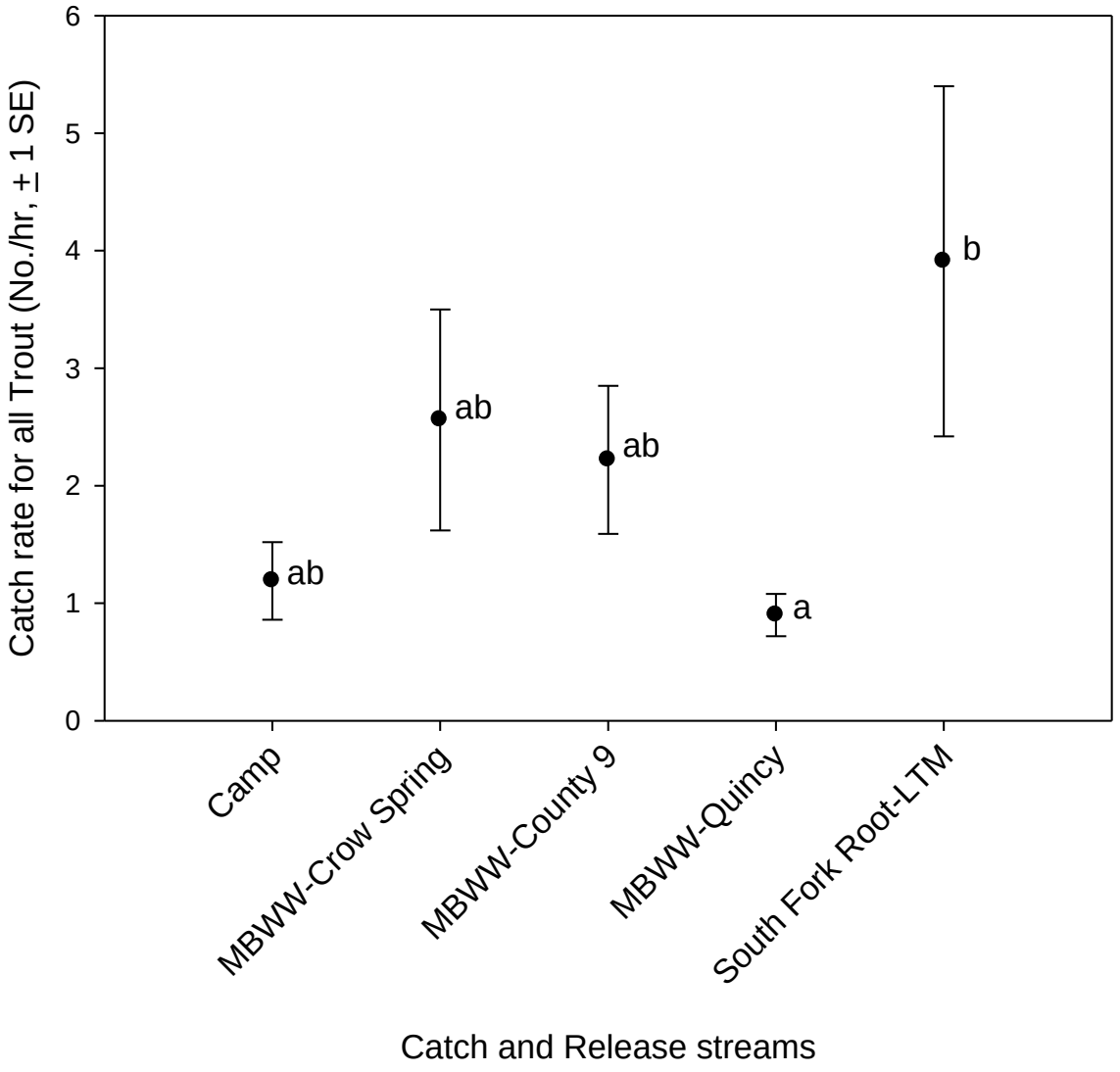

Figure 10. Comparison of mean angler catch rates for all species (Brown Trout, Brook Trout, Rainbow Trout) and sizes of trout combined among five streams with a catch-and-release regulation that required immediate release of all trout caught. Catch rate data were from an angler survey conducted in southeast Minnesota, April 1 to September 30, 2013. Means with the same letter were not significantly different ($P < 0.05$).

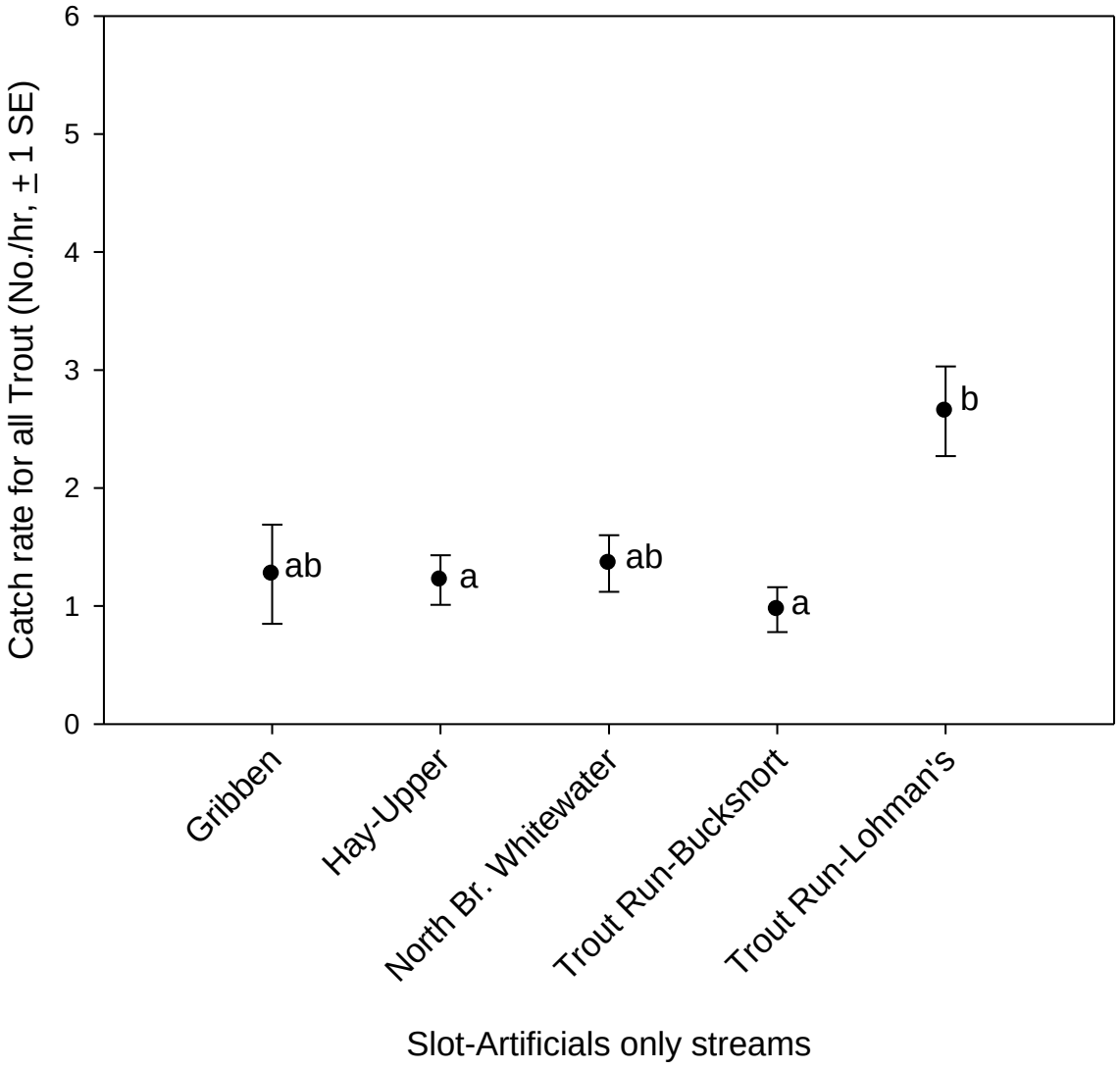

Figure 11. Comparison of mean angler catch rates for all species (Brown Trout, Brook Trout, Rainbow Trout) and sizes of trout combined among five streams with a protected slot limit that required immediate release of all trout from 12-16 inches. The regulation also required the use of artificial flies and lures only. Catch rate data were from an angler survey conducted in southeast Minnesota, April 1 - September 30, 2013. Means with the same letter were not significantly different ($P < 0.05$).

