Ohio Department of Natural Resources, Division of Wildlife

PROJECT FINAL REPORT
Lake Erie Steelhead Tributary Creel Survey – FFDR08

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Project Summary: We completed two consecutive years of creel surveys for the steelhead fishery on Ohio's Lake Erie tributaries and access points. Seventeen different streams and 89 locations were surveyed by two creel survey clerks during the period of late September, 2008, to early May, 2009 and again from late September 2009 to early May 2010. A total of 2,897 interviews of 3,838 anglers were completed during the first survey period, and 1,539 interviews of 1,873 anglers were completed in the second survey period. Nearly all anglers interviewed (>97%) were seeking steelhead. An estimated total of 361,423 angler hours were expended during the 2008-2009 survey period and 283,107 angler hours were expended in the 2009-10 survey period. The Grand River had the most angler effort (117,740 hours in 2008-09 and 97,095 hours in 2009-10), while no angler effort was observed on Porter and Cahoon creeks. Steelhead mean catch rates during the time period were 0.387 fish per hour in 2008-09 and 0.354 fish per hour in 2009-10. An estimated 139,769 steelhead were captured in the study areas during the 2008-09 survey period, of which 124,286 (89%) were released. An estimated 100,145 steelhead were captured in the study areas during the 2009-10 survey period, of which 91% were released. Average size of the 417 observed steelhead during the 2008-09 surveys was 625 mm. Average size of the 107 observed steelhead during the 2009-10 surveys was 633 mm. About 7% of steelhead observed by creel clerks in the 2008-09 surveys and 10% in the 2009-2010 surveys exhibited new or old sea lamprey wounds. Demographic information collected during the creel surveys found that steelhead anglers came from 59 of Ohio's 88 counties and from 19 states, the province of Ontario, and Scotland to fish for steelhead in Ohio waters. Gear preferences for steelhead angling method were predominantly spinning (61%), followed by fly fishing (34%), and center pinning (4%). The majority of anglers (51%) stated that it was not important for them to keep the steelhead they caught; 24% stated it was only slightly important. Angler history, trip length, trip frequency, and trip-related expenditures were also calculated. Anglers made an average (median) of 20 trips to fish for steelhead in Ohio (mean=31 trips), and spent a mean of $29 (median value of $10) per angler trip. Nearly all of the anglers recorded by sex in the survey were male, and the most frequent age for anglers (years summarized by decade) was the 40s. A total of 1,512 steelhead anglers were signed up for a more in-depth survey of steelhead anglers through The Ohio State University School of Natural Resources. We presented creel survey results and analyses at the annual American Fisheries Society meeting in September 2010, and we reported project and survey results to the Lake Erie Committee's Coldwater Task Group and many stakeholder groups (fishing clubs). This project was completed in multiple lakeshore counties in Ohio, and Ohio's Lake Erie sport fish species and fisheries benefited from this project.

Need: The Ohio Division of Wildlife has been stocking lake-run rainbow trout (*Oncorhynchus mykiss*), hereafter referred to as steelhead, into Ohio's central basin Lake Erie tributaries annually since the late 1960s. The program has been designed to stock small fish (fingerlings historically, and yearlings for the last several decades) prior to or at smolting in rivers. This way the steelhead imprint, run out into Lake Erie where they grow, and then return to stocking rivers or adjacent locations and provide fisheries. These put-grow-and-take programs using steelhead or salmonids have become quite common in the Great Lakes. Ohio's program currently stands at a requested annual stocking of 400,000 yearling steelhead: 55,000 in the Vermilion River, 75,000 in Conneaut Creek, and 90,000 each in the Rocky, Chagrin, and Grand rivers.

The Ohio Division of Wildlife has evaluated this steelhead program over time to insure that costs per returning fish are minimized and so that angler catches and satisfaction are maximized. Previous studies by Ohio Division of Wildlife personnel found that yearlings (12-16 month fish at 150-225 mm) produced superior returns to anglers than fingerlings (less than 10 months and 50-125mm; Kayle and Hillman 1991 and Kayle 1996), and that Little Manistee (Michigan) wild strain steelhead produced better returns and larger fish than London (hatchery) domestic strain steelhead (Kayle 1996). Other work evaluated Ohio locations of steelhead natural reproduction (Kayle and Knight 2005) and diets and populations dynamics of Lake Erie steelhead (Clapsadl et al. 2006 and Kayle 2007). In some of these earlier studies, localized creel surveys were employed to evaluate fisheries trends. Only LaConte (1984) completed a comprehensive study of Ohio salmonid streams from fall through spring. Recent Lake Erie steelhead creel surveys completed in Pennsylvania (Murray and Shields 2004) and New York (Markham 2006) documented tremendous expansion of the steelhead fishery over the last few decades. Anecdotal observations in Ohio streams reflected those trends, but an updated comprehensive creel survey of steelhead fishing at Ohio access locations was missing; it was necessary to quantify how popular this fishery had become, measure angler preferences, and also gauge the value of this burgeoning fishery to the region's economy. These surveys would allow us to complete a region-wide summary of the popularity and economic impact of Lake Erie's notorious "Steelhead Alley."

Objectives: There were three main objective to this project: (1) to complete two field seasons of creel surveys on Ohio's Lake Erie tributaries that support steelhead fisheries; (2) to gather sport fishing catch, effort, and fishery information; and (3) to gather biological, sociological and demographic data from the steelhead fishery.

Approach: Ohio's creel survey of steelhead fishing access points and locations was designed as a stratified bus-route type roving-roving, progressive count, checkpoint survey (Pollock et al. 1994). Two creel survey clerks were hired to run routes in two different areas, and they would make stops at access point locations where steelhead anglers were known to fish, based on past surveys and anecdotal information. A total of 17 streams and 89 locations were surveyed (Table 1; Figure 1). Creel survey clerks covered one segment of an area during a work day. Work weeks consisted of four 8-hour days; two random days during the weekdays and both weekend days. Surveys were randomized to include a balance of weekdays but all weekend days, since previous surveys showed that weekend days were more popular and had consistently higher fishing pressure. We balanced the monthly survey design to include at least one sample day in each weekday and weekend day for each segment. Starting points for segments were rotated to either end of the segment routes within a stream to minimize bias. During longer-daylight days, early and late in the survey calendar, days were split into AM and PM shifts. Anglers were

counted upon clerk arrival at each location at arrival, and were immediately interviewed to accommodate widely-spaced survey routes and a daily sampling design, as opposed to conducting instantaneous counts over entire stream segments followed by interviews over a set time period. This method was performed during the previous comprehensive Ohio survey by LaConte (1984), and in subsequent Ohio steelhead creel surveys (Kayle 1996) to date, so any biases could be assumed to be similar in origin and type. Since so few anglers were identified as boat anglers, we lumped them in with wading and shore anglers and completed analyses as one angler type. Only anglers who had been fishing for 30 minutes or longer were interviewed to obtain fisheries data.

Angler count data provided a mean number of anglers at each location by weekday/ weekend and month. These numbers were expanded by the total number of fishable hours per weekday/weekend in each month, defined as daylight hours from one-half hour before sunrise to one-half hour after sunset (Table 2). Angler counts were performed daily, and surveys began on September 27, 2008, and ran until May 10, 2009, then resumed for the second season on approximately the same dates. For several weeks during the winter, cold icy conditions led to the rivers being frozen over. Surveys were suspended during much of this period. Personnel issues with a creel survey clerk also resulted in some missing survey days in some streams for the period of December 2008-January 2009 and April-May 2010. Creel survey clerks' schedules were restricted by a 1000-hour maximum period that they could work during their temporary employment.

Estimates of catch (harvest, released steelhead) were calculated for each location and then summed for each stream based on catch (harvest and release) rates in fish per hour from both complete and incomplete trips for each location (Pollock et al. 1994; and as was performed in LaConte 1984 and Kayle 1996) and weighted by hours expended in those locations for month and weekday/weekend strata (Table 2). Catch rates were also summarized by complete and incomplete trip type for comparison purposes. Steelhead harvested or observed in the process of being captured were measured to the nearest mm total length (TL) and were observed for sea lamprey wounds and fin clips.

Steelhead anglers were asked a set of demographic questions including their zip code, angler sex and age, and a set of socioeconomic questions that related to trip behavior and spending habits for this fishery. Steelhead anglers were also asked to provide their names and addresses for a follow-up study that was directed toward steelhead angler attitudes, behaviors, and opinions, formulated between Ohio Division of Wildlife and researchers from the Ohio State University's School of Natural Resources (Slagel et al. 2010). The OSU study is a separate project, FADR59, and results will not be presented in this project's report. The final report (Slagel et al. 2010) is available through a web link on the ODW steelhead fishing web page.

Findings: A total of 2,897 interviews were made by creel clerks during the 2008-09 survey resulting in obtaining information from 3,838 anglers. Nearly all anglers contacted were fishing for steelhead; 99.7% or 3,827 anglers. Remaining anglers were fishing for yellow perch (7), channel catfish (3), and carp (1). The greatest number of steelhead anglers contacted was on Grand River (1,184), followed by Conneaut Creek (760), Rocky River (505), Chagrin River (416), Ashtabula River (330), and Vermilion River (256; Table 3a). Conversely, no anglers were counted or contacted on Porter and Cahoon Creeks' access points (Table 3a). Due to variability in stream ice cover, inclement weather, and creel clerk personnel issues in Area 1 (Vermilion to Chagrin), the number of days sampled in each stream during the 2008-09 survey period varied (Table 3a) from a low of 41 days (Avon CEI) to as many as 56 days (Grand River).

In the second year of the creel surveys, we visited the same seventeen streams and 88 locations by two creel survey clerks during the period from late September 2009 to early May 2010 (Wakeman Dam site on the Vermilion River was dropped for logistical reasons and no recorded fishing pressure the previous season). Due to variability in stream ice cover, inclement weather, and river flows the number of days sampled in each stream during the 2009-10 survey period varied (Table 3b) from a low of 16 days (Cuyahoga River) to as many as 80 days (Grand River). The high number of survey days spent on Grand River was to evaluate ice cover and changing fishing conditions. A total of 1,873 angler interviews were completed during the survey period (Table 3b). Nearly all anglers interviewed (97.9%) were seeking steelhead.

Angler fishing effort for steelhead, based on angler counts and expanded for all possible fishing hours, reflected the results observed from the number of interviews. An estimated total of 361,423 angler hours were spent at the survey locations in pursuit of steelhead from mid-September, 2008, to early May, 2009. The greatest effort was seen on Grand River (117,740 angler hours), followed by Conneaut Creek and Rocky, Chagrin, Ashtabula and Vermilion rivers, respectively (Table 4a). An estimated 283,107 angler hours were expended during the 2009-10 survey period; down from the estimated 361,423 angler hours expended during the previous September-May survey period over all survey locations (Table 4b). The Grand River had the most angler effort (an estimated 97,095 hours) during the 2009-10 surveys; while no angler effort was observed on Indian, Porter, and Cahoon creeks. Steelhead effort was greatest on Grand River for nearly every month in the survey, with the exceptions of more effort on Chagrin River in December 2008 and on Rocky River in January-March 2010 (Tables 4a and 4b).

Based on expanded hours of angler effort for steelhead by location, and observed catches in the fishery, we were able to determine anglers' steelhead catch, harvest and release rates and totals (Tables 5a and 5b). We also maintained raw catch rates based on observations for comparisons with expanded values, but mean values were not significantly different. Expanded catch rate values had slight changes from the raw catch rate values observed, as expected, due to monthly expansion factors by location and month and changes in angler effort.

An estimated total of 139,769 steelhead were captured during the 2008-09 survey period. Most of these fish, an estimated 124,286 steelhead, were released by anglers (89%); none of these estimates included recently-stocked, sub-legal (<12-inch) steelhead. Harvest during this survey period was estimated at 15,481 steelhead. Steelhead angler release rates varied by stream: the overall release rate for all streams was 89%, but varied from relatively low release rates observed at Euclid Creek (37%) and Avon CEI (60%), to high release rates at Beaver Creek (97%), Rocky River (94%), Conneaut Creek (90%), and Vermilion River (90%).