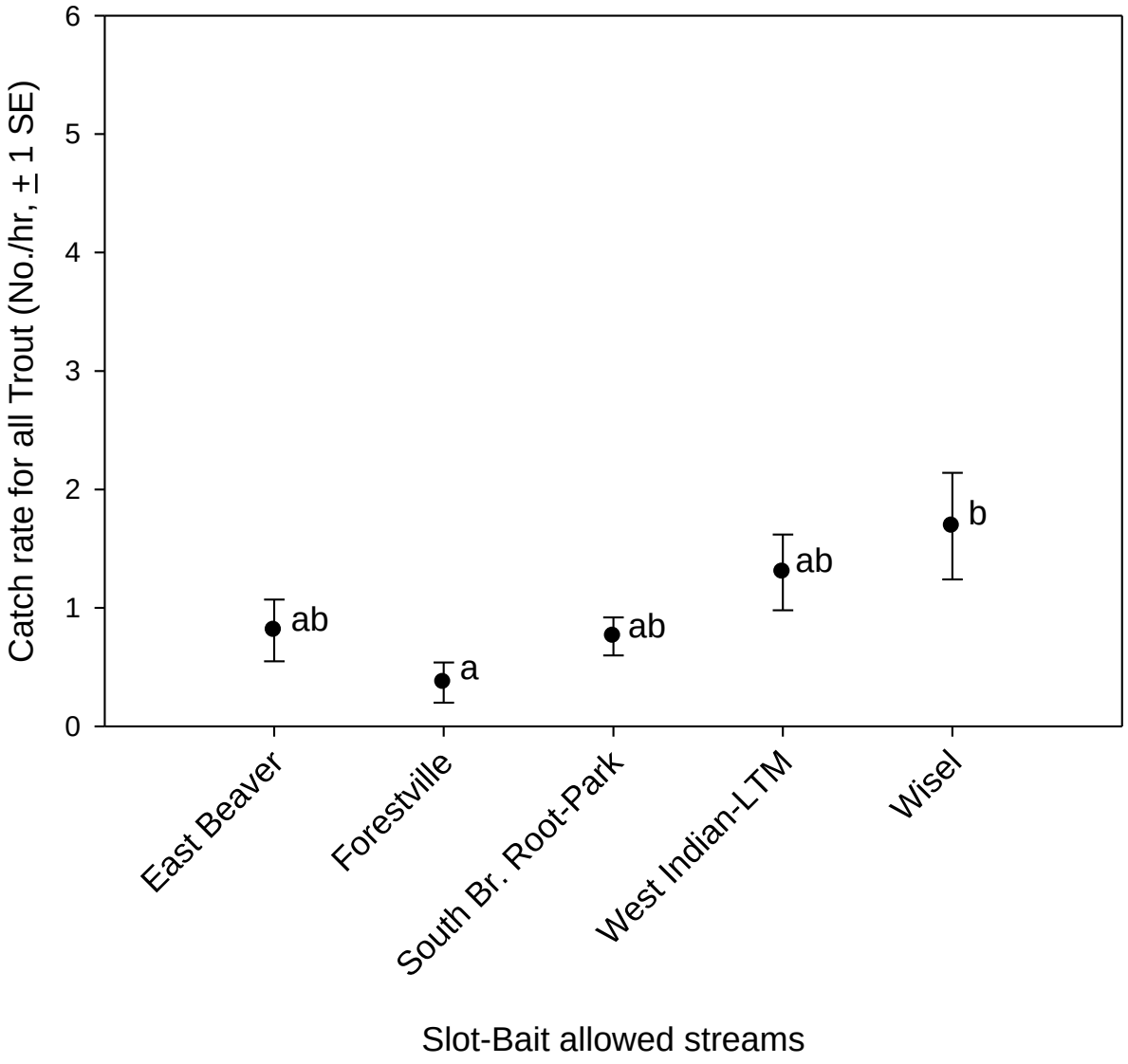

Figure 12.. Comparison of mean angler catch rates for all species (Brown Trout, Brook Trout, Rainbow Trout) and sizes of trout combined among five streams with a protected slot limit that required immediate release of all trout from 12-16 inches. All angling gear types were allowed. Catch rate data were from an angler survey conducted in southeast Minnesota, April 1 to September 30, 2013. Means with the same letter were not significantly different ($P < 0.05$).

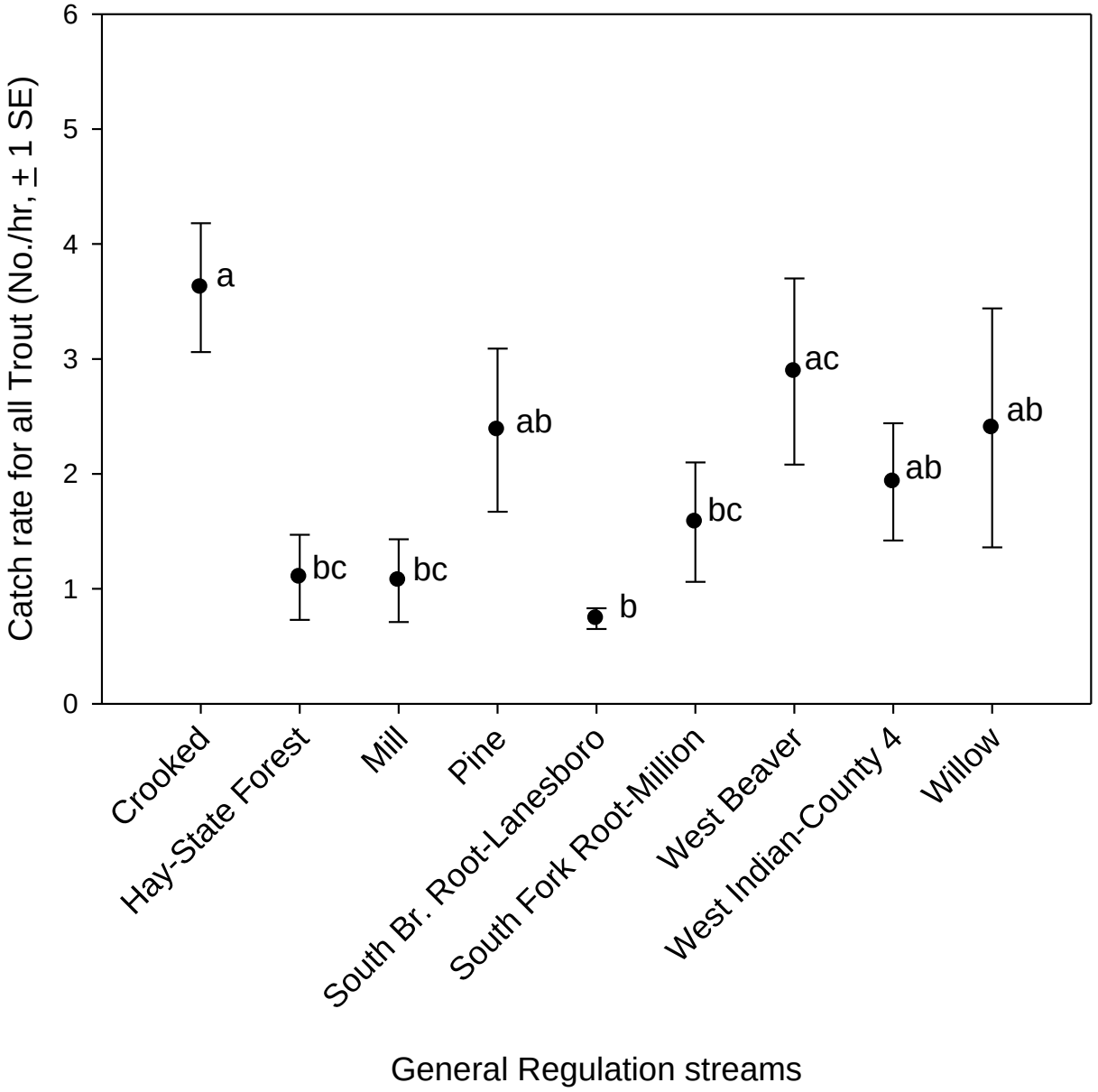

Figure 13. Comparison of mean angler catch rates for all species (Brown Trout, Brook Trout, Rainbow Trout) and sizes of trout combined among nine streams with general fishing regulations that allowed harvest of five trout (only one > 16 inches) in the daily/possession limit. All angling gear types were allowed. Catch rate data were from an angler survey conducted in southeast Minnesota, April 1 to September 30, 2013. Means with the same letter were not significantly different ($P < 0.05$).

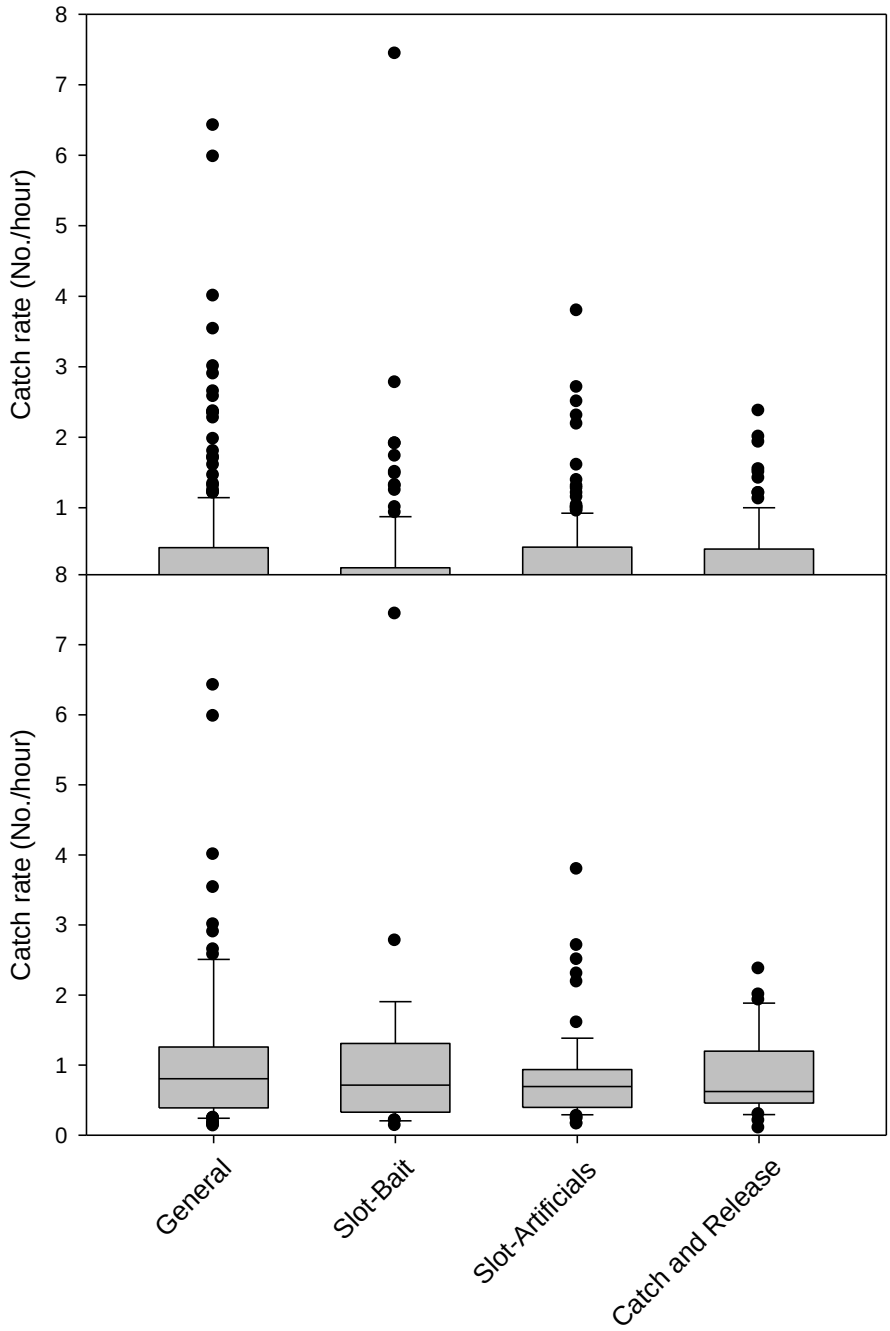

Figure 14. Box plot depicting differences in catch rates of anglers fishing ≥ 0.5 hr for Brown, Rainbow, and Brook trout ≥12 in. TL (combined) among four types of angling regulations in southeast Minnesota, April 1 to September 30, 2013. Top figure is all anglers (includes many zeroes). Bottom figure is only anglers that caught at least one trout ≥ 12 in. Box plots depict median catch rates, 25^{th}-75^{th} (box), 10^{th}-90^{th} (whiskers) percentiles and outliers. General regulation streams allowed harvest of five trout daily with only one > 16 in. Slot-bait streams required immediate release of all trout between 12 and 16 in. and allowed all gear types, whereas slot-artificials were the same but only allowed artificial flies and lures. Catch and release streams required release of all trout.

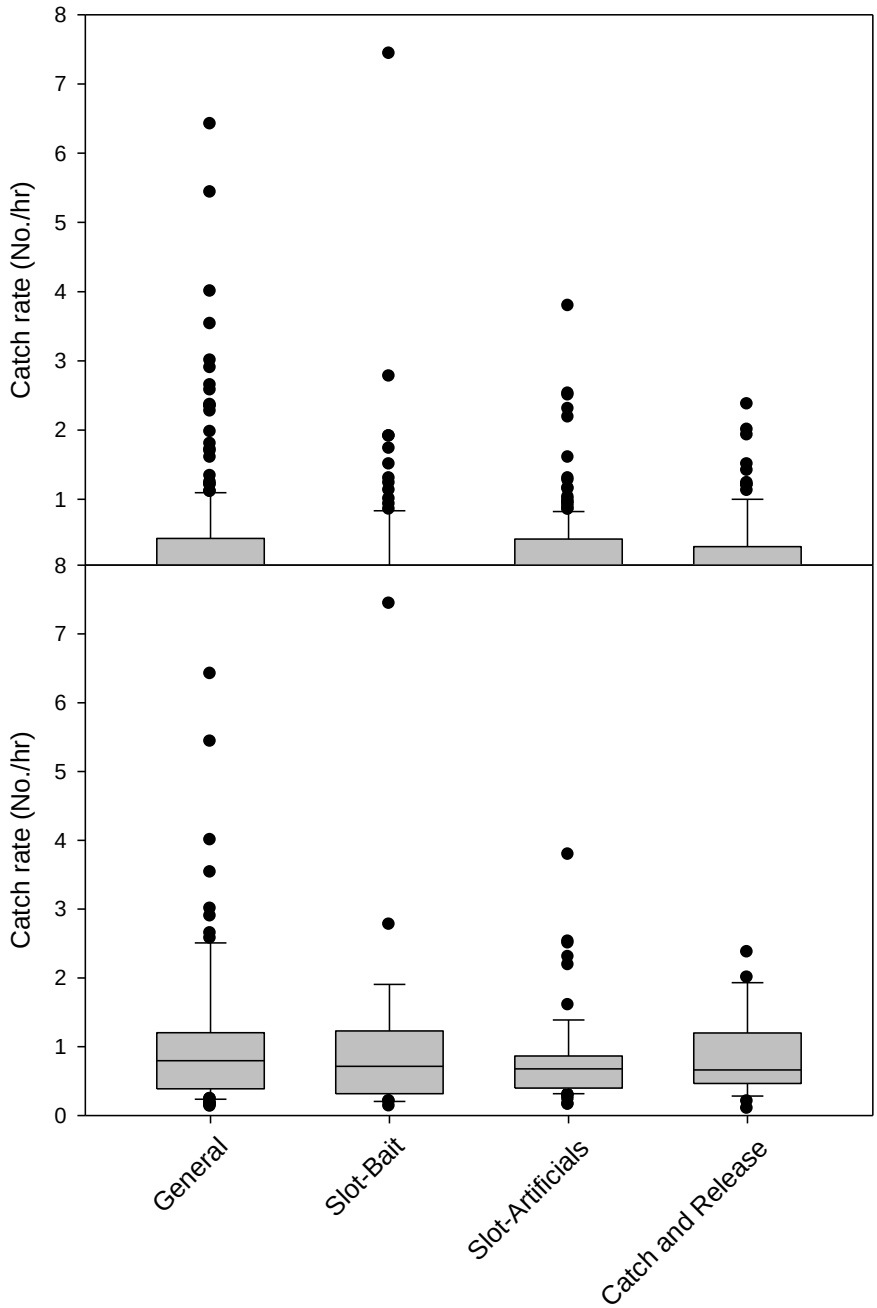

Figure 15. Box plot depicting differences in catch rates of anglers fishing ≥ 0.5 hr for Brown, Rainbow, and Brook trout 12-16 in. TL (combined) among four types of angling regulations in southeast Minnesota, April 1 to September 30, 2013. Top figure is all anglers (includes many zeroes). Bottom figure is only anglers that caught at least one trout between 12 and 16 in. Box plots depict median catch rates, 25^{th}-75^{th} (box), 10^{th}-90^{th} (whiskers) percentiles and outliers. General regulation streams allowed harvest of five trout daily with only one > 16 in. Slot-bait streams required immediate release of all trout between 12 and 16 in. and allowed all gear types, whereas slot-artificials were the same but only allowed artificial flies and lures. Catch and release streams required release of all trout.