Steelhead catch rate over all streams and 2008-09 survey dates was 0.387 fish per angler hour, with a steelhead harvest rate of 0.043 fish per hour and a steelhead catch and release rate of legal-sized fish at 0.344 fish per hour (Table 5a). Catch rates on small streams with minimal steelhead angler effort (<1000 hours) was highly variable ranging from 0 fish per hour at French, Indian and Wheeler creeks to 1.156 fish per hour at Beaver Creek. In our major tributary fisheries where we estimated more than 10,000 steelhead angler hours, seasonal steelhead catch rates were consistently in the 0.3-0.5 fish per hour range (Table 5a) for 2008-09. An estimated 100,145 steelhead were captured in the 2009-10 survey period and area (Table 5b); down from 139,769 steelhead captured in the study areas during the 2008-09 survey period. Overall steelhead catch rate during the 2009-10 survey period was 0.354 fish per hour (Table 5b); down from the previous year's estimate of 0.387 fish per hour. The harvested steelhead catch rate was 0.031 fish per hour and the legal-released steelhead catch rate was 0.321 fish per hour (Table

5b). In the latest survey period (Table 5b), a high percentage of steelhead (90.9%) were released; a slightly higher rate than the previous year (89%).

Monthly steelhead catch rates varied widely from 0.0 to 1.9 fish per hour over all areas during the 2008-09 survey (Table 6a), with the lowest monthly average occurring in January (0.226 fish per hour) and the highest in May (0.775). Monthly catch rates also varied widely (range 0.0-2.5 fish per hour) during the 2009-10 survey (Table 6b) and were lower in the fall and winter than the previous survey year. Overall, monthly catch rates were more variable in 2009-10 compared to 2008-09.

Lengths of steelhead observed in the creel surveys came from fish that were harvested and possessed by anglers during the creel surveys, as well as fish in the process of being captured during the interview process, and then subsequently released by the anglers or clerks after measurement. A total of 417 steelhead were measured by clerks during the 2008-09 survey period. The mean total length (TL) of steelhead ($\pm$ standard deviation) was 625$\pm$69 mm for 2008-09 and 633$\pm$79 mm for 2009-10 (Table 7; Figure 2). There were no significant differences in TL across streams during the 2008-09 survey period, with the exception of Euclid Creek and Avon CEI, but those sites also exhibited small sample sizes (Figure 3a). There were no significant differences in mean length at harvest by location in the 2009-10 surveys, owing in some locations to small sample sizes (Figure 3b). The TL distribution of steelhead observed in the 2008-09 survey was 344-826 mm; nine of the 417 steelhead observed (2.2%) were 30 inches (760 mm) or larger (Figure 2a). The majority of steelhead observed were in the 550-725 mm TL range (Figure 2a). Similar results were observed in the 2009-10 surveys: most of the fish were in the 575-725 mm TL range, and only 2 steelhead of the 107 observed (1.9%) were 760 mm or larger (Figure 2b).

Creel clerks were also trained to observe steelhead for anomalies such as fin clips and sea lamprey wounds. A total of 37 fin-clipped steelhead were reported by creel clerks during the 2008-09 surveys: 18 were right pectoral (RP) clipped, 14 were left pectoral (LP) clipped, 3 were left ventral (LV) clipped and 2 were right ventral (RV) clipped. According to the Lake Erie Committee's latest Coldwater Task Group Report (2009), the RP steelhead can be attributed to steelhead stocked in Michigan waters of Lake Erie, LP steelhead were stocked by Ontario, and steelhead with either ventral clip may have origins in New York waters of Lake Erie. The incidence of sea lamprey wounds (new and old combined) on steelhead was 7% in 2008-09 and 10% in 2009-10. Of the 30 steelhead with wounds in 2008-09, 13 were recently attacked and 17 bore wounds in a healing or healed condition. Wound status was not assessed in 2009-10.

Besides collecting steelhead fishery information, creel clerks collected demographic and opinion survey information from steelhead anglers. Every angler interviewed by creel clerks was asked for their home zip code. In 2008-09 surveys, a total of 3,382 angler responses were obtained; 3,396 (89%) of the anglers were found to reside in Ohio. Fifty-nine of Ohio's 88 counties were represented by anglers in the survey. Cuyahoga County had the greatest number of anglers (21%) in the survey, followed by Lake, Ashtabula, Trumbull, and Summit counties (Table 8a). There were 436 out-of-state steelhead anglers interviewed in the surveys, representing 19 different states and the Canadian province of Ontario. The most frequent out-of-state visitors to Ohio's steelhead fishery were from Pennsylvania, West Virginia, and Michigan (Table 8a); most were observed on Conneaut Creek (205 anglers) or Grand River (128 anglers).

Demographic information collected during the 2009-10 creel surveys found that steelhead anglers came from 42 of Ohio's 88 counties and from 18 states, the Canadian province of Ontario, and Scotland to fish for steelhead in Ohio waters (Table 8b). Again, most of the fishing

pressure came from the three counties along the central basin lake shore from Cleveland east (Cuyahoga, Lake, and Ashtabula).

Most anglers surveyed in the 2008-09 period were males (98%), and when angler age was categorized by decade, there was a greater percentage of anglers in their 40s (27%), followed by 50s (21%) and 30s (18%; Table 9a). Nearly all (98%) of the anglers, recorded by sex in the 2009-2010 survey period, were male, and most anglers (29%) were in the 40-49 age-group, followed by this time by the 30s (23%) and the 50s (18%; Table 9b). The predominant age by decade of female anglers was the 40s in the 2008-09 survey (Table 9a) and the 30s in the 2009-10 surveys (Table 9b).

Steelhead anglers were asked about their preferred method to catch steelhead in both years of the surveys, and similar results in responses were obtained. In the 2008-09 surveys, over all locations and dates, 61% preferred spin-fishing gear, while 34% employed fly-fishing gear, and 4% preferred center-pin fishing gear (Table 10a). Gear preferences for steelhead angling method during the 2009-10 creel surveys were predominantly spinning (63%), followed by fly fishing (33%) and center-pinning (4%); nearly identical to the previous year (Table 10b).

In a 2008-09 survey question posed about travel related to steelhead fishing, 62% traveled specifically to the area for steelhead fishing, while 38% traveled to the location to fish for steelhead, but lived close-by (Table 11). According to a trip-related question posed by creel clerks in the 2008-09 survey, a large majority (83%) of steelhead anglers were day-trippers (Table 12). Two-day (8.3%) and three-day steelhead fishing trips (6.5%) were occasionally recorded; while the longest steelhead trip observed was nine days. Time spent steelhead fishing per daily outing ranged from 1 to 12 hours per day (Table 13), with an overall mean of 5.5 angler hours per daily trip. The most common replies for the amount of time spent steelhead fishing in a day was 4 hours, followed by 5 and 3 hours, respectively. Average angler hours spent steelhead fishing analyzed by stream ranged from a low of 2.0 angler hours per day on Wheeler Creek to a high of 6.9 hours per day on Conneaut Creek (Table 13).

During 2008-09 surveys, we asked first-time respondents a question during the survey related to trip expenditures for steelhead fishing. The question was designed to include daily fishing equipment and travel costs, fuel, hotel, and meal expenses. Unfortunately, the way the creel clerks posed and explained the question to steelhead anglers resulted in two different types of responses. The initial Area 1 creel clerk (Vermilion River to Chagrin River) and the Area 2 creel clerk (Grand River to Conneaut Creek) asked and explained the question to steelhead anglers and recorded the daily trip expenditures. The second (replacement) Area 1 creel clerk asked the trip expense question in a different manner during the February through May survey period, and obtained replies based on the amount of money spent *annually* fishing for steelhead in Ohio waters. This led to two separate analyses for Area 1 steelhead anglers (early or late survey period in 2008-09) and one for Area 2 steelhead anglers.

Subsequent results were very different based on whether the angler interview occurred in a stream location in the early Area 1 surveys (Figure 4a), Area 2 surveys (Figure 4b), or later in Area 1 surveys (Figure 4c). For September-January Area 1 responses, based on daily expenditures for steelhead fishing in Ohio waters, the mean daily expenditure per angler was \$12, with a median of \$10 per trip (Figure 4a). The 25th percentile of daily expenditures was \$5, the 75th percentile was \$15, and the range was from \$3 to \$300 per day. For Area 2 responses, based on daily expenditures to steelhead fish in Ohio waters, across the September-May survey period, the mean daily expenditure per angler was \$65. The median was \$20 per trip, reflecting a skewed distribution of angler expenditures (Figure 4b). The 25th percentile was \$10, the 75th percentile was \$35, and the range was from \$1 to \$1500 per day.

For February-May 2009 Area 1 responses, based on annual expenditures for steelhead fishing in Ohio waters, the mean expenditure per angler was $538 per year, with a median of $300 per year, showing how far out the distribution tails to the expensive end of the range (Figure 4c). The 25th percentile of annual expenditures was $100, the 75th percentile was $500, and the range was from $5 to $18,000 per year.

The last demographic question posed to steelhead anglers in 2008-09 surveys determined how important it was for anglers to keep steelhead that they captured. The majority (51%) of anglers stated that keeping steelhead caught was not important to them (Table 14). That response was followed by the response of slightly important (24%). Only 14% stated it was very important to keep the steelhead they captured. A frequent anecdotal response from anglers was that they keep only a few fish per year primarily to obtain eggs to use as bait while steelhead fishing.

In the 2009-10 surveys, we posed more specific questions to steelhead anglers about their steelhead fishing experience, trip frequency, and spending habits. This was done to complement the surveys completed by Slagel et al. (2010) with those steelhead anglers that signed up during the first year to complete the additional mail-in survey. Steelhead angler responses to the experience question regarding the number of years the angler had fished for steelhead in Ohio ranged from zero to well over 50 years; however, we collapsed the last category to 40 or more years in Table 15 for ease of reporting. The mean number of years fished in Ohio for steelhead was 11.1 years (Table 15), with a median of 10 years, and a standard deviation of 10.8 years. The 25th percentile in angler responses was 3 years, while the 75th percentile of responses was 15 years. We saw similar results across the various streams, and we observed that almost 10% of the anglers interviewed had been fishing for steelhead for 1 year or less. The most common replies were 10, 20, 5, and 2 years (Table 15). We could not detect if there were any differences in angler experience between or across streams due to the highly variable nature of samples sizes between streams. It appeared that those anglers with any substantial steelhead fishing experience were highly mobile, and therefore likely to be interviewed on any stream depending on river condition.

When asked about the frequency of trips to fish for steelhead in Ohio last year, anglers most common reply was 50 (13.2%), followed by 0 (11.5%) and 20 (9.8%; Table 16). The mean number of trips made by anglers responding to the question was 30.7, with a standard deviation of 36.3 trips. The median response was 20 trips (Table 16), showing how skewed the tail of the data distribution was for the greater number of trips. The 25th percentile in angler responses was 5 trips, while the 75th percentile was 50 trips. A couple of the beach locations at Avon CEI and Euclid had the highest mean number of recorded angler trips, but their low sample size and high variability meant the differences were not different, or were they important in describing steelhead angler trends. Moreover, it likely meant that there were a few avid anglers to these locations, and these locations were not as affected by variable flow rates or river conditions.

Anglers also planned to fish the same or more for steelhead (Table 17). The positive mean value observed in all stream locations meant more planned effort by anglers at those sites, showing a fishery that is still in an expansion phase. Areas that anglers recorded the greatest percentage of negative responses (plan to fish less) were those that have the heaviest fishing pressure (Ashtabula, Conneaut, Grand) or those where public fishing and parking access is an issue (Arcola, Ashtabula, Cowles and Geneva).

In the 2009-10 surveys, we again asked a question to steelhead anglers to quantify their daily trip expenditures. From the 1,605 responses we had a mean response of $29.07, and the median response was $10 (Table 18). The smaller tributaries and nearshore locations generally

had mean daily expenditures less than $20, while the five stocked steelhead streams and the Ashtabula River had mean daily angler expenditures greater than $20 (Table 18). Again, the distribution of responses to the daily expenditure question was skewed with a few responses over a $1000 per day (Figure 5). When we factored in the type of angler by fishing gear (Spinning, Fly or Center Pin), we observed that the fly anglers had a higher mean and median daily expenditure than the spinning gear or center pinning anglers (Figure 5). These analyses were hampered by the smaller number of center pin anglers in the survey, as we would expect them, as fairly avid anglers, to behave and respond more like fly anglers.