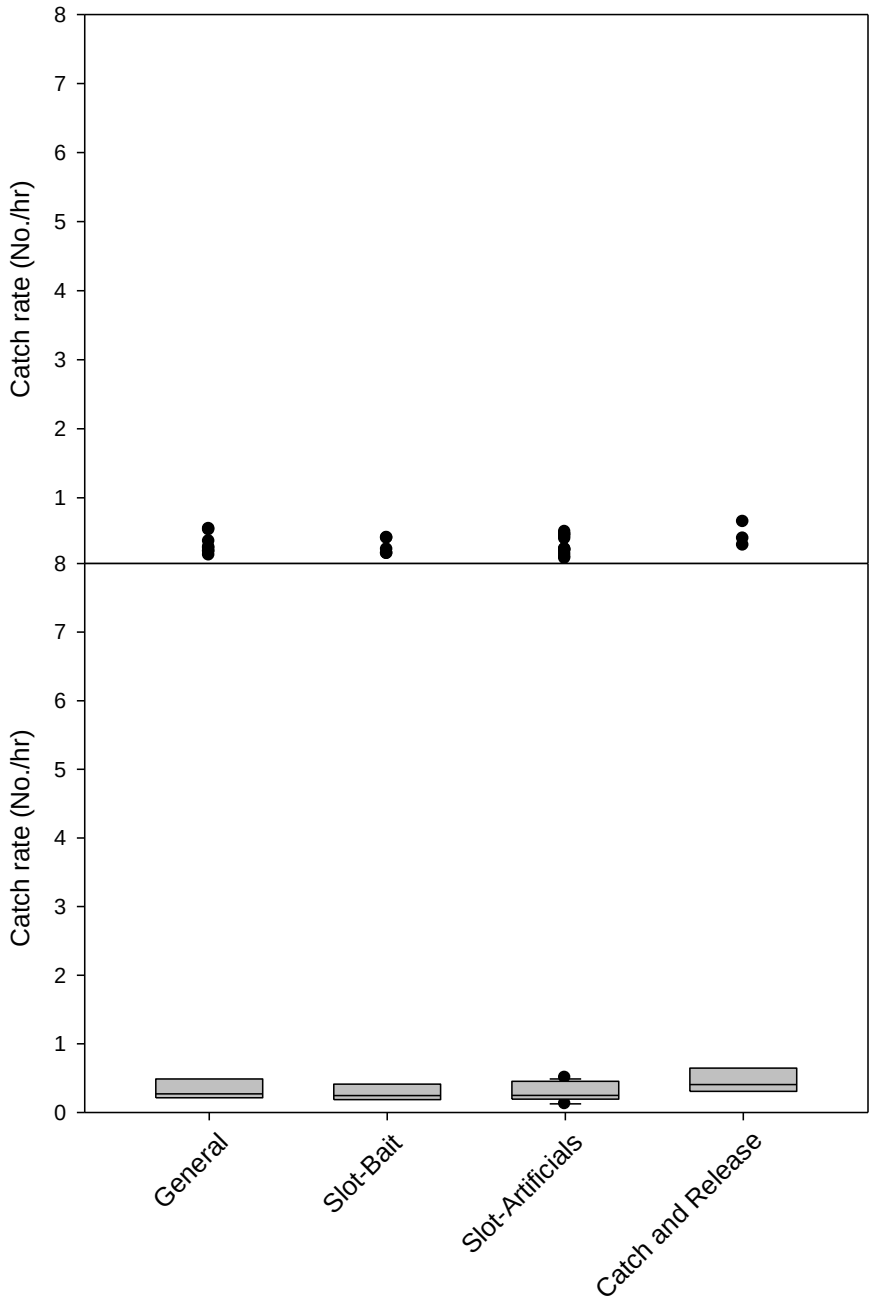

Figure 16. Box plot depicting differences in catch rates of anglers fishing ≥ 0.5 hr for Brown, Rainbow, and Brook trout ≥ 16 in. TL (combined) among four types of angling regulations in southeast Minnesota, April 1 to September 30, 2013. Top figure is all anglers (includes many zeroes). Bottom figure is only anglers that caught at least one trout ≥ 16 in. Box plots depict median catch rates, 25th-75th (box), 10th-90th (whiskers) percentiles and outliers. General regulation streams allowed harvest of five trout daily with only one > 16 in. Slot-bait streams required immediate release of all trout between 12 and 16 in. and allowed all gear types, whereas slot-artificials were the same but only allowed artificial flies and lures. Catch and release streams required release of all trout.

Appendix 1. Creel clerk #1 (Area A & B) schedule for April 1 to September 30, 2013

CLERK #1 – Area A and B

March - April

27	28	29	30	31	1	2	3	4	5	6	7	8	9
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
	Training		X	X	A-3	B-1	B-3	X	A-2	B-2	A-1	X	A-3

April

10	11	12	13	14	15	16	17	18	19	20	21	22	23
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
A-2	X	X	A-1	B-1	A-1	B-2	A-3	B-1	X	B-2	A-2	X	B-3

April

24	25	26	27	28	29	30	1	2	3	4	5	6	7
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
A-1	X	B-1	A-2	B-2	X	B-3	X	A-3	A-3	A-2	B-1	X	B-3

May

8	9	10	11	12	13	14	15	16	17	18	19	20	21
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
X	A-1	B-2	A-3	B-2	A-1	X	X	B-3	B-1	B-1	A-2	A-1	X

May - June

22	23	24	25	26	27	28	29	30	31	1	2	3	4
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
B-2	A-2	X	A-3	B-3	B-2	X	A-1	X	B-3	B-1	A-3	A-2	X

June

5	6	7	8	9	10	11	12	13	14	15	16	17	18
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
B-2	A-3	X	B-1	A-1	A-2	X	X	X	B-3	B-2	A-2	B-3	A-3

June - July

19	20	21	22	23	24	25	26	27	28	29	30	1	2
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
X	B-1	A-1	B-3	A-3	X	B-2	X	A-2	A-1	A-1	B-1	X	B-1

July

3	4	5	6	7	8	9	10	11	12	13	14	15	16
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
X	B-3	A-2	B-2	A-3	X	B-3	A-2	B-1	A-3	B-2	A-1	X	X

July

17	18	19	20	21	22	23	24	25	26	27	28	29	30
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
A-2	X	B-3	A-3	B-2	B-1	X	X	A-1	B-3	B-1	A-2	A-1	X

July - August

31	1	2	3	4	5	6	7	8	9	10	11	12	13
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
X	B-2	A-3	A-2	B-2	X	B-1	A-1	X	B-3	A-3	B-3	X	A-1

August

14	15	16	17	18	19	20	21	22	23	24	25	26	27
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
A-3	X	B-2	A-2	B-1	B-3	X	A-1	A-3	X	B-1	A-2	X	B-2

Appendix 1. Continued

CLERK #1 – Area A and B

August - September

28	29	30	31	1	2	3	4	5	6	7	8	9	10
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
A-2	B-2	X	A-1	B-3	A-3	X	X	B-1	X	B-1	A-1	B-2	A-3

September

11	12	13	14	15	16	17	18	19	20	21	22	23	24
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
B-3	A-2	X	B-2	A-2	B-1	X	X	A-3	A-1	A-1	B-3	X	B-3

September - October

25	26	27	28	29	30
Wed	Thurs	Fri	Sat	Sun	Mon
X	A-3	B-1	A-2	B-2	X

AM = start @ 6AM
PM = start @ 1PM
X = day off
#1, 2, 3 = route (see below)
Blue = Holiday
Red = weekends

Appendix 2. Creel clerk #2 (Area C & D) schedule for April 1 to September 30, 2013

CLERK #2 – Area C and D

March - April

27	28	29	30	31	1	2	3	4	5	6	7	8	9
Wed	Thurs	Fri	Sat	Sun	Mon	Tue	Wed	Thurs	Fri	Sat	Sun	Mon	Tue
	Training		X	X	C-2	D-3	D-2	X	C-3	D-1	C-1	X	C-2

April

10	11	12	13	14	15	16	17	18	19	20	21	22	23
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
C-1	X	D-1	C-3	D-3	C-3	X	D-3	C-2	D-1	D-2	C-1	X	X

April - May

24	25	26	27	28	29	30	1	2	3	4	5	6	7
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
C-3	D-3	X	C-1	D-2	X	C-2	D-1	C-1	X	D-2	C-2	X	D-1

May

8	9	10	11	12	13	14	15	16	17	18	19	20	21
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
C-3	X	D-3	D-2	C-3	X	D-1	X	C-1	X	C-2	D-3	D-1	C-1

May - June

22	23	24	25	26	27	28	29	30	31	1	2	3	4
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
C-3	X	X	D-2	C-2	D-3	D-3	C-2	X	D-1	C-1	D-2	C-3	X

June

5	6	7	8	9	10	11	12	13	14	15	16	17	18
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
X	D-3	C-2	C-1	D-1	X	C-3	D-2	D-3	X	D-2	C-2	X	C-1

June - July

19	20	21	22	23	24	25	26	27	28	29	30	1	2
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
D-1	X	C-3	C-3	D-2	X	C-1	C-2	X	D-1	D-2	C-2	D-3	X

July

3	4	5	6	7	8	9	10	11	12	13	14	15	16
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
X	D-3	X	C-3	D-1	C-3	C-1	D-1	X	C-2	C-1	D-2	X	D-3

July

17	18	19	20	21	22	23	24	25	26	27	28	29	30
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
C-1	D-2	X	D-1	C-2	X	D-3	C-3	X	D-2	C-3	D-1	X	C-1

July - August

31	1	2	3	4	5	6	7	8	9	10	11	12	13
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
X	C-3	C-2	C-1	D-3	X	D-1	D-2	X	D-3	D-2	C-2	X	C-3

August

14	15	16	17	18	19	20	21	22	23	24	25	26	27
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
D-3	X	C-1	D-1	C-2	X	C-3	D-1	D-3	C-1	C-2	D-2	X	X

Appendix 2. Continued

CLERK #2 – Area C and D

August - September

28	29	30	31	1	2	3	4	5	6	7	8	9	10
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
X	D-2	X	D-1	C-1	C-3	D-3	X	C-1	C-2	D-3	C-2	X	D-1

September

11	12	13	14	15	16	17	18	19	20	21	22	23	24
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
C-3	D-2	X	C-1	D-2	D-1	X	C-2	C-3	X	C-2	D-3	X	D-1

September - October

25	26	27	28	29	30
Wed	Thurs	Fri	Sat	Sun	Mon
X	C-3	D-3	D-2	C-3	X

AM start
PM start
X = day off
#1, 2, 3 = route (see below)
Blue = Holiday
Red = weekends