Management Implications: Clearly, the Ohio steelhead fishery and steelhead program has improved and expanded since the 1970s and 1980s. All facets (catch, effort, catch rates, fish size) of the Ohio steelhead fishery have increased over the past decades, not only in stocked tributaries but in unstocked streams such as the Ashtabula River and Arcola Creek. Catches, now estimated at about 100,000-140,000 annually, are well over 10-fold the previous Ohio creel survey values. Catch-and-release behavior has predominated in recent years, with release rates of at least 90% far exceeding the rates of under 30% in earlier years. Angler has increased three-fold from just over 100,000 on all salmonids (LaConte 1984) to well over 300,000 angler hours in recent years. Average catch rates for steelhead captured per hour, averaged over all sites for the entire season, have soared from around 0.10 fish per hour for all salmonids in the 1980s (LaConte 1984) to 0.35 or higher just for steelhead in recent years. Average total length of steelhead harvested has increased from 540 mm with London strain steelhead (LaConte 1984 and Kayle 1996) to the 625-633 mm for (assumed to be primarily Little Manistee strain) steelhead seen in these recent creel surveys.

Ohio's steelhead fisheries are probably on par with fisheries of other Lake Erie states, considering differences in stocking rates and fishery assessments. Pennsylvania surveys in 2003-04 (Murray and Shields 2004) estimated higher overall steelhead effort (847,000 hours) and catches (373,000) than in Ohio, likely reflecting their higher (~2-fold) stocking rates. Angler effort in Ohio's more popular streams exceeded all Pennsylvania streams except Elk and Walnut creeks. Ohio's angler effort was also on par or higher than New York's Lake Erie steelhead streams (Markham 2006). Ohio angler release rates (89-91%) were higher than Pennsylvania anglers (78%) and about the same as New York anglers (86-93%). Ohio's monthly steelhead catch rates of 0.1 to 1.0 fish per hour on major tributaries compare favorably to ranges in catch rates of Pennsylvania and New York steelhead fisheries. Neither Pennsylvania's or New York's previous surveys reported on average steelhead size at harvest or sea lamprey wounding rates, but we are hopeful that these metrics become a standard part of tributary creel surveys in the near future to aid in future lakewide assessments.

The results from this study and that of Slagel et al. (2010) show the high avidity level and habits of Ohio's steelhead anglers. It appears from our results that there is a group of highly avid steelhead anglers that make frequent trips to many different streams and do spend a substantial amount of money to support their steelhead fishing habits. On the other hand, there also appears to be a core group of anglers that make many fishing trips for steelhead to their local streams, and do not spend as much money. Although many anglers have fished for steelhead since Ohio's Manistee strain steelhead program expanded in the late 1990s and early 2000s, the presence of anglers with few fishing seasons suggests that the Ohio steelhead fishery is still expanding. Satisfying the desires of both novice and avid anglers should remain a focus of management decisions in the steelhead program. Sustaining the catches and sizes of steelhead in recent years should satisfy both angler types, based on survey information.

Steelhead fishing pressure has expanded tremendously since the 1984 surveys. Not only has it eclipsed old steelhead records, but at around 300,000 hours per year the annual steelhead angler effort is now third most popular behind that of Lake Erie open water walleye and yellow perch (2.0 and 1.5 million angler hours, respectively). Steelhead fishing effort has surpassed the summer shore fishery on Lake Erie and spring riverine fisheries on the Maumee and Sandusky rivers (ODW 2011). Continued or expanded levels of angler effort (Slagel et al. 2010) and program popularity will continue to stress existing public access points. Anecdotally, we have also noted a considerable increase in the number of guided fishing trips for steelhead in Ohio streams. These guides, unlike Lake Erie open water charter guides, are not currently licensed in Ohio. If the river guides continue to expand their presence in Ohio, a licensing and information/communication program should be explored for the benefit of all parties.

The steelhead fishery provides a great economic benefit to Ohio's Lake Erie region along the central basin of Lake Erie. With stores and businesses promoting the steelhead fishery, the economic gain to the region could be well into the millions. Our survey showed that steelhead anglers made an average of 30 trips per year to fish for steelhead and spent an average of $29 per day. If we had just 5,000 unique steelhead anglers in Ohio streams, that effort would generate $4.35 million dollars per year. Even at the very conservative median values for 20 trips at $10 per day, over $1 million of economic value would be generated in a year. From the Slagel et al. (2010) survey of general anglers (N=225), 28.8% of respondents stated that they fished "seldom" to "always" for steelhead in the last 5 years, and 19.5% stated "sometimes," "often" or "always." Extrapolating an estimate of 20% to all fishing license sales averaged over the similar survey period (approximately 880,000 in 2007-2010) would amount to over 170,000 anglers that fish at least occasionally in Ohio for steelhead. Expanding that number of steelhead anglers by median (conservative) or mean (liberal) trips and costs per trip amounts to a rather coarse economic estimates of $35 million to $153 million generated by anglers in Ohio's steelhead program. More work needs to be done with more precise economic models and estimators, but certainly the steelhead program exerts a healthy benefit to the Ohio economy and anglers in the region seasonally.

Angler satisfaction and steelhead program success will hinge on continued successful stocking and control of predators. Improvements made to the Castalia State Fish hatchery should at least sustain if not improve production quality and quantity. Continued and new interagency steelhead research (such as tagging and fin clipping) and communications (expanded interagency databases) can further evaluate stocking procedures, stock relative abundance, age and growth, and their contributions to the fishery. Future tagging work and creel surveys in all Lake Erie steelhead streams are needed to determine relative stocking origin, strain performance, and contribution to the steelhead fishery. These types of research activities, with follow up assessments, needs to be completed across Lake Erie, but must be tempered by the need to sacrifice a large number of fish to retrieve tags or gather information, particularly since anglers largely practice catch and release. Continued work on insuring production and fishery access will maintain and improve opportunities for Lake Erie steelhead anglers. Sea lamprey and cormorant control needs to be maintained or expanded to insure smolt and adult survival rates.

Cost Analysis: In FY 2010, we budgeted 281 man days and expended 242.3 (under by 14%). For FY 2010, non-personnel maintenance costs were budgeted at $11,800.00, and we spent $341.28 (under by 97%). This large discrepancy occurred when a State of Ohio administrative policy change occurred: we assigned state vehicles to our creel clerks to use in their survey routes instead of using their own vehicles and receiving mileage reimbursement. Nearly all of

the money budgeted in this project was to be used for creel clerk mileage. No personnel monies or equipment monies were budgeted or spent in this project during FY 2010 or FY 2011. In FY 2011, we budgeted 21 man days and expended 19.26 (under by 8%). We had planned to spend up to $1200 in maintenance monies in FY 2011, primarily for travel and publication costs, but none were spent as publication has been pushed in to FY 2012 and possibly joined with the steelhead human dimensions survey project. Travel costs for presenting project findings were borne in the Fairport Basic Service project.

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Table 1. Areas, segments and locations for Ohio steelhead creel surveys September 2008 through May 2010.

Location Number	AREA 1 - SEGMENT A
	Vermilion River
101	South St. municipal boat ramp
102	Vermilion Rd. pull-off N of St Rt 2
103	Vermilion Rd. pull-off S of St Rt 2
104	Bacon Woods metro park
105	Mill Hollow Park
106	Gore Orphanage Rd MetroPark
107	Dean Rd. bridge
108	Schoepfle Gardens / Rt 113 bridge
144	Wakeman Dam *(dropped for 2009-10)*
	misc west tribs
109	Beaver Creek Park - Amherst
110	French Creek Reservation
111	Avon Lake CEI / Miller Rd. ramp
112	Porter & Cahoon Creeks, Huntington Park
	Rocky River
113	Bradstreet Landing
114	Emerald Necklace marina
115	1st Riffle & bridge
116	Rock Cliff Springs & Pool
117	Madison Pool
118	Horse Ford
119	Morley Ford
120	(under) Lorain Rd bridge
121	Blue Bank pools
122	Mastic Woods / Little Met Golf Courses
123	Picnic areas N of I-480
124	I-480 & Brookpark overpasses
125	Nature Center and Ford
126	Cedar Point area
127	Lagoon dam

	AREA 1 - SEGMENT B
	Cuyahoga River
128	CVNRA Rockside Rd. / Harvard Rd bridges
128	CVNRA Park - Canal Rd/Tinkers Cr.
129	Rt 82 Dam - Brecksville
130	CVNRA Park - Peninsula
	Euclid Creek
131	Wildwood State Park & breakwall
132	Lakeshore Blvd (upstream end)
	Chagrin River
133	Eastlake CEI wall
134	Soccer fields/ Woodland Park
135	Borac's Landing/Lakeshore Blvd
136	Chagrin River Park
137	Gilson Park
138	Todd Field
139	Daniels Park & dam
140	Pleasant Valley Park / Warner Nursery
141	Rogers / River Rds.
142	N,S Chagrin Reservation parks

Location Number	AREA 2 - SEGMENT A
	Grand River
201	Mentor Headlands breakwall
202	St Rt 535 bridge
203	Fairport Harbor short pier
204	Grand River Landing (St Clair)
205	Hemisphere property
206	Uniroyal property / Asphalt Plant
207	(under) Rts. 2 & 20 bridges
208	Painesville City Park
209	Helen Hazen Wyman park
210	Beaty Landing
211	St Rt 84 access
212	Mason's Landing
213	Indian Point Park
214	Hidden Valley Park
215	Riverview Park
216	Hogsback Ridge Park
217	County Line Rd.
218	Harpersfield Dam and Park
	misc east tribs
219	Arcola Creek Park and Beach
220	Wheeler Creek
221	Geneva State Park marina
222	Cowles Creek
223	Indian Creek

	AREA 2 - SEGMENT B
	Ashtabula River
224	Walnut Beach breakwall
225	E 24th St. Bridge
226	Cederquist Park
227	Indian Trails Park
228	State Rd. new covered bridge
229	Hadlock Rd. "ford"
	Conneaut Creek
230	Conneaut breakwall
231	Conneaut marina
232	Woodworth Rd boat ramp / arches
233	Main St bridge / US Rt 20
234	St Rt 7 and RR bridge
235	Mill St bridge
236	Center St @ CLYO park
237	Blue Bell / Parrish Rd. dead end
238	Keefus Rd.
239	Creek Rd covered bridge
240	S Ridge Rd bridge
241	State Rd. covered bridge
242	Wetmore/ Horton Rd bridge
243	Center St bridge & park
244	Middle Rd covered bridge
245	Furnace Rd bridge

Table 2. Method of calculating angler hours, catch rate and catch by survey location.

a) Location angler hours for the ith day of week strata:

$E_i = (\bar{a}_i) * (H_i) * (D_i)$ where:

E_i = estimated number of angler hours
$\bar{a}_i$ = mean number of anglers counted
H_i = number of hours per day
D_i = number of days per month

b) Location catch per angler hour for the kth species:

$F_{ik} = (\Sigma c_{ik}) / (\Sigma e_{ik})$ where:

F_{ik} = catch per angler hour
c_{ik} = observed number of fish in sample interviews
e_{ik} = observed number of angler hours in sample interviews

c) Location catch of the kth species:

$C_{ik} = (E_i) * (F_{ik})$ where:
C_{ik} = estimated catch of species

Table 3a. Number of sample days and number of anglers interviewed during the September 2008-May 2009 steelhead tributary creel surveys.

Stream	N Sample Days	N Locations	N anglers counts	Sum angler counts	N anglers interviewed	N anglers seeking steelhead	% seeking steelhead
Arcola	55	1	55	234	181	181	100.0
Ashtabula	55	6	255	682	330	330	100.0
AvonCEI	41	1	41	29	19	19	100.0
Beaver	43	1	43	6	3	3	100.0
Chagrin	46	11	458	654	416	416	100.0
Conneaut	55	16	719	1,283	760	760	100.0
Cowles	55	1	55	60	55	55	100.0
Cuyahoga	42	4	141	42	27	27	100.0
Euclid	44	2	85	70	44	40	90.9
French	43	1	43	1	0	0	
Geneva	55	1	55	65	44	44	100.0
Grand	56	18	831	2,463	1,184	1,178	99.5
Indian	54	1	54	9	9	9	100.0
Porter & Cahoon	43	1	43	0	0	0	
Rocky	48	14	560	903	506	505	99.8
Vermilion	44	9	348	409	256	256	100.0
Wheeler	55	1	55	18	4	4	100.0
ALL streams		89	3,841	6,928	3,838	3,827	99.7

Table 3b. Number of sample days and number of anglers interviewed during the September 2009-May 2010 steelhead tributary creel surveys.

Stream	N Sample Days	N Locations	N anglers counts	Sum angler counts	N anglers interviewed	N anglers seeking steelhead	% seeking steelhead
Arcola	52	1	52	66	44	43	97.7
Ashtabula	51	6	288	385	153	153	100.0
AvonCEI	32	1	32	10	9	9	100.0
Beaver	31	1	31	5	5	5	100.0
Chagrin	38	10	324	402	229	228	99.6
Conneaut	52	16	771	823	366	366	100.0
Cowles	51	1	51	45	29	27	93.1
Cuyahoga	16	4	48	14	12	12	100.0
Euclid	33	2	66	68	34	34	100.0
French	31	1	31	4	4	4	100.0
Geneva	50	1	50	33	19	19	100.0
Grand	80	18	861	1,415	588	554	94.2
Indian	50	1	50	0	0	0	.
Porter & Cahoon	33	1	33	0	0	0	.
Rocky	45	15	463	502	260	260	100.0
Vermilion	31	8	249	191	121	120	99.2
Wheeler	51	1	51	1	0	0	.
ALL streams		88	3,451	3,964	1,873	1,834	97.9

Table 4a. Monthly and total angler hours for steelhead anglers during the September 2008-May 2009 Ohio steelhead tributary creel surveys.

Stream	Steelhead Angler Hours September+October	November	December	January+February	March	April+May	TOTAL
Arcola	2,500	3,560	2,397	1,333	631	522	10,943
Ashtabula	6,125	3,677	2,653	9,990	7,149	4,147	33,740
AvonCEI	53	131	0	1,926	299	0	2,409
Beaver	0	0	0	476	161	0	637
Chagrin	2,391	2,442	9,833	6,368	9,385	8,632	39,052
Conneaut	18,415	8,943	1,681	12,744	11,216	13,321	66,319
Cowles	1,270	871	333	661	234	100	3,469
Cuyahoga	478	147	0	1,021	674	189	2,508
Euclid	1,629	742	0	1,317	500	161	4,348
French	0	31	0	0	0	0	31
Geneva	2,149	744	229	0	82	0	3,204
Grand	23,077	16,396	3,180	21,703	35,903	17,482	117,740
Indian	360	0	0	0	0	0	360
Port-Cah	0	0	0	0	0	0	0
Rocky	2,826	3,567	2,038	13,653	12,696	17,156	51,936
Vermilion	796	626	114	8,404	8,258	5,783	23,982
Wheeler	40	236	57	209	204	0	746
Total Monthly	62,110	42,112	22,515	79,804	87,391	67,493	361,423

Table 4b. Monthly and total angler hours for steelhead anglers during the September 2009-May 2010 Ohio steelhead tributary creel surveys.

Stream	Steelhead Angler Hours September+October	November	December	January+February	March	April+May	TOTAL
Arcola	1,387	586	312	0	361	1,030	3,675
Ashtabula	6,823	3,634	1,992	665	2,036	6,006	21,155
AvonCEI	0	0	0	452	306	322	1,080
Beaver	0	24	0	0	224	161	410
Chagrin	6,888	4,752	1,872	0	4,703	18,018	36,232
Conneaut	16,273	7,522	1,678	718	5,522	21,396	53,108
Cowles	907	735	198	0	130	0	1,970
Cuyahoga	0	70	0	232	657	965	1,924
Euclid	1,739	902	416	0	358	0	3,415
French	0	0	0	0	208	0	208
Geneva	884	697	0	0	52	0	1,632
Grand	21,157	15,812	6,594	1,410	7,174	44,948	97,095
Indian	0	0	0	0	0	0	0
Porter & Cahoon	0	0	0	0	0	0	0
Rocky	7,260	4,845	5,834	3,724	8,343	14,640	44,645
Vermilion	2,039	1,268	1,477	116	5,031	6,596	16,527
Wheeler	0	31	0	0	0	0	31
Total Monthly	65,358	40,876	20,372	7,317	35,102	114,082	283,107

Table 5a. Steelhead angler hours, numbers of steelhead caught, kept and released, % released (% REL) and corresponding catch rates for steelhead anglers in fish per hour during the September 2008-May 2009 Ohio steelhead tributary creel surveys.

		Estimated Steelhead in Fishery				Steelhead Catch Rates (f/hr)		
Stream	Hours	Catch	Kept	Released	% REL	CatchCUE	KeptCUE	RelCUE
Arcola	10,943	5,074	1,030	4,044	79.7	0.464	0.094	0.370
Ashtabula	33,740	15,555	1,643	13,911	89.4	0.461	0.049	0.412
AvonCEI	2,409	420	170	250	59.6	0.174	0.070	0.104
Beaver	637	736	23	713	96.9	1.156	0.037	1.120
Chagrin	39,052	13,324	1,491	11,833	88.8	0.341	0.038	0.303
Conneaut	66,319	33,002	3,333	29,668	89.9	0.498	0.050	0.447
Cowles	3,469	938	278	660	70.4	0.270	0.080	0.190
Cuyahoga	2,508	725	205	520	71.8	0.289	0.082	0.207
Euclid	4,348	528	333	195	37.0	0.121	0.077	0.045
French	31	0	0	0	0.0	0.000	0.000	0.000
Geneva	3,204	824	195	629	76.4	0.257	0.061	0.196
Grand	117,740	36,671	4,477	32,194	87.8	0.311	0.038	0.273
Indian	360	0	0	0	0.0	0.000	0.000	0.000
Porter/Cahoon	0	0	0	0	0.0	.	.	.
Rocky	51,936	23,142	1,391	21,751	94.0	0.446	0.027	0.419
Vermilion	23,982	8,829	913	7,916	89.7	0.368	0.038	0.330
Wheeler	746	0	0	0	0.0	0.000	0.000	0.000
ALL streams	361,423	139,769	15,481	124,286	88.9	0.387	0.043	0.344

Table 5b. Steelhead angler hours, numbers of steelhead caught, kept and released, % released (% REL) and corresponding catch rates for steelhead anglers in fish per hour during the September 2009-May 2010 Ohio steelhead tributary creel surveys.

		Estimated Steelhead in Fishery				Steelhead Catch Rates (f/hr)		
Stream	Hours	Catch	Kept	Released	% REL	CatchCUE	KeptCUE	RelCUE
Arcola	3,675	345	93	252	73.0%	0.094	0.025	0.068
Ashtabula	21,155	8,107	375	7,732	95.4%	0.383	0.018	0.365
AvonCEI	1,080	788	122	666	84.5%	0.730	0.113	0.617
Beaver	410	241	201	41	16.8%	0.589	0.490	0.099
Chagrin	36,232	10,076	1,476	8,600	85.4%	0.278	0.041	0.237
Conneaut	53,108	24,226	1,745	22,097	91.2%	0.456	0.033	0.416
Cowles	1,970	138	105	33	24.1%	0.070	0.053	0.017
Cuyahoga	1,924	940	14	927	98.5%	0.489	0.007	0.482
Euclid	3,415	208	208	0	0.0%	0.061	0.061	0.000
French	208	96	0	96	100.0%	0.461	0.000	0.461
Geneva	1,632	164	0	164	100.0%	0.101	0.000	0.101
Grand	97,095	30,843	2,525	28,318	91.8%	0.318	0.026	0.292
Indian	0	0	0	0	.	.	.	.
Porter/Cahoon	0	0	0	0	.	.	.	.
Rocky	44,645	18,017	1,560	16,458	91.3%	0.404	0.035	0.369
Vermilion	16,527	5,955	354	5,601	94.1%	0.360	0.021	0.339
Wheeler	31	0	0	0	.	0.000	0.000	0.000
ALL streams	283,107	100,145	8,778	90,984	90.9%	0.354	0.031	0.321

Table 6a. Monthly steelhead catch rates for steelhead anglers in fish per hour during the September 2008-May 2009 Ohio steelhead tributary creel surveys.

Stream	October	November	December	January	February	March	April	May
Arcola	0.232	0.578	0.700	0.000	0.605	0.196	0.000	.
Ashtabula	0.243	0.486	0.495	0.145	0.995	0.956	0.163	.
AvonCEI	0.000	0.000	.	.	0.115	0.667	.	.
Beaver	.	.	.	.	1.500	0.143	.	.
Chagrin	0.204	0.333	0.351	.	0.090	0.309	0.454	0.746
Conneaut	0.388	0.623	1.131	0.153	0.000	0.525	0.706	1.075
Cowles	0.031	0.167	1.820	.	0.113	0.310	0.000	.
Cuyahoga	0.000	0.333	.	.	0.435	0.344	0.000	.
Euclid	0.156	0.163	0.000	.	0.000	0.256	0.160	0.000
French	.	0.000	.	.	.	.	.	.
Geneva	0.356	0.079	0.000	.	.	0.000	.	.
Grand	0.224	0.325	0.183	0.338	0.167	0.417	0.309	0.252
Indian	0.000	.	.	.	.	.	.	.
Porter/Cahoon	.	.	.	.	.	.	.	.
Rocky	0.179	0.133	0.098	.	0.271	0.237	0.578	1.896
Vermilion	0.250	0.097	0.667	.	0.410	0.274	0.597	0.000
Wheeler	0.000	0.000	0.000	.	0.000	0.000	.	.
ALL streams	0.279	0.382	0.509	0.226	0.276	0.373	0.485	0.775

Table 6b. Monthly steelhead catch rates for steelhead anglers in fish per hour during the September 2009-May 2010 Ohio steelhead tributary creel surveys.

Stream	Sept+Oct	Nov	Dec	Jan+Feb	Mar	Apr+May
Arcola	0.021	0.072	0.161	.	0.142	0.167
Ashtabula	0.128	0.142	0.209	.	2.465	0.213
AvonCEI	.	.	.	0.071	0.546	1.829
Beaver	.	0.000	.	.	0.896	0.252
Chagrin	0.159	0.235	0.202	.	0.510	0.282
Conneaut	0.319	0.112	0.987	0.000	0.384	0.673
Cowles	0.116	0.000	0.116	.	0.079	.
Cuyahoga	.	0.000	.	0.000	0.312	0.762
Euclid	0.020	0.000	0.417	.	0.000	.
French	.	.	.	.	0.461	.
Geneva	0.124	0.079	.	.	0.000	.
Grand	0.138	0.101	0.231	0.000	0.242	0.513
Indian	.	.	.	.	.	.
Porter/Cahoon	.	.	.	.	.	.
Rocky	0.080	0.105	0.349	0.352	0.381	0.711
Vermilion	0.130	0.312	0.189	0.000	0.359	0.487
Wheeler	.	0.000	.	.	.	.
ALL streams	0.146	0.109	0.320	0.239	0.375	0.508

Table 7. Number of observed steelhead, mean total length (mm) and standard deviation of total length (mm) during the Ohio steelhead tributary creel surveys.

	September 2008-May 2009			September 2009-May 2010		
Stream	N observed steelhead	mean length (mm)	std dev length (mm)	N observed steelhead	mean length (mm)	std dev length (mm)
Arcola	38	646.6	62.1	3	495.0	164.8
Ashtabula	51	618.3	58.1	6	673.3	69.5
AvonCEI	3	513.7	35.6	-	.	.
Beaver	1	662.0	.	-	.	.
Chagrin	14	683.4	63.3	16	593.4	66.1
Conneaut	120	628.4	59.3	30	649.1	61.3
Cowles	11	561.5	61.2	6	656.7	60.5
Cuyahoga	3	681.0	52.8	1	738.0	.
Euclid	1	510.0	.	-	.	.
Geneva	10	655.6	39.2	-	.	.
Grand	109	603.1	78.4	28	648.5	74.5
Rocky	34	645.4	61.0	13	614.0	94.1
Vermilion	22	649.2	64.4	4	605.8	46.5
ALL streams	417	624.8	68.9	107	633.0	79.0

Table 8a. Home zip code distribution by state, province and Ohio county from anglers interviewed during the September 2008-May 2009 Ohio steelhead tributary creel surveys.