Appendix 3. Creel clerk #3 (Area E & F) schedule for April 1 to September 30, 2013

CLERK #3 – Area E and F

March - April

27	28	29	30	31	1	2	3	4	5	6	7	8	9
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
	Training		X	X	F-3	E-3	X	F-1	E-1	F-2	E-2	X	F-2

April

10	11	12	13	14	15	16	17	18	19	20	21	22	23
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
E-2	X	F-1	F-3	E-1	E-2	X	X	F-3	E-1	E-3	F-1	X	F-2

April - May

24	25	26	27	28	29	30	1	2	3	4	5	6	7
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
F-1	E-3	X	E-2	F-2	E-1	X	F-3	E-3	F-1	F-2	E-1	X	X

May

8	9	10	11	12	13	14	15	16	17	18	19	20	21
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
F-3	X	E-2	E-2	F-3	E-3	X	F-2	E-1	F-1	F-1	E-1	X	X

May - June

22	23	24	25	26	27	28	29	30	31	1	2	3	4
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
F-3	E-3	X	F-2	E-2	F-3	X	X	E-3	E-1	E-2	F-1	X	F-2

June

5	6	7	8	9	10	11	12	13	14	15	16	17	18
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
F-2	X	X	F-1	E-2	F-3	E-3	F-3	X	E-1	F-1	E-2	E-3	X

June - July

19	20	21	22	23	24	25	26	27	28	29	30	1	2
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
E-2	X	E-3	E-2	F-1	X	F-3	E-1	F-1	X	E-1	F-2	X	F-1

July

3	4	5	6	7	8	9	10	11	12	13	14	15	16
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
X	F-3	E-2	E-3	F-2	E-3	X	X	F-2	X	F-3	E-1	F-1	E-2

July

17	18	19	20	21	22	23	24	25	26	27	28	29	30
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
X	X	E-2	E-1	F-3	F-2	F-1	E-3	X	F-1	E-2	F-2	X	E-3

July - August

31	1	2	3	4	5	6	7	8	9	10	11	12	13
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
F-3	X	E-1	F-1	E-2	E-1	X	F-3	F-2	X	E-3	F-3	X	E-1

August

14	15	16	17	18	19	20	21	22	23	24	25	26	27
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
E-3	X	F-1	F-2	E-2	F-3	X	E-2	X	E-1	F-2	E-3	X	F-1

Appendix 3. Continued

CLERK #3 – Area E and F

August - September

28	29	30	31	1	2	3	4	5	6	7	8	9	10
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
X	F-2	F-1	F-3	E-1	E-3	X	E-2	X	F-2	F-3	E-3	X	E-2

September

11	12	13	14	15	16	17	18	19	20	21	22	23	24
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
E-1	F-1	X	E-2	F-3	F-2	X	X	X	F-1	E-3	F-3	E-1	E-1

September - October

25	26	27	28	29	30
Wed	Thurs	Fri	Sat	Sun	Mon
X	F-1	X	E-2	F-2	E-3

AM = start
PM = start
X = day off
#1, 2, 3 = route (see below)
Blue = Holiday
Red = weekends

Appendix 4. Creel clerk #4 (Area G & H) schedule for April 1 to September 30, 2013

CLERK #4 – Area G and H

March - April

27	28	29	30	31	1	2	3	4	5	6	7	8	9
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
	Training		X	X	H-3	G-2	X	G-1	H-2	G-3	H-1	X	H-3

April

10	11	12	13	14	15	16	17	18	19	20	21	22	23
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
X	X	H-1	G-1	H-2	G-2	G-1	X	H-2	G-2	H-3	G-3	H-1	X

April - May

24	25	26	27	28	29	30	1	2	3	4	5	6	7
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
H-3	X	X	H-1	G-1	G-2	G-3	X	X	H-2	G-2	H-3	G-1	H-2

May

8	9	10	11	12	13	14	15	16	17	18	19	20	21
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
G-3	H-1	X	G-1	H-1	H-2	X	X	X	G-2	H-3	G-3	H-3	G-2

May - June

22	23	24	25	26	27	28	29	30	31	1	2	3	4
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
X	H-2	G-3	G-1	H-1	G-1	X	X	H-2	X	H-3	G-3	G-2	H-1

June

5	6	7	8	9	10	11	12	13	14	15	16	17	18
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
X	X	H-2	H-3	G-2	G-1	H-1	G-3	X	H-3	G-3	H-1	G-1	X

June - July

19	20	21	22	23	24	25	26	27	28	29	30	1	2
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
G-2	H-2	X	G-2	H-2	H-1	X	X	G-1	G-3	H-3	G-3	X	H-1

July

3	4	5	6	7	8	9	10	11	12	13	14	15	16
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
G-2	H-3	X	H-2	G-1	H-2	X	G-3	H-1	G-2	G-1	H-3	X	X

July

17	18	19	20	21	22	23	24	25	26	27	28	29	30
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
X	X	H-2	G-1	H-3	G-3	H-1	G-2	H-1	X	H-2	G-1	G-3	X

July - August

31	1	2	3	4	5	6	7	8	9	10	11	12	13
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
X	X	H-3	G-2	H-2	H-2	G-2	G-3	H-1	X	H-3	G-1	X	G-2

August

14	15	16	17	18	19	20	21	22	23	24	25	26	27
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
X	H-3	X	G-1	H-1	G-3	H-2	X	G-2	H-3	G-1	H-1	X	G-3

Appendix 4. Continued

CLERK #4 – Area G and H

August - September

28	29	30	31	1	2	3	4	5	6	7	8	9	10
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
G-1	H-2	X	H-3	G-2	H-1	X	X	X	G-3	H-1	G-3	G-2	H-3

September

11	12	13	14	15	16	17	18	19	20	21	22	23	24
Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
G-1	X	H-2	G-1	H-3	X	H-1	G-2	G-3	H-2	H-3	G-2	X	X

September - October

25	26	27	28	29	30
Wed	Thurs	Fri	Sat	Sun	Mon
H-1	X	H-2	H-1	G-1	X

AM = start @ 6AM
PM = start @ 1PM
X = day off
#1, 2, 3 = route (see below)
Blue = Holiday
Red = weekends

Appendix 5. Contact form used to interview anglers in the southeast Minnesota trout stream angler survey, April 1 to September 30, 2013.

STREAM ANGLER CONTACT SHEET

DNR Lanesboro Area Fisheries – (507) 467-2442

Stream/Route _____ Month _____ Day _____ Year _____ Time – AM PM

Area _____ Day – M Tu W Th F Sa Su Holiday – Y N

Interview – Complete Incomplete Refused Lure Type (all that apply) – Bait Lure Fly

Good morning/afternoon. I'm doing a survey for the Minnesota Department of Natural Resources and I'd like to ask you some questions about your fishing trip.

Q1. What is your home zip code?_____Q2a. What is your age?_____ Q2b. Gender? M F

Q3. When did you start your fishing trip today? (24-hour clock)_____

Q4. What species are you primarily fishing for? Trout_____BNT_____ BKT_____ RBT_____ Other_____

Q5. How many years have you been fishing for trout?_____

Q6. How many times do you fish this trout stream per year?_____

Q7. How many times do you fish other trout streams per year?_____

Q8. Why did you decide to fish here today? (choose only one)

a. Favorite stream b. live close by c. easy access d. like regulation here
e. dislike regulation elsewhere f. numbers of fish g. size of fish

Have they been fishing for >1 hour (Q3 above)? Continue…

How satisfied or dissatisfied were you with the following:

Q9. The overall fishing experience you had today?

Very dissatisfied Dissatisfied Neither Satisfied Very satisfied

Q10. The size of trout you caught today?

Very dissatisfied Dissatisfied Neither Satisfied Very satisfied

Q11. The number of trout you caught today?

Very dissatisfied Dissatisfied Neither Satisfied Very satisfied

If you caught any fish today do you recall the length or if you kept any would you mind if I measure the catch?

Species	1	2	3	4	5	6	7	8	9	10	11	12	Total #

*Add K (Kept) or R (Released) after measured length

Time interview ended (24-hour clock): _____

Comments (on back if necessary):

Appendix 6. Letter survey given to anglers in the southeast Minnesota trout stream angler survey, April 1 to September 30, 2013.

PLEASE COMPLETE AND MAIL EVEN IF YOU WERE NOT FISHING.

Thank you for participating in the Minnesota Department of Natural Resources Fisheries survey. Please answer the following questions and mail this letter in the envelope provided. If you weren't fishing, only answer Question 1.

Q1. Were you fishing for trout when we left this survey? YES NO

Q2. How many anglers total traveled in this vehicle with you to the stream today?_____

Q3. What is your (and passengers) home zip code(s)?_____

Q4. How long was your fishing trip (time you left vehicle until you arrived back at vehicle)?_____

For more information or questions regarding this survey, please contact the Lanesboro Area Fisheries Office at (507) 467-2442.

Office use only:

Area _____ Month _____ Day _____ Year _____ Time _____

Stream/Route Day – M Tu W Th F Sa Su Holiday – Y N

Appendix 7. Count form used by creel clerks in the southeast Minnesota trout stream angler survey, April 1 to September 30, 2013.