	Stream															
State	Arcola	Ashtabula	AvonCEI	Beaver	Chagrin	Conneaut	Cowles	Cuyahoga	Euclid	Geneva	Grand	Indian	Rocky	Vermilion	Wheeler	Total
MA											3		1			4
NJ						14					6					20
NY		2				10					5					17
PA		10			3	88				1	30	3	1	1		137
DC						1					1					2
MD		2				1					13		1	3		20
VA					2	1					3					6
WV		5			2	14	13				24		1			59
NC						7					5					12
SC		1														1
TN					1	12					1					14
KY	2				1	5					1					9
IN		2			1	21					9					33
MI		2			4	24		1			24		14	11		80
IL	4					1										5
MT						2										2
OK						1										1
CO						2					3		3			8
WY						1										1
Ontario											2		1	2		5
Out of State total	6	24	-	-	14	205	13	1	-	1	130	3	22	17	-	436

OH County	Arcola	Ashtabula	AvonCEI	Beaver	Chagrin	Conneaut	Cowles	Cuyahoga	Euclid	Geneva	Grand	Indian	Rocky	Vermilion	Wheeler	Total
Adams		1				1					1					3
Ashland														1		1
Ashtabula	14	137			5	137	16	1		23	113	3	3	2	2	456
Athens						2					2			1		5
Belmont						4					2					6
Butler	1	1									1			1		4
Carroll											2					2
Clark		2														2
Clermont						1					4			1		6
Columbiana		5				17	1				4					27
Crawford														2		2
Cuyahoga	25	19	5		83	54	2	20	39	2	141		369	58		817
Delaware						2					2		4	2		10
Erie		1	1	1	1								2	48		54
Fairfield						3					1					4
Franklin	1	2			4	17					15		4	1		44
Fulton														2		2
Geauga	2	2			15	9	3			1	90					122
Greene			6			2					3					11
Guernsey													1			1
Hamilton		2			1	2					4					9
Hancock	2										2		1	1		6
Hocking														1		1
Holmes					2											2
Huron														16		16
Jefferson		1				3										4
Knox		2									5					7
Lake	87	30			215	20	15		1	11	397	2	2	3	2	785
Licking						1										1
Logan					1						2					3
Lorain	1	2	7	1	7	8		1			12		46	50		135
Lucas														12		12
Madison		1														1
Mahoning		31			1	59	1		2	4	2			2		102
Medina	5	3			12	7					13		24	6		70
Meigs		1														1
Miami													1			1
Montgomery					1						6			1		8
Morrow														4		4
Muskingum											5					5
Ottawa					1	1					1			7		10
Portage	7	3			16	11		1			64		4	1		107
Preble		1														1
Putnam					2									4		6
Richland											5			2		7
Ross														1		1
Sandusky					2								3	3		8
Scioto						5										5
Seneca						2										2
Stark	5	5			7	27				2	44		5			95
Summit	13	8			23	22		3			67	1	12	1		150
Trumbull	8	43				121	4		2		18					196
Tuscarawas		2				11					3					16
Union					1											1
VanWert														1		1
Warren					1						3					4
Washington						4										4
Wayne	4	1				1					16		2	1		25
Wood				1		1					1		1	1		5
OH total	175	306	19	3	401	555	42	26	44	43	1,051	6	484	237	4	3,396
Grand Total	181	330	19	3	415	760	55	27	44	44	1,181	9	506	254	4	3,832

Table 8b. Home zip code distribution by state, province and Ohio county from anglers interviewed during the September 2009-May 2010 Ohio steelhead tributary creel surveys.

	Stream														
State	Arcola	Ashtabula	AvonCEI	Beaver	Chagrin	Conneaut	Cowles	Cuyahoga	Euclid	French	Geneva	Grand	Rocky	Vermilion	Total
MA						3									3
NJ						6						1			7
NY						8						5	1		14
PA		4			1	38						12			55
MD						2									2
VA		1				1						1			3
WV		3				9	5					5			22
NC						3									3
GA												1			1
FL						1						1			2
TN											1	1			2
KY											1	8			9
IN						5						4			9
MI		5				13						15			33
IL						1						1			2
OK												3			3
TX						1									1
CO		2				2						1			5
Ontario												2			2
SCOTLAND												1			1
Out of State total	-	15	-	-	1	93	5	-	-	-	2	62	1	-	179

OH County	Arcola	Ashtabula	AvonCEI	Beaver	Chagrin	Conneaut	Cowles	Cuyahoga	Euclid	French	Geneva	Grand	Rocky	Vermilion	Total
Allen												2			2
Ashland														2	2
Ashtabula	6	54				57	14				12	41			184
Butler						5						2			7
Carroll						1									1
Clark					2										2
Clermont												2			2
Columbiana		3			1	9						1			14
Crawford					2								1	3	6
Cuyahoga	4	11			65	29		7	33		1	83	140	3	376
Delaware												2			2
Erie		1											4	56	61
Fairfield	1											3			4
Franklin		2			6	1						11	5		25
Geauga		3			12	7						32			54
Guernsey													2		2
Hamilton					2	1						5	1	1	10
Hancock													1	2	3
Highland						2									2
Hocking												1			1
Huron													6	5	11
Jefferson		3			1	3						2			9
Lake	23	6			104	10	5	1			2	191			342
Lorain		2	9	5	3	3	1			4		8	63	31	129
Lucas		1											3	5	9
Mahoning	1	14				37						8			60
Marion						1									1
Medina		2				2						6	3		13
Montgomery					1								5		6
Ottawa													1	1	2
Paulding													2		2
Pickaway					3										3
Portage					1	7		1				14	1		24
Richland		1													1
Sandusky													2	4	6
Seneca														2	2
Stark	1	1				6						15	2		25
Summit	1	3			17	14		3	1			40	4	1	84
Trumbull	3	23				48	2					8			84
Tuscarawas	1					2						4	1		8
Wayne	1	2				1						4	3	1	12
Wood		1												2	3
OH total	42	133	9	5	220	246	22	12	34	4	15	485	250	119	1,596
Grand Total	42	148	9	5	221	339	27	12	34	4	17	547	251	119	1,775

Table 9a-1. Age and sex distribution of anglers contacted during the September 2008-May 2009 Ohio steelhead tributary creel surveys.

Age by	Area 1 Fall	Area 1 Winter-Spring		Area 2 Fall-Spring		Total	% Male*
Decade	All Sexes - Freq	Male - Freq	Female - Freq	Male - Freq	Female - Freq	N sampled	Distribution
0	1	0	0	23	0	24	100%
1	3	13	0	145	6	167	96%
2	33	189	8	359	11	600	97%
3	52	161	5	462	6	686	98%
4	41	384	5	579	20	1,029	97%
5	24	244	1	514	14	797	98%
6	28	38	0	330	5	401	99%
7	3	2	0	105	1	111	99%
8	0	0	0	22	1	23	96%
9	0	0	0	0	0	0	.
10	0	0	0	0	0	0	.
ALL Ages	185	1,031	19	2,539	64	3,838	98%

* first column data excluded

Table 9a-2. Age and sex distribution data by percent.

Age by	Area 1 Fall	Area 1 Winter-Spring		Area 2 Fall-Spring		Total	% Age
Decade	All Sexes - Pct	Male - Pct	Female - Pct	Male - Pct	Female - Pct	N sampled	Distribution
0	0.5%	0.0%	0.0%	0.9%	0.0%	24	1%
1	1.6%	1.3%	0.0%	5.7%	9.4%	167	4%
2	17.8%	18.3%	42.1%	14.1%	17.2%	600	16%
3	28.1%	15.6%	26.3%	18.2%	9.4%	686	18%
4	22.2%	37.2%	26.3%	22.8%	31.3%	1,029	27%
5	13.0%	23.7%	5.3%	20.2%	21.9%	797	21%
6	15.1%	3.7%	0.0%	13.0%	7.8%	401	10%
7	1.6%	0.2%	0.0%	4.1%	1.6%	111	3%
8	0.0%	0.0%	0.0%	0.9%	1.6%	23	1%
9	0.0%	0.0%	0.0%	0.0%	0.0%	0	0%
10	0.0%	0.0%	0.0%	0.0%	0.0%	0	0%
ALL Ages	100.0%	100.0%	100.0%	100.0%	100.0%	3,838	100%

Table 9b-1. Age and sex distribution of anglers contacted during the September 2009-May 2010 Ohio steelhead tributary creel surveys.

Age by	Area 1 Winter-Spring		Area 2 Fall-Spring		Total	% Male*
Decade	Male - Freq	Female - Freq	Male - Freq	Female - Freq	N sampled	Distribution
0	0	0	6	4	10	60%
1	20	1	28	0	49	98%
2	127	4	132	6	269	96%
3	149	4	266	9	428	97%
4	193	1	330	9	533	98%
5	123	0	202	4	329	99%
6	36	0	158	0	194	100%
7	7	0	28	0	35	100%
8	0	0	0	0	0	.
9	0	0	0	0	0	.
10	0	0	0	0	0	.
ALL Ages	655	10	1,150	32	1,847	98%

Table 9b-2. Age and sex distribution data by percent.

Age by	Area 1 Winter-Spring		Area 2 Fall-Spring		Total	% Age
Decade	Male - Freq	Female - Freq	Male - Freq	Female - Freq	N sampled	Distribution
0	0.0%	0.0%	0.5%	12.5%	10	1%
1	3.1%	10.0%	2.4%	0.0%	49	3%
2	19.4%	40.0%	11.5%	18.8%	269	15%
3	22.7%	40.0%	23.1%	28.1%	428	23%
4	29.5%	10.0%	28.7%	28.1%	533	29%
5	18.8%	0.0%	17.6%	12.5%	329	18%
6	5.5%	0.0%	13.7%	0.0%	194	11%
7	1.1%	0.0%	2.4%	0.0%	35	2%
8	0.0%	0.0%	0.0%	0.0%	0	0%
9	0.0%	0.0%	0.0%	0.0%	0	0%
10	0.0%	0.0%	0.0%	0.0%	0	0%
ALL Ages	100.0%	100.0%	100.0%	100.0%	1,847	100%

Table 10. Steelhead angler replies to question regarding preferred method of steelhead fishing, responses summarized by stream interviewed during the September 2008-May 2009 (10a) and September 2009-May 2010 (10b) Ohio steelhead tributary creel surveys.