STREAM ANGLER COUNT SHEET

DNR Lanesboro Area Fisheries – (507) 467-2442

Area _____ Month ____ Day ____ Year _____ Day – M Tu W Th F Sa Su

Progressive Angler Counts

	1	2	3
Stream			
Route			
Start Time (24 hr)			
End Time (24 hr)			
# of letters left			
Total anglers			

Comments:

1) Stream/Section _____

Water temp _____ Air temp _____ Water clarity: Clear Stained Muddy

Water level: Low Normal High Weather: Cloudy Partly cloudy Partly sunny Sunny Raining

2) Stream/Section _____

Water temp _____ Air temp _____ Water clarity: Clear Stained Muddy

Water level: Low Normal High Weather: Cloudy Partly cloudy Partly sunny Sunny Raining

3) Stream/Section _____

Water temp _____ Air temp _____ Water clarity: Clear Stained Muddy

Water level: Low Normal High Weather: Cloudy Partly cloudy Partly sunny Sunny Raining

Appendix 8. Survey distribution from clerks by stream with contact type, number of contacts, number of survey letters left with return rates for the southeast Minnesota trout stream creel survey, April 1 to September 30, 2013.

Stream	Interview type	# of Interviews	# of Letters left	# of Letters returned	Overall return rate (%)
Camp Creek	Complete	18			
	Incomplete	30			
	Refused	0			
	Total	48	17	8	47.1
Crooked Creek	Complete	28			
	Incomplete	1			
	Refused	0			
	Total	29	17	13	76.5
East Beaver Creek	Complete	20			
	Incomplete	10			
	Refused	1			
	Total	31	118	51	43.2
Forestville Creek	Complete	16			
	Incomplete	8			
	Refused	0			
	Total	24	12	5	41.7
Gribben Creek	Complete	7			
	Incomplete	10			
	Refused	0			
	Total	17	5	3	60.0
Hay Creek	Complete	57			
	Incomplete	4			
	Refused	0			
	Total	61	65	33	50.8
Middle Branch Whitewater	Complete	76			
	Incomplete	26			
	Refused	1			
	Total	103	57	23	40.4
Mill Creek	Complete	18			
	Incomplete	26			
	Refused	0			
	Total	44	10	3	30.0
North Branch Whitewater	Complete	37			
	Incomplete	18			
	Refused	1			
	Total	56	63	30	47.6
Pine Creek	Complete	20			
	Incomplete	27			
	Refused	0			
	Total	47	20	14	70.0

Appendix 8 (continued).

Stream	Interview type	# of Interviews	# of Letters left	# of Letters returned	Overall return rate (%)
South Branch Root River	Complete	166			
	Incomplete	132			
	Refused	19			
	Total	317	77	30	39.0
South Fork Root River	Complete	38			
	Incomplete	31			
	Refused	0			
	Total	69	36	22	61.1
Trout Run	Complete	108			
	Incomplete	126			
	Refused	0			
	Total	234	75	49	65.3
West Beaver Creek	Complete	10			
	Incomplete	10			
	Refused	0			
	Total	20	15	9	60.0
West Indian Creek	Complete	22			
	Incomplete	4			
	Refused	0			
	Total	26	18	11	61.1
Willow Creek	Complete	12			
	Incomplete	14			
	Refused	1			
	Total	27	7	3	42.9
Wisel Creek	Complete	41			
	Incomplete	27			
	Refused	4			
	Total	72	40	25	62.5
Total	Complete	694			
	Incomplete	504			
	Refused	27			
	Total	1,225	652	332	50.9

Appendix 9. State and number of interviews and letters given by non-resident anglers fishing selected southeast Minnesota trout streams between April 1 and September 30, 2013.

State	Number of interviews	Number of letters
Iowa	16	7
Illinois	10	0
Wisconsin	10	12
Arizona	6	6
Florida	5	2
South Dakota	5	0
Texas	5	3
Missouri	4	1
North Dakota	4	0
Alaska	3	0
California	3	3
Indiana	3	3
Alabama	2	2
Arkansas	2	0
Colorado	2	0
Kansas	2	0
Nebraska	2	0
New York	2	1
Washington	2	0
Holland (Country)	1	0
Kentucky	1	0
Montana	1	0
North Carolina	1	1
Oklahoma	1	0
Oregon	1	0
Pennsylvania	1	1
Utah	1	0
Virginia	1	0
West Virginia	1	0

Appendix 10. Hometown, zip code and number of interviews and letters taken from Minnesota resident anglers fishing selected southeast Minnesota trout streams, April 1 to September 30, 2013.

Town	Zip code	Number of interviews	Number of letters
Rochester	55901, 55902, 55906, 55904, 55905, 55907	219	78
Minneapolis	55406, 55423, 55413, 55417, 55422, 55418, 55419, 55431, 55407, 55408, 55412, 55430, 55403, 55410, 55426, 55436, 55411, 55414, 55416, 55444, 55445, 55448, 55401, 55424, 55428, 55434, 55439, 55447, 55402, 55420, 55425, 55427, 55429, 55435, 55438, 55441, 55443	148	39
St. Paul	55106, 55104, 55119, 55118, 55122, 55105, 55112, 55124, 55103, 55109, 55110, 55120, 55123, 55125, 55117, 55129, 55130, 55102, 55116, 55128, 55108, 55114, 55115	132	37
Chatfield	55923	64	9
Lanesboro	55949	30	10
Austin	55912	26	19
Winona	55987	26	12
St. Charles	55972	23	4
Albert Lea	56007	16	6
Owatonna	55060	15	2
Prior Lake	55372	15	0
Faribault	55021	13	8
Minnetonka	55305, 55345	13	1
Stewartville	55976	13	4
Fountain	55935	12	5
Lakeville	55044	12	2
Mankato	56001, 56003	12	2
Hastings	55033	11	3
Eyota	55934	10	1
Spring Valley	55975	10	1
Plainview	55964	9	6
Cottage Grove	55016	8	0
Elk River	55330	8	0
Rushford	55971	8	5
South St. Paul	55075	8	5
Buffalo	55313	7	3
Farmington	55024	7	5
Houston	55943	7	3
Lake City	55041	7	6
Northfield	55057	7	6
Preston	55956	7	1
Red Wing	55066	7	6
Stillwater	55082	7	2
Caledonia	55921	6	1
Dakota	55925	6	3
Dodge Center	55927	6	1
Excelsior	55331	6	4

Appendix 10 (continued).

Town	Zip code	Number of interviews	Number of letters
Dover	55929	5	0
Duluth	55804, 55803, 55807, 55811	5	2
Hayfield	55940	5	1
Hopkins	55343	5	1
Kasson	55944	5	3
Spring Grove	55974	5	4
Blue Earth	56013	4	4
Burnsville	55337	4	0
Byron	55920	4	0
Eden Prairie	55347	4	0
Grand Meadow	55936	4	0
Lewiston	55952	4	1
Little Falls	56345	4	0
Mantorville	55955	4	1
Osseo	55369	4	3
Rogers	55374	4	0
Wabasha	55981	4	3
Waseca	56093	4	0
Brainerd	56401	3	3
Cedar	55011	3	0
Hokah	55941	3	2
Kenyon	55946	3	3
Maple Grove	55311	3	0
Peterson	55962	3	0
Wanamingo	55983	3	0
Zimmerman	55398	3	0
Altura	55910	2	0
Arlington	55307	2	0
Cannon Falls	55009	2	2
Canton	55922	2	0
Chanhassen	55317	2	1
Chaska	55318	2	0
Circle Pines	55014	2	1
Eden Prairie	55344	2	0
Elgin	55932	2	0
Fairmont	56031	2	2
Harmony	55939	2	2
Hutchinson	55350	2	0
Kimball	55353	2	0
LaCrescent	55947	2	1
Lester Prairie	55354	2	0
Litchfield	55355	2	0
Loretto	55357	2	0
Lyle	55953	2	0
Mapleton	56065	2	0
Mazeppa	55956	2	1

Appendix 10 (continued).

Town	Zip code	Number of interviews	Number of letters
Minnesota City	55959	2	0
Moorhead	56560	2	0
Mound	55364	2	1
New Prague	56071	2	2
North Branch	55056	2	1
Shakopee	55379	2	0
Waltham	55982	2	0
West Concord	55985	2	0
Willmar	56201	2	2
Worthington	56187	2	0
Wykoff	55092	2	0
Adams	55909	1	3
Alden	56009	1	1
Baxter	56425	1	0
Becker	55308	1	0
Carlton	55718	1	0
Carver	55315	1	0
Champlin	55316	1	2
Claremont	55924	1	0
Clear Lake	55319	1	0
Cloquet	55720	1	0
Cokato	55321	1	0
Dalbo	55017	1	0
Delano	55328	1	0
Dundas	55019	1	0
Eagle Lake	56024	1	0
Elko New Market	55020	1	0
Elkton	55933	1	0
Elmore	56027	1	0
Esko	55733	1	0
Eveleth	55734	1	0
Forest Lake	55025	1	0
Frontenac	55026	1	0
Geneva	56035	1	1
Goodhue	55027	1	0
Grand Marias	55604	1	0
Hamel	55340	1	0
Harris	55032	1	0
Henriette	55036	1	0
Kellogg	55945	1	1
Le Sueur	56058	1	2
Lindstrom	55045	1	0
Mabel	55954	1	2
Maple Lake	55358	1	0
Maple Plain	55359	1	1
Monticello	55362	1	1

Appendix 10 (continued).