10a.	Method	Stream															TOTAL ALL
		Arcola	Ashtabula	AvonCEL	Beaver	Chagrin	Conneaut	Cowles	Cuyahoga	Euclid	Geneva	Grand	Indian	Rocky	Vermilion	Wheeler	Streams
Frequency	Spin	92	177	16	3	226	345	35	22	26	32	524	9	253	151	1	1912
Cell Percent		2.95	5.67	0.51	0.10	7.24	11.05	1.12	0.70	0.83	1.02	16.78	0.29	8.10	4.84	0.03	61.24
Row Pct		4.81	9.26	0.84	0.16	11.82	18.04	1.83	1.15	1.36	1.67	27.41	0.47	13.23	7.90	0.05	
Column Pct		85.98	74.68	84.21	100.00	57.51	57.40	100.00	84.62	70.27	100.00	59.55	100.00	51.84	59.45	100.00	
	Fly	11	49	0	0	147	238	0	2	3	0	314	0	210	98	0	1072
		0.35	1.57	0.00	0.00	4.71	7.62	0.00	0.06	0.10	0.00	10.06	0.00	6.73	3.14	0.00	34.34
		1.03	4.57	0.00	0.00	13.71	22.20	0.00	0.19	0.28	0.00	29.29	0.00	19.59	9.14	0.00	
		10.28	20.68	0.00	0.00	37.40	39.60	0.00	7.69	8.11	0.00	35.68	0.00	43.03	38.58	0.00	
	Center Pin	2	9	3	0	20	18	0	2	8	0	37	0	25	5	0	129
		0.06	0.29	0.10	0.00	0.64	0.58	0.00	0.06	0.26	0.00	1.19	0.00	0.80	0.16	0.00	4.13
		1.55	6.98	2.33	0.00	15.50	13.95	0.00	1.55	6.20	0.00	28.68	0.00	19.38	3.88	0.00	
		1.87	3.80	15.79	0.00	5.09	3.00	0.00	7.69	21.62	0.00	4.20	0.00	5.12	1.97	0.00	
	No Pref	2	2	0	0	0	0	0	0	0	0	5	0	0	0	0	9
		0.06	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.29
		22.22	22.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	55.56	0.00	0.00	0.00	0.00	
		1.87	0.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.00	0.00	0.00	0.00	
	Total	107	237	19	3	393	601	35	26	37	32	880	9	488	254	1	3,122
		3.43	7.59	0.61	0.10	12.59	19.25	1.12	0.83	1.19	1.02	28.19	0.29	15.63	8.14	0.03	100.00

10b.	Gear	Stream															TOTAL ALL
		Arcola	Ashtabula	AvonCEL	Beaver	Chagrin	Conneaut	Cowles	Cuyahoga	Euclid	French	Geneva	Grand	Rocky	Vermilion	Wheeler	Streams
Frequency	Spin	40	112	9	5	148	193	29	9	31	4	19	382	144	47	0	1172
Cell Percent		2.14	5.98	0.48	0.27	7.9	10.3	1.55	0.48	1.66	0.21	1.01	20.4	7.69	2.51	0.00	62.57
Row Pct		3.41	9.56	0.77	0.43	12.63	16.47	2.47	0.77	2.65	0.34	1.62	32.59	12.29	4.01	0.00	
Column Pct		90.91	73.2	100	100	64.63	52.73	100	75	91.18	100	100	64.97	55.38	38.84	0.00	
	Fly	2	39	0	0	73	151	0	3	3	0	0	192	86	72	0	621
		0.11	2.08	0	0	3.9	8.06	0	0.16	0.16	0	0	10.25	4.59	3.84	0.00	33.16
		0.32	6.28	0	0	11.76	24.32	0	0.48	0.48	0	0	30.92	13.85	11.59	0.00	
		4.55	25.49	0	0	31.88	41.26	0	25	8.82	0	0	32.65	33.08	59.5	0.00	
	Center Pin	2	2	0	0	8	22	0	0	0	0	0	14	30	2	0	80
		0.11	0.11	0	0	0.43	1.17	0	0	0	0	0	0.75	1.6	0.11	0.00	4.27
		2.5	2.5	0	0	10	27.5	0	0	0	0	0	17.5	37.5	2.5	0.00	
		4.55	1.31	0	0	3.49	6.01	0	0	0	0	0	2.38	11.54	1.65	0.00	
	Total	44	153	9	5	229	366	29	12	34	4	19	588	260	121	0	1,873
		2.35	8.17	0.48	0.27	12.23	19.54	1.55	0.64	1.82	0.21	1.01	31.39	13.88	6.46	0.00	100

Table 11. Steelhead angler replies to question regarding travel distance for steelhead fishing, responses summarized by stream interviewed during the September 2008-May 2009 Ohio steelhead tributary creel surveys.

	Travel for Steelhead	Stream															TOTAL ALL
		Arcola	Ashtabula	AvonCEr	Beaver	Chagrin	Conneaut	Cowles	Cuyahoga	Euclid	Geneva	Grand	Indian	Rocky	Vermilion	Wheeler	Streams
Frequency	Yes	60	133	11	2	196	520	16	9	9	13	560	7	239	165	0	1940
Cell Percent		1.91	4.24	0.35	0.06	6.24	16.56	0.51	0.29	0.29	0.41	17.83	0.22	7.61	5.25	0.00	61.78
Row Pct		3.09	6.86	0.57	0.10	10.10	26.80	0.82	0.46	0.46	0.67	28.87	0.36	12.32	8.51	0.00	
Column Pct		56.60	55.42	57.89	66.67	50.00	85.67	47.06	34.62	24.32	40.63	62.78	77.78	48.98	64.96	0.00	
	Yes, but live close-by	45	107	8	1	196	86	18	17	28	19	332	2	247	89	1	1196
		1.43	3.41	0.25	0.03	6.24	2.74	0.57	0.54	0.89	0.61	10.57	0.06	7.87	2.83	0.03	38.09
		3.76	8.95	0.67	0.08	16.39	7.19	1.51	1.42	2.34	1.59	27.76	0.17	20.65	7.44	0.08	
		42.45	44.58	42.11	33.33	50.00	14.17	52.94	65.38	75.68	59.38	37.22	22.22	50.61	35.04	100.00	
	No	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	3
		0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.10
		33.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	66.67	0.00	0.00	
		0.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.00	0.00	
	No Opinion	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
		0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
		0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Total	106	240	19	3	392	607	34	26	37	32	892	9	488	254	1	3,140
		3.38	7.64	0.61	0.10	12.48	19.33	1.08	0.83	1.18	1.02	28.41	0.29	15.54	8.09	0.03	100.00

Table 12. Steelhead angler replies to question regarding number of days per trip for steelhead fishing, responses summarized by stream interviewed during the September 2008-May 2009 Ohio steelhead tributary creel surveys.

	N days per Trip	Stream															TOTAL ALL Streams
		Arcola	Ashtabula	AvonCEI	Beaver	Chagrin	Conneaut	Cowles	Cuyahoga	Euclid	Geneva	Grand	Indian	Rocky	Vermilion	Wheeler	
Frequency	1	105	222	9	1	325	447	25	21	30	32	766	6	415	200	1	2605
Cell Percent		3.33	7.05	0.29	0.03	10.32	14.19	0.79	0.67	0.95	1.02	24.33	0.19	13.18	6.35	0.03	82.72
Row Pct		4.03	8.52	0.35	0.04	12.48	17.16	0.96	0.81	1.15	1.23	29.40	0.23	15.93	7.68	0.04	
Col Pct		98.13	92.50	47.37	33.33	83.12	73.64	71.43	80.77	81.08	100.00	85.78	66.67	83.84	78.74	100.00	
	2	0	13	10	1	41	54	0	3	6	0	39	3	50	41	0	261
		0.00	0.41	0.32	0.03	1.30	1.71	0.00	0.10	0.19	0.00	1.24	0.10	1.59	1.30	0.00	8.29
		0.00	4.98	3.83	0.38	15.71	20.69	0.00	1.15	2.30	0.00	14.94	1.15	19.16	15.71	0.00	
		0.00	5.42	52.63	33.33	10.49	8.90	0.00	11.54	16.22	0.00	4.37	33.33	10.10	16.14	0.00	
	3	2	2	0	1	14	78	9	2	0	0	74	0	14	7	0	203
		0.06	0.06	0.00	0.03	0.44	2.48	0.29	0.06	0.00	0.00	2.35	0.00	0.44	0.22	0.00	6.45
		0.99	0.99	0.00	0.49	6.90	38.42	4.43	0.99	0.00	0.00	36.45	0.00	6.90	3.45	0.00	
		1.87	0.83	0.00	33.33	3.58	12.85	25.71	7.69	0.00	0.00	8.29	0.00	2.83	2.76	0.00	
	4	0	3	0	0	7	16	0	0	0	0	8	0	7	1	0	42
		0.00	0.10	0.00	0.00	0.22	0.51	0.00	0.00	0.00	0.00	0.25	0.00	0.22	0.03	0.00	1.33
		0.00	7.14	0.00	0.00	16.67	38.10	0.00	0.00	0.00	0.00	19.05	0.00	16.67	2.38	0.00	
		0.00	1.25	0.00	0.00	1.79	2.64	0.00	0.00	0.00	0.00	0.90	0.00	1.41	0.39	0.00	
	5	0	0	0	0	1	6	0	0	1	0	5	0	8	3	0	24
		0.00	0.00	0.00	0.00	0.03	0.19	0.00	0.00	0.03	0.00	0.16	0.00	0.25	0.10	0.00	0.76
		0.00	0.00	0.00	0.00	4.17	25.00	0.00	0.00	4.17	0.00	20.83	0.00	33.33	12.50	0.00	
		0.00	0.00	0.00	0.00	0.26	0.99	0.00	0.00	2.70	0.00	0.56	0.00	1.62	1.18	0.00	
	6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	
	7	0	0	0	0	3	6	1	0	0	0	0	0	0	2	0	12
		0.00	0.00	0.00	0.00	0.10	0.19	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.38
		0.00	0.00	0.00	0.00	25.00	50.00	8.33	0.00	0.00	0.00	0.00	0.00	0.00	16.67	0.00	
		0.00	0.00	0.00	0.00	0.77	0.99	2.86	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.00	
	9	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.03
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	
	Total	107	240	19	3	391	607	35	26	37	32	893	9	495	254	1	3,149
		3.40	7.62	0.60	0.10	12.42	19.28	1.11	0.83	1.17	1.02	28.36	0.29	15.72	8.07	0.03	100.00
	mean	1.04	1.11	1.53	2.00	1.29	1.52	1.69	1.27	1.27	1.00	1.27	1.33	1.27	1.32	1.00	1.31
	std dev	0.34	0.52	0.63	1.00	0.84	1.33	1.81	0.62	0.85	0.00	0.89	0.82	0.78	0.83	.	0.92
	median	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1

Table 13. Steelhead angler replies to question regarding number of hours spent per day for steelhead fishing, responses summarized by stream interviewed during the September 2008-May 2009 Ohio steelhead tributary creel surveys.

	N hours per day	Stream															TOTAL ALL Streams
		Arcola	Ashtabula	AvonCEI	Beaver	Chagrin	Conneaut	Cowles	Cuyahoga	Euclid	Geneva	Grand	Indian	Rocky	Vermilion	Wheeler	
Frequency	1	0	0	0	0	12	0	0	1	0	1	1	0	8	0	0	23
Cell Percent		0.00	0.00	0.00	0.00	0.38	0.00	0.00	0.03	0.00	0.03	0.03	0.00	0.25	0.00	0.00	0.73
Row Pct		0.00	0.00	0.00	0.00	52.17	0.00	0.00	4.35	0.00	4.35	4.35	0.00	34.78	0.00	0.00	
Col Pct		0.00	0.00	0.00	0.00	3.07	0.00	0.00	3.85	0.00	3.13	0.11	0.00	1.62	0.00	0.00	
	2	7	12	4	0	43	17	1	4	9	5	42	2	55	16	1	218
		0.22	0.38	0.13	0.00	1.37	0.54	0.03	0.13	0.29	0.16	1.33	0.06	1.75	0.51	0.03	6.92
		3.21	5.50	1.83	0.00	19.72	7.80	0.46	1.83	4.13	2.29	19.27	0.92	25.23	7.34	0.46	
		6.54	5.00	21.05	0.00	11.00	2.80	2.86	15.38	24.32	15.63	4.70	22.22	11.11	6.30	100.00	
	3	17	27	3	1	64	35	3	7	7	3	114	1	86	33	0	401
		0.54	0.86	0.10	0.03	2.03	1.11	0.10	0.22	0.22	0.10	3.62	0.03	2.73	1.05	0.00	12.73
		4.24	6.73	0.75	0.25	15.96	8.73	0.75	1.75	1.75	0.75	28.43	0.25	21.45	8.23	0.00	
		15.89	11.25	15.79	33.33	16.37	5.77	8.57	26.92	18.92	9.38	12.77	11.11	17.37	12.99	0.00	
	4	13	44	5	0	112	64	8	11	12	4	159	0	142	79	0	653
		0.41	1.40	0.16	0.00	3.56	2.03	0.25	0.35	0.38	0.13	5.05	0.00	4.51	2.51	0.00	20.74
		1.99	6.74	0.77	0.00	17.15	9.80	1.23	1.68	1.84	0.61	24.35	0.00	21.75	12.10	0.00	
		12.15	18.33	26.32	0.00	28.64	10.54	22.86	42.31	32.43	12.50	17.81	0.00	28.69	31.10	0.00	
	5	17	42	0	0	66	85	8	3	7	8	153	0	97	45	0	531
		0.54	1.33	0.00	0.00	2.10	2.70	0.25	0.10	0.22	0.25	4.86	0.00	3.08	1.43	0.00	16.86
		3.20	7.91	0.00	0.00	12.43	16.01	1.51	0.56	1.32	1.51	28.81	0.00	18.27	8.47	0.00	
		15.89	17.50	0.00	0.00	16.88	14.00	22.86	11.54	18.92	25.00	17.13	0.00	19.60	17.72	0.00	
	6	28	31	1	2	30	70	0	0	1	5	134	0	41	31	0	374
		0.89	0.98	0.03	0.06	0.95	2.22	0.00	0.00	0.03	0.16	4.26	0.00	1.30	0.98	0.00	11.88
		7.49	8.29	0.27	0.53	8.02	18.72	0.00	0.00	0.27	1.34	35.83	0.00	10.96	8.29	0.00	
		26.17	12.92	5.26	66.67	7.67	11.53	0.00	0.00	2.70	15.63	15.01	0.00	8.28	12.20	0.00	
	7	6	18	0	0	16	41	4	0	1	4	66	0	17	15	0	188
		0.19	0.57	0.00	0.00	0.51	1.30	0.13	0.00	0.03	0.13	2.10	0.00	0.54	0.48	0.00	5.97
		3.19	9.57	0.00	0.00	8.51	21.81	2.13	0.00	0.53	2.13	35.11	0.00	9.04	7.98	0.00	
		5.61	7.50	0.00	0.00	4.09	6.75	11.43	0.00	2.70	12.50	7.39	0.00	3.43	5.91	0.00	
	8	15	27	0	0	37	134	6	0	0	2	104	6	38	28	0	397
		0.48	0.86	0.00	0.00	1.17	4.26	0.19	0.00	0.00	0.06	3.30	0.19	1.21	0.89	0.00	12.61
		3.78	6.80	0.00	0.00	9.32	33.75	1.51	0.00	0.00	0.50	26.20	1.51	9.57	7.05	0.00	
		14.02	11.25	0.00	0.00	9.46	22.08	17.14	0.00	0.00	6.25	11.65	66.67	7.68	11.02	0.00	
	9	1	21	0	0	2	75	5	0	0	0	56	0	1	1	0	162
		0.03	0.67	0.00	0.00	0.06	2.38	0.16	0.00	0.00	0.00	1.78	0.00	0.03	0.03	0.00	5.14
		0.62	12.96	0.00	0.00	1.23	46.30	3.09	0.00	0.00	0.00	34.57	0.00	0.62	0.62	0.00	
		0.93	8.75	0.00	0.00	0.51	12.36	14.29	0.00	0.00	0.00	6.27	0.00	0.20	0.39	0.00	
	10	0	13	6	0	7	54	0	0	0	0	52	0	9	5	0	146
		0.00	0.41	0.19	0.00	0.22	1.71	0.00	0.00	0.00	0.00	1.65	0.00	0.29	0.16	0.00	4.64
		0.00	8.90	4.11	0.00	4.79	36.99	0.00	0.00	0.00	0.00	35.62	0.00	6.16	3.42	0.00	
		0.00	5.42	31.58	0.00	1.79	8.90	0.00	0.00	0.00	0.00	5.82	0.00	1.82	1.97	0.00	
	11	2	0	0	0	0	19	0	0	0	0	4	0	0	1	0	26
		0.06	0.00	0.00	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.03	0.00	0.83
		7.69	0.00	0.00	0.00	0.00	73.08	0.00	0.00	0.00	0.00	15.38	0.00	0.00	3.85	0.00	
		1.87	0.00	0.00	0.00	0.00	3.13	0.00	0.00	0.00	0.00	0.45	0.00	0.00	0.39	0.00	
	12	1	5	0	0	2	13	0	0	0	0	8	0	1	0	0	30
		0.03	0.16	0.00	0.00	0.06	0.41	0.00	0.00	0.00	0.00	0.25	0.00	0.03	0.00	0.00	0.95
		3.33	16.67	0.00	0.00	6.67	43.33	0.00	0.00	0.00	0.00	26.67	0.00	3.33	0.00	0.00	
		0.93	2.08	0.00	0.00	0.51	2.14	0.00	0.00	0.00	0.00	0.90	0.00	0.20	0.00	0.00	
	Total	107	240	19	3	391	607	35	26	37	32	893	9	495	254	1	3,149
		3.40	7.62	0.60	0.10	12.42	19.28	1.11	0.83	1.17	1.02	28.36	0.29	15.72	8.07	0.03	100.00
	mean	5.37	5.83	5.42	5.00	4.52	6.88	5.83	3.42	3.65	4.69	5.70	6.11	4.46	4.95	2.00	5.47
	std dev	2.60	2.84	4.09	1.73	2.12	3.07	3.02	1.05	1.47	2.32	2.76	4.65	1.91	1.87	.	2.67
	median	5	5	4	6	4	7	5	4	4	5	5	8	4	4	2	5

Table 14. Steelhead angler replies to question regarding desire to keep steelhead they have captured, summarized by stream of interview during the September 2008-May 2009 Ohio steelhead tributary creel surveys.

	Desire to Keep Steelhead	Stream															TOTAL ALL Streams
		Arcola	Ashtabula	AvonCEI	Beaver	Chagrin	Conneaut	Cowles	Cuyahoga	Euclid	Geneva	Grand	Indian	Rocky	Vermilion	Wheeler	
Frequency	Very Important	24	64	1	0	11	119	15	3	9	5	168	2	13	10	1	445
Cell Percent		0.76	2.04	0.03	0.00	0.35	3.79	0.48	0.10	0.29	0.16	5.35	0.06	0.41	0.32	0.03	14.18
Row Pct		5.39	14.38	0.22	0.00	2.47	26.74	3.37	0.67	2.02	1.12	37.75	0.45	2.92	2.25	0.22	
Col Pct		22.43	26.67	5.26	0.00	2.84	19.60	42.86	11.54	24.32	15.63	18.86	22.22	2.64	3.97	100.00	
	Somewhat Important	10	36	4	0	29	67	2	2	9	7	109	6	27	21	0	329
		0.32	1.15	0.13	0.00	0.92	2.13	0.06	0.06	0.29	0.22	3.47	0.19	0.86	0.67	0.00	10.48
		3.04	10.94	1.22	0.00	8.81	20.36	0.61	0.61	2.74	2.13	33.13	1.82	8.21	6.38	0.00	
		9.35	15.00	21.05	0.00	7.49	11.04	5.71	7.69	24.32	21.88	12.23	66.67	5.48	8.33	0.00	
	Slightly Important	56	80	0	2	64	160	15	4	8	12	253	0	67	32	0	753
		1.78	2.55	0.00	0.06	2.04	5.10	0.48	0.13	0.25	0.38	8.06	0.00	2.13	1.02	0.00	23.99
		7.44	10.62	0.00	0.27	8.50	21.25	1.99	0.53	1.06	1.59	33.60	0.00	8.90	4.25	0.00	
		52.34	33.33	0.00	66.67	16.54	26.36	42.86	15.38	21.62	37.50	28.40	0.00	13.59	12.70	0.00	
	Not Important	17	60	14	1	280	258	3	16	11	8	359	1	377	185	0	1,590
		0.54	1.91	0.45	0.03	8.92	8.22	0.10	0.51	0.35	0.25	11.44	0.03	12.01	5.89	0.00	50.65
		1.07	3.77	0.88	0.06	17.61	16.23	0.19	1.01	0.69	0.50	22.58	0.06	23.71	11.64	0.00	
		15.89	25.00	73.68	33.33	72.35	42.50	8.57	61.54	29.73	25.00	40.29	11.11	76.47	73.41	0.00	
	No Opinion	0	0	0	0	3	3	0	1	0	0	2	0	9	4	0	22
		0.00	0.00	0.00	0.00	0.10	0.10	0.00	0.03	0.00	0.00	0.06	0.00	0.29	0.13	0.00	0.70
		0.00	0.00	0.00	0.00	13.64	13.64	0.00	4.55	0.00	0.00	9.09	0.00	40.91	18.18	0.00	
		0.00	0.00	0.00	0.00	0.78	0.49	0.00	3.85	0.00	0.00	0.22	0.00	1.83	1.59	0.00	
	Total	107	240	19	3	387	607	35	26	37	32	891	9	493	252	1	3,139
		3.41	7.65	0.61	0.10	12.33	19.34	1.12	0.83	1.18	1.02	28.38	0.29	15.71	8.03	0.03	100.00

Table 15. Steelhead angler replies to question regarding the number of years spent steelhead fishing in Ohio, summarized by stream for anglers interviewed during the September 2009-May 2010 Ohio steelhead tributary creel surveys.