Town	Zip code	Number of interviews	Number of letters
Nicollet	56074	1	0
Nisswa	56468	1	0
Ostrander	55961	1	0
Pequot Lakes	56472	1	0
Princeton	55371	1	0
Racine	55967	1	1
Rosemont	55068	1	0
Saint Peter	56082	1	0
Santiago	55377	1	0
Sartell	56377	1	2
Sauk Centre	56378	1	0
Savage	55378	1	0
Shafer	55074	1	0
South Haven	55382	1	0
St Cloud	56304	1	1
St Francis	55070	1	0
St Paul Park	55071	1	1
Stacy	55079	1	0
Staples	56479	1	1
Utica	55979	1	0
Vermillion	55085	1	0
Waconia	55387	1	0
Watertown	55388	1	1
Waterville	56096	1	0
Wayzata	55391	1	2
Webster	55088	1	1
Winsted	55395	1	0
Wyoming	55092	1	1
Oronoco	55960	0	1
Garden City	56034	0	1
Hugo	55038	0	1

Appendix 11. Numbers harvested - White Sucker. Early C&R WD = Catch-and-release April 1-12, 2013 Weekdays; Early C&R WEH = Catch-and-release April 1-12, 2013 Weekends and Holidays; Harvest WD = April 13 – September 14, 2013 Weekdays; Harvest WEH = April 13 – September 14, 2013 Weekends and Holidays; Late C&R WD = Catch-and-release September 15-30, 2013 Weekdays; Late C&R WEH = Catch-and-release September 15-30, 2013 Weekends and Holidays.

Stream	Day type	White sucker		
		Mean harvest/day	Total harvest	SE (±)
S. Br. Root River (Lanesboro)	Early C&R WD	0.00	0	0
	Early C&R WEH	0.00	0	0
	Harvest WD	2.46	263	183
	Harvest WEH	0.00	0	0
	Late C&R WD	0.00	0	0
	Late C&R WEH	0.00	0	0
	All		263	183

Appendix 12. Numbers harvested - Brown Trout <10 and 10-11 inches. # of anglers represents those anglers in the survey where harvest information was obtained.

Stream	Day type	Brown trout < 10 inches				Brown trout 10-11 inches			
		# of anglers	Mean harvest/day	Total harvest	SE (±)	# of anglers	Mean harvest/day	Total harvest	SE (±)
Camp Creek				None				None	
Crooked Creek	Early C&R								
	Harvest WD								
	Harvest WEH						0.49	23	23
	Late C&R								
	All							23	23
East Beaver Creek	Early C&R								
	Harvest WD								
	Harvest WEH						0.93	45	45
	Late C&R								
	All							45	45
Forestville Creek	Early C&R								
	Harvest WD								
	Harvest WEH		0.29	14	14		0.40	19	19
	Late C&R								
	All			14	14			19	19
Gribben Creek	Early C&R								
	Harvest WD								
	Harvest WEH		0.35	17	17				
	Late C&R								
	All			17	17				
Hay Creek – State	Early C&R								
	Harvest WD		0.39	42	42				
	Harvest WEH		0.76	36	36		1.45	70	61
	Late C&R								
	All			78	55			70	61
Hay Creek – Upper	Early C&R								
	Harvest WD		0.73	78	78		0.83	89	89
	Harvest WEH		1.00	48	48		1.00	48	48
	Late C&R								
	All			126	92			137	101
M. Br. Whitewater (Crow)				None				None	
M. Br. Whitewater (Cty 9)				None				None	
M. Br. Whitewater (Quincy)				None				None	
Mill Creek				None				None	
N. Br. Whitewater	Early C&R								
	Harvest WD						0.81	86	86
	Harvest WEH		1.59	76	55		3.43	165	94
	Late C&R								
	All			76	55			251	128
Pine Creek	Early C&R								
	Harvest WD						0.34	37	37
	Harvest WEH		1.11	53	42		2.80	134	113
	Late C&R								
	All			53	42			171	119
S. Br. Root River (Lanesboro)	Early C&R								
	Harvest WD		0.46	50	50		3.24	346	143
	Harvest WEH		1.93	93	64		6.86	329	184
	Late C&R								
	All			143	81			675	233

Appendix 12 (continued).

Stream	Day type	Brown trout < 10 inches				Brown trout 10-11 inches			
		# of anglers	Mean harvest/day	Total harvest	SE (±)	# of anglers	Mean harvest/day	Total harvest	SE (±)
S. Br. Root River (Park)	Early C&R								
	Harvest WD								
	Harvest WEH		1.13	54	54		1.85	89	89
	Late C&R								
	All			54	54			89	89
S. Fork Root River (LTM)				None				None	
S. Fork Root River (Million)	Early C&R								
	Harvest WD								
	Harvest WEH						0.43	20	20
	Late C&R								
	All							20	20
Trout Run (Bucksnort)	Early C&R								
	Harvest WD		0.48	52	52		1.64	175	122
	Harvest WEH		1.29	62	62				
	Late C&R								
	All			114	81			175	122
Trout Run (Lohman's)	Early C&R								
	Harvest WD						0.41	44	33
	Harvest WEH		0.86	41	41		2.41	116	105
	Late C&R								
	All			41	41			160	110
West Beaver Creek	Early C&R								
	Harvest WD								
	Harvest WEH						0.45	22	22
	Late C&R								
	All							22	22
West Indian Creek (Cty 4)	Early C&R								
	Harvest WD		0.11	12	12		1.57	168	117
	Harvest WEH								
	Late C&R								
	All			12	12			168	117
West Indian Creek (LTM)	Early C&R								
	Harvest WD		0.57	61	39		1.02	110	61
	Harvest WEH								
	Late C&R								
	All			61	39			110	61
Willow Creek				None				None	
Wisel Creek	Early C&R								
	Harvest WD								
	Harvest WEH		0.15	7	7				
	Late C&R								
	All			7	7				
Total				796	190			2,257	408

Appendix 13. Numbers harvested - Brown Trout 12-13 inches and 14-15 inches.

Stream	Day type	Brown trout 12-13 inches				Brown trout 14-15 inches			
		# of anglers	Mean harvest/day	Total harvest	SE (±)	# of anglers	Mean harvest/day	Total harvest	SE (±)
Camp Creek				None				None	
Crooked Creek	Early C&R								
	Harvest WD								
	Harvest WEH		0.39	19	19				
	Late C&R								
	All			19	19				
East Beaver Creek				None				None	
Forestville Creek	Early C&R								
	Harvest WD								
	Harvest WEH		0.10	5	5				
	Late C&R								
	All			5	5				
Gribben Creek				None				None	
Hay Creek – State	Early C&R								
	Harvest WD		0.58	62	62				
	Harvest WEH		0.72	35	35				
	Late C&R								
	All			97	97				
Hay Creek – Upper	Early C&R								
	Harvest WD						0.36	39	39
	Harvest WEH								
	Late C&R								
	All							39	39
M. Br. Whitewater (Crow)				None				None	
M. Br. Whitewater (Cty 9)				None				None	
M. Br. Whitewater (Quincy)				None				None	
Mill Creek				None				None	
N. Br. Whitewater				None				None	
Pine Creek	Early C&R			None					
	Harvest WD								
	Harvest WEH						1.17	56	56
	Late C&R								
	All							56	56
S. Br. Root River (Lanesboro)	Early C&R								
	Harvest WD		1.06	113	80				
	Harvest WEH		7.48	359	193		7.83	376	296
	Late C&R								
	All			472	209			376	296
S. Br. Root River (Park)				None				None	
S. Fork Root River (LTM)				None				None	
S. Fork Root River (Million)				None				None	
Trout Run (Bucksnort)				None				None	
Trout Run (Lohman's)				None				None	

Appendix 13 (continued).

Stream	Day type	Brown trout 12-13 inches				Brown trout 14-15 inches			
		# of anglers	Mean harvest/day	Total harvest	SE (±)	# of anglers	Mean harvest/day	Total harvest	SE (±)
West Beaver Creek	Early C&R Harvest WD Harvest WEH Late C&R		0.69	33	33		0.23	11	11
	All			33	33			11	11
West Indian Creek (Cty 4)				None				None	
West Indian (LTM)				None				None	
Willow Creek				None				None	
Wisel Creek				None				None	
Total				715	232			482	304

Appendix 14. Numbers harvested - Brown Trout 16-17 inches and 18-19 inches

Stream	Day type	Brown trout 16-17 inches				Brown trout 18-19 inches			
		# of anglers	Mean harvest/day	Total harvest	SE (±)	# of anglers	Mean harvest/day	Total harvest	SE (±)
Camp Creek				None				None	
Crooked Creek				None				None	
East Beaver Creek				None				None	
Forestville Creek				None				None	
Gribben Creek				None				None	
Hay Creek – State				None				None	
Hay Creek – Upper				None				None	
M. Br. Whitewater (Crow)				None				None	
M. Br. Whitewater (Cty 9)				None				None	
M. Br. Whitewater (Quincy)				None				None	
Mill Creek				None				None	
N. Br. Whitewater				None				None	
Pine Creek				None				None	
S. Br. Root River (Lanesboro)				None				None	
S. Br. Root River (Park)				None				None	
S. Fork Root River (LTM)				None				None	
S. Fork Root River (Million)				None				None	
Trout Run (Bucksnort)				None				None	
Trout Run (Lohman's)	Early C&R			None					
	Harvest WD								
	Harvest WEH						0.32	16	16
	Late C&R								
	All							16	16
West Beaver Creek				None				None	
West Indian Creek (Cty 4)				None				None	
West Indian (LTM)				None				None	
Willow Creek				None				None	
Wisel Creek				None				None	
Total				0	0			16	16

Appendix 15. Numbers harvested - Brook Trout < 10 inches and ≥ 10 inches

Stream	Day type	Brook trout < 10 inches				Brown trout ≥ 10 inches			
		# of anglers	Mean harvest/day	Total harvest	SE (±)	# of anglers	Mean harvest/day	Total harvest	SE (±)
Camp Creek				None				None	
Crooked Creek				None				None	
East Beaver Creek				None				None	
Forestville Creek				None				None	
Gribben Creek				None				None	
Hay Creek – State				None				None	
Hay Creek – Upper				None				None	
M. Br. Whitewater (Crow)				None				None	
M. Br. Whitewater (Cty 9)				None				None	
M. Br. Whitewater (Quincy)				None				None	
Mill Creek				None				None	
N. Br. Whitewater				None				None	
Pine Creek				None				None	
S. Br. Root River (Lanesboro)				None				None	
S. Br. Root River (Park)				None				None	
S. Fork Root River (LTM)				None				None	
S. Fork Root River (Million)				None				None	
Trout Run (Bucksnort)				None				None	
Trout Run (Lohman's)				None				None	
West Beaver Creek				None				None	
West Indian Creek (Cty 4)				None				None	
West Indian (LTM)	Early C&R								
	Harvest WD		0.39	42	42		0.19	21	21
	Harvest WEH								
	Late C&R								
	All			42	42			21	21
Willow Creek				None				None	
Wisel Creek	Early C&R								
	Harvest WD		0.46	49	49		0.46	49	49
	Harvest WEH								
	Late C&R								
	All			49	49			49	49
Total				91	64			70	53

Appendix 16. Numbers harvested - Rainbow Trout < 12 inches and 12-16 inches (none were harvested >16 inches).

Stream	Day type	Rainbow trout < 12 inches				Rainbow trout 12-16 inches			
		# of anglers	Mean harvest/day	Total harvest	SE (±)	# of anglers	Mean harvest/day	Total harvest	SE (±)
Camp Creek				None			None		
Crooked Creek	Early C&R								
	Harvest WD								
	Harvest WEH						0.23	11	11
	Late C&R								
	All							11	11
East Beaver Creek				None				None	
Forestville Creek				None				None	
Gribben Creek				None				None	
Hay Creek – State				None				None	
Hay Creek – Upper				None				None	
M. Br. Whitewater (Crow)				None				None	
M. Br. Whitewater (Cty 9)				None				None	
M. Br. Whitewater (Quincy)				None				None	
Mill Creek	Early C&R								
	Harvest WD								
	Harvest WEH		2.22	107	73		1.71	82	61
	Late C&R								
	All			107	73			82	61
N. Br. Whitewater	Early C&R								
	Harvest WD		2.83	303	271				
	Harvest WEH		6.69	321	234		1.31	63	63
	Late C&R								
	All			624	358			63	63
Pine Creek				None				None	
S. Br. Root River (Lanesboro)	Early C&R								
	Harvest WD		0.77	82	58		0.62	67	41
	Harvest WEH		8.57	412	228		3.5	168	99
	Late C&R								
	All			494	235			235	107
S. Br. Root River (Park)				None				None	
S. Fork Root River (LTM)				None				None	
S. Fork Root River (Million)				None				None	
Trout Run (Bucksnort)				None				None	
Trout Run (Lohman's)				None				None	
West Beaver Creek				None				None	
West Indian Creek (Cty 4)				None				None	
West Indian (LTM)				None				None	

Appendix 16 (continued).

Stream	Day type	Rainbow trout < 12 inches				Rainbow trout 12-16 inches			
		# of anglers	Mean harvest/day	Total harvest	SE (±)	# of anglers	Mean harvest/day	Total harvest	SE (±)
Willow Creek	Early C&R Harvest WD Harvest WEH Late C&R		1.16	125	125		0.78	83	83
	All			125	125			83	83
Wisel Creek	Early C&R Harvest WD Harvest WEH Late C&R		0.51	55	55				
	All			55	55				
Total									
				1,403	455			474	162

Appendix 17. Comments from anglers during interviews fishing the trout season in southeast Minnesota, April 1 to September 30, 2013.

Date	Stream	Comment
April-7	Crooked Creek	Spend more money on habitat and less money on stocking
April-12	East Beaver Creek	Recommended by Lanesboro DNR
April-13	Hay Creek	Lost 5 in battle
April-13	West Indian Creek	Thinks the creek could be improved, very few deep holes for fish, lots of shallow slot water
April-13	South Fork Root River	Less crowded here
April-20	West Beaver Creek	Here to try something new
April-21	South Fork Root River	Fishing here because of the good conditions
April-28	South Fork Root River	Said his brother was fishing Nepstad and they were going to meet in the middle
April-28	South Fork Root River	Here because there was a variety of species to catch
April-28	South Fork Root River	Online easements are not up to date
April-28	Wisel Creek	Would love to see bigger fish on Wisel
April-28	Trout Run (Lohman's)	Let kids keep more trout. Thinks there are too many regulations. Like to have slot on all streams. Doesn't think there should be as many artificials only.
April-28	Trout Run (Lohman's)	About Duschee Creek…appalled by the low numbers of fish. Used to see tons of fish and take kids with him. Would like to see slot limit. Said he only saw 5 fish in 1 mile of stream.
May-4	Trout Run (Lohman's)	Would like to see extended season. Like restoration project
May-4	South Fork Root River	Appreciates the catch-and-release regulations because then there are fish and they are good sizes
May-7	Trout Run (Lohman's)	Check corner pool downstream from bridge on north side. Bad erosion.
May-11	Hay Creek	Man with his daughter from Bosnia
May-12	West Indian Creek	Has not fished West Indian Creek for 25 years
May-14	Trout Run (Lohman's)	Angler doesn't like stream restorations. Says he used to catch a lot more fish.
May-16	M. Br. Whitewater River	In town from Salt Lake City, Utah fishing with his dad. Said he fly fishes in Utah 3 days a week
May-17	West Indian Creek	Does not like the habitat rehabilitation project
May-20	East Beaver Creek	Fishes this stream because it stays cool in warm weather and clear after a rain
May-26	Pine Creek	Said he caught a tiger trout on Long Creek
May-31	West Indian Creek	Fished East Indian Creek earlier in the day and caught 8 brook trout
June-2	Camp Creek	Angler wanted to see clerks state ID.

Appendix 17 (continued).

Date	Stream	Comment
June-3	South Fork Root River	Fishing here because of clear water
June-8	M. Br. Whitewater River	Anglers would like to see website updated more often. The love to see what Vaughn posts.
June-9	South Fork Root River	Here because he heard there was a hatch of mayflies
June-16	Hay Creek	First time fly fishing
June-22	M. Br. Whitewater River	Angler said it just wasn't worth the time because the horrible water quality. Angler left.
June-28	West Indian Creek	Loves the work DNR is doing
June-28	Trout Run (Bucksnort)	Says trout look really healthy
June-30	M. Br. Whitewater River	Angler didn't stay and fish. Went to a stream where he could keep fish (fly angler)
July-7	Gribben Creek	Heard from TU to go here
July-10	Hay Creek	Fishes Beaver Creek often
July-16	Forestville Creek	"Trico hatch?"
July-19	M. Br. Whitewater River	Does not like regulation that you can't keep fish. Said he prefers to fish Iowa streams
July-19	M. Br. Whitewater River	First time fishing (Lure)
July-20	Forestville Creek	"How long have they had slot?" (since 2005)
July-23	Trout Run (Bucksnort)	Anglers first time in southeast Minnesota for fly angling
Aug-1	M. Br. Whitewater River	Angler concerned about holes from cribs at Pine Creek. Said he stepped in one and almost broke his leg.
Aug-3	Hay Creek	First time fly fishing
Aug-3	South Fork Root River	Wants DNR to keep up with habitat projects and to better enforce farming right up to the stream.
Aug-9	M. Br. Whitewater River	Fishes Wisconsin trout streams often
Aug-17	Mill Creek	Anglers want to see less regulations on streams…more bait streams
Aug-22	Wisel Creek	Seems as though the trout are growing up
Aug-24	M. Br. Whitewater River	First time fishing for trout (63 years old)
Aug-24	M. Br. Whitewater River	He said he would like to thank the DNR for doing such good work.
Sept-1	South Fork Root River	The reason angler is here…catch-and-release is not heavily fished
Sept-15	Trout Run (Lohman's)	Angler caught a bluegill at Lohman's yesterday