	# Years STH	Stream														TOTAL ALL
		Arcola	Ashtabula	AvonCEI	Beaver	Chagrin	Conneaut	Cowles	Cuyahoga	Euclid	French	Geneva	Grand	Rocky	Vermilion	Streams
Frequency	0	0	0	0	0	2	3	0	0	0	0	0	19	5	0	29
Cell Percent		0.00	0.00	0.00	0.00	0.12	0.19	0.00	0.00	0.00	0.00	0.00	1.18	0.31	0.00	1.80
Row Pct		0.00	0.00	0.00	0.00	6.90	10.34	0.00	0.00	0.00	0.00	0.00	65.52	17.24	0.00	
Col Pct		0.00	0.00	0.00	0.00	0.89	0.99	0.00	0.00	0.00	0.00	0.00	4.19	1.94	0.00	
	1	5	15	0	0	12	28	1	0	0	0	3	46	14	4	128
		0.31	0.93	0.00	0.00	0.74	1.74	0.06	0.00	0.00	0.00	0.19	2.85	0.87	0.25	7.94
		3.91	11.72	0.00	0.00	9.38	21.88	0.78	0.00	0.00	0.00	2.34	35.94	10.94	3.13	
		14.71	12.71	0.00	0.00	5.33	9.21	4.35	0.00	0.00	0.00	20.00	10.15	5.43	3.36	
	2	5	16	0	1	22	27	4	2	2	0	1	44	21	12	157
		0.31	0.99	0.00	0.06	1.36	1.67	0.25	0.12	0.12	0.00	0.06	2.73	1.30	0.74	9.74
		3.18	10.19	0.00	0.64	14.01	17.20	2.55	1.27	1.27	0.00	0.64	28.03	13.38	7.64	
		14.71	13.56	0.00	20.00	9.78	8.88	17.39	16.67	6.06	0.00	6.67	9.71	8.14	10.08	
	3	1	11	1	1	14	24	1	1	2	0	0	23	19	9	107
		0.06	0.68	0.06	0.06	0.87	1.49	0.06	0.06	0.12	0.00	0.00	1.43	1.18	0.56	6.64
		0.93	10.28	0.93	0.93	13.08	22.43	0.93	0.93	1.87	0.00	0.00	21.50	17.76	8.41	
		2.94	9.32	11.11	20.00	6.22	7.89	4.35	8.33	6.06	0.00	0.00	5.08	7.36	7.56	
	4	4	6	0	0	8	10	0	0	0	0	0	25	3	4	60
		0.25	0.37	0.00	0.00	0.50	0.62	0.00	0.00	0.00	0.00	0.00	1.55	0.19	0.25	3.72
		6.67	10.00	0.00	0.00	13.33	16.67	0.00	0.00	0.00	0.00	0.00	41.67	5.00	6.67	
		11.76	5.08	0.00	0.00	3.56	3.29	0.00	0.00	0.00	0.00	0.00	5.52	1.16	3.36	
	5	2	5	0	1	32	28	4	2	4	0	1	41	38	19	177
		0.12	0.31	0.00	0.06	1.99	1.74	0.25	0.12	0.25	0.00	0.06	2.54	2.36	1.18	10.98
		1.13	2.82	0.00	0.56	18.08	15.82	2.26	1.13	2.26	0.00	0.56	23.16	21.47	10.73	
		5.88	4.24	0.00	20.00	14.22	9.21	17.39	16.67	12.12	0.00	6.67	9.05	14.73	15.97	
	6	2	5	0	0	5	11	0	0	0	0	0	12	1	3	39
		0.12	0.31	0.00	0.00	0.31	0.68	0.00	0.00	0.00	0.00	0.00	0.74	0.06	0.19	2.42
		5.13	12.82	0.00	0.00	12.82	28.21	0.00	0.00	0.00	0.00	0.00	30.77	2.56	7.69	
		5.88	4.24	0.00	0.00	2.22	3.62	0.00	0.00	0.00	0.00	0.00	2.65	0.39	2.52	
	7	2	3	0	0	1	7	2	0	0	0	0	26	0	0	41
		0.12	0.19	0.00	0.00	0.06	0.43	0.12	0.00	0.00	0.00	0.00	1.61	0.00	0.00	2.54
		4.88	7.32	0.00	0.00	2.44	17.07	4.88	0.00	0.00	0.00	0.00	63.41	0.00	0.00	
		5.88	2.54	0.00	0.00	0.44	2.30	8.70	0.00	0.00	0.00	0.00	5.74	0.00	0.00	
	8	0	5	0	0	7	10	1	0	4	0	0	13	9	5	54
		0.00	0.31	0.00	0.00	0.43	0.62	0.06	0.00	0.25	0.00	0.00	0.81	0.56	0.31	3.35
		0.00	9.26	0.00	0.00	12.96	18.52	1.85	0.00	7.41	0.00	0.00	24.07	16.67	9.26	
		0.00	4.24	0.00	0.00	3.11	3.29	4.35	0.00	12.12	0.00	0.00	2.87	3.49	4.20	
	9	0	2	0	0	0	3	0	0	0	0	0	5	0	0	10
		0.00	0.12	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.31	0.00	0.00	0.62
		0.00	20.00	0.00	0.00	0.00	30.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	
		0.00	1.69	0.00	0.00	0.00	0.99	0.00	0.00	0.00	0.00	0.00	1.10	0.00	0.00	
	10	1	16	0	0	47	26	3	6	13	4	1	53	57	34	261
		0.06	0.99	0.00	0.00	2.92	1.61	0.19	0.37	0.81	0.25	0.06	3.29	3.54	2.11	16.19
		0.38	6.13	0.00	0.00	18.01	9.96	1.15	2.30	4.98	1.53	0.38	20.31	21.84	13.03	
		2.94	13.56	0.00	0.00	20.89	8.55	13.04	50.00	39.39	100.00	6.67	11.70	22.09	28.57	
	11	0	0	0	0	4	1	0	0	0	0	0	2	0	0	7
		0.00	0.00	0.00	0.00	0.25	0.06	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.43
		0.00	0.00	0.00	0.00	57.14	14.29	0.00	0.00	0.00	0.00	0.00	28.57	0.00	0.00	
		0.00	0.00	0.00	0.00	1.78	0.33	0.00	0.00	0.00	0.00	0.00	0.44	0.00	0.00	
	12	2	1	0	0	5	7	0	1	0	0	0	6	1	1	24
		0.12	0.06	0.00	0.00	0.31	0.43	0.00	0.06	0.00	0.00	0.00	0.37	0.06	0.06	1.49
		8.33	4.17	0.00	0.00	20.83	29.17	0.00	4.17	0.00	0.00	0.00	25.00	4.17	4.17	
		5.88	0.85	0.00	0.00	2.22	2.30	0.00	8.33	0.00	0.00	0.00	1.32	0.39	0.84	
	13	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	
	14	0	0	0	0	0	2	0	0	0	0	0	3	0	0	5
		0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.31
		0.00	0.00	0.00	0.00	0.00	40.00	0.00	0.00	0.00	0.00	0.00	60.00	0.00	0.00	
		0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00	
	15	3	6	3	2	15	26	1	0	0	0	0	29	24	7	116
		0.19	0.37	0.19	0.12	0.93	1.61	0.06	0.00	0.00	0.00	0.00	1.80	1.49	0.43	7.20
		2.59	5.17	2.59	1.72	12.93	22.41	0.86	0.00	0.00	0.00	0.00	25.00	20.69	6.03	
		8.82	5.08	33.33	40.00	6.67	8.55	4.35	0.00	0.00	0.00	0.00	6.40	9.30	5.88	
	16	1	0	0	0	0	1	0	0	0	0	0	3	0	0	5
		0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.31
		20.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	60.00	0.00	0.00	
		2.94	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00	
	17	0	2	0	0	3	2	0	0	0	0	0	1	0	0	8
		0.00	0.12	0.00	0.00	0.19	0.12	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.50
		0.00	25.00	0.00	0.00	37.50	25.00	0.00	0.00	0.00	0.00	0.00	12.50	0.00	0.00	
		0.00	1.69	0.00	0.00	1.33	0.66	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	
	18	0	1	0	0	0	3	0	0	0	0	0	3	0	0	7
		0.00	0.06	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.43
		0.00	14.29	0.00	0.00	0.00	42.86	0.00	0.00	0.00	0.00	0.00	42.86	0.00	0.00	
		0.00	0.85	0.00	0.00	0.00	0.99	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00	
	19	0	0	0	0	0	2	0	0	1	0	0	0	0	0	3
		0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.19
		0.00	0.00	0.00	0.00	0.00	66.67	0.00	0.00	33.33	0.00	0.00	0.00	0.00	0.00	
		0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00	3.03	0.00	0.00	0.00	0.00	0.00	
	20	1	7	3	0	18	24	1	0	5	0	3	42	44	12	160
		0.06	0.43	0.19	0.00	1.12	1.49	0.06	0.00	0.31	0.00	0.19	2.61	2.73	0.74	9.93
		0.63	4.38	1.88	0.00	11.25	15.00	0.63	0.00	3.13	0.00	1.88	26.25	27.50	7.50	
		2.94	5.93	33.33	0.00	8.00	7.89	4.35	0.00	15.15	0.00	20.00	9.27	17.05	10.08	

Continued.

Table 15. Continued.

	# Years STH	Stream														TOTAL ALL
		Arcola	Ashtabula	AvonCEI	Beaver	Chagrin	Conneaut	Cowles	Cuyahoga	Euclid	French	Geneva	Grand	Rocky	Vermilion	Streams
Frequency	21	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2
Cell Percent		0.00	0.06	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
Row Pct		0.00	50.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Col Pct		0.00	0.85	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	23	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.12
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.00	0.00	
	24	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
		0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
		0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	25	1	4	1	0	8	13	2	0	0	0	0	19	7	1	56
		0.06	0.25	0.06	0.00	0.50	0.81	0.12	0.00	0.00	0.00	0.00	1.18	0.43	0.06	3.47
		1.79	7.14	1.79	0.00	14.29	23.21	3.57	0.00	0.00	0.00	0.00	33.93	12.50	1.79	
		2.94	3.39	11.11	0.00	3.56	4.28	8.70	0.00	0.00	0.00	0.00	4.19	2.71	0.84	
	26	0	0	0	0	0	6	0	0	0	0	0	0	0	0	6
		0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37
		0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		0.00	0.00	0.00	0.00	0.00	1.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	27	0	1	0	0	1	1	0	0	0	0	0	0	0	0	3
		0.00	0.06	0.00	0.00	0.06	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19
		0.00	33.33	0.00	0.00	33.33	33.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		0.00	0.85	0.00	0.00	0.44	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	28	0	0	0	0	1	4	0	0	0	0	0	6	0	0	11
		0.00	0.00	0.00	0.00	0.06	0.25	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.68
		0.00	0.00	0.00	0.00	9.09	36.36	0.00	0.00	0.00	0.00	0.00	54.55	0.00	0.00	
		0.00	0.00	0.00	0.00	0.44	1.32	0.00	0.00	0.00	0.00	0.00	1.32	0.00	0.00	
	29	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
		0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
		0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	30	2	5	1	0	12	13	1	0	2	0	4	14	14	8	76
		0.12	0.31	0.06	0.00	0.74	0.81	0.06	0.00	0.12	0.00	0.25	0.87	0.87	0.50	4.71
		2.63	6.58	1.32	0.00	15.79	17.11	1.32	0.00	2.63	0.00	5.26	18.42	18.42	10.53	
		5.88	4.24	11.11	0.00	5.33	4.28	4.35	0.00	6.06	0.00	26.67	3.09	5.43	6.72	
	31	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	
	32	0	3	0	0	0	3	0	0	0	0	0	0	0	0	6
		0.00	0.19	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37
		0.00	50.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		0.00	2.54	0.00	0.00	0.00	0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	34	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2
		0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.12
		50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	
		2.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	
	35	0	1	0	0	4	5	2	0	0	0	0	4	1	0	17
		0.00	0.06	0.00	0.00	0.25	0.31	0.12	0.00	0.00	0.00	0.00	0.25	0.06	0.00	1.05
		0.00	5.88	0.00	0.00	23.53	29.41	11.76	0.00	0.00	0.00	0.00	23.53	5.88	0.00	
		0.00	0.85	0.00	0.00	1.78	1.64	8.70	0.00	0.00	0.00	0.00	0.88	0.39	0.00	
	36	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
		0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
		0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	40 or more	1	2	0	0	4	10	0	0	0	0	2	9	0	0	28
		0.06	0.12	0.00	0.00	0.25	0.60	0.00	0.00	0.00	0.00	0.12	0.55	0.00	0.00	1.73
		3.57	7.14	0.00	0.00	14.29	35.71	0.00	0.00	0.00	0.00	7.14	32.14	0.00	0.00	
		2.94	1.70	0.00	0.00	1.78	3.30	0.00	0.00	0.00	0.00	13.33	1.98	0.00	0.00	
	Total	34	118	9	5	225	304	23	12	33	4	15	453	258	119	1612
		2.11	7.32	0.56	0.31	13.96	18.86	1.43	0.74	2.05	0.25	0.93	28.10	16.00	7.38	100.00
	mean	10.12	10.28	18.11	8.00	11.15	12.54	11.69	7.42	11.24	10.00	18.67	10.43	11.02	9.96	11.10
	std dev	10.98	10.33	8.73	7.48	11.13	11.69	11.01	4.34	8.72	.	14.41	10.68	9.85	9.20	10.76
	median	5.5	7	20	5	10	10	7	10	10	10	20	7	10	10	10

Table 16. Steelhead angler replies to question regarding the number of trips made last year for steelhead fishing in Ohio, summarized by stream for anglers interviewed during the September 2009-May 2010 Ohio steelhead tributary creel surveys.

	# Trips last year	Stream														TOTAL ALL Streams
		Arcola	Ashtabula	AvonCEI	Beaver	Chagrin	Conneaut	Cowles	Cuyahoga	Euclid	French	Geneva	Grand	Rocky	Vermilion	
Frequency	0	9	22	0	0	15	39	6	0	0	0	5	72	13	5	186
Cell Percent		0.56	1.36	0.00	0.00	0.93	2.42	0.37	0.00	0.00	0.00	0.31	4.47	0.81	0.31	11.54
Row Pct		4.84	11.83	0.00	0.00	8.06	20.97	3.23	0.00	0.00	0.00	2.69	38.71	6.99	2.69	
Col Pct		26.47	18.49	0.00	0.00	6.64	12.54	26.09	0.00	0.00	0.00	33.33	16.07	5.08	4.27	
	1	0	2	0	0	2	20	0	0	0	0	1	24	5	2	56
		0.00	0.12	0.00	0.00	0.12	1.24	0.00	0.00	0.00	0.00	0.06	1.49	0.31	0.12	3.47
		0.00	3.57	0.00	0.00	3.57	35.71	0.00	0.00	0.00	0.00	1.79	42.86	8.93	3.57	
		0.00	1.68	0.00	0.00	0.88	6.43	0.00	0.00	0.00	0.00	6.67	5.36	1.95	1.71	
	2	0	10	0	0	2	15	1	0	0	0	0	11	3	3	45
		0.00	0.62	0.00	0.00	0.12	0.93	0.06	0.00	0.00	0.00	0.00	0.68	0.19	0.19	2.79
		0.00	22.22	0.00	0.00	4.44	33.33	2.22	0.00	0.00	0.00	0.00	24.44	6.67	6.67	
		0.00	8.40	0.00	0.00	0.88	4.82	4.35	0.00	0.00	0.00	0.00	2.46	1.17	2.56	
	3	0	2	0	0	4	14	3	0	0	0	0	21	5	7	56
		0.00	0.12	0.00	0.00	0.25	0.87	0.19	0.00	0.00	0.00	0.00	1.30	0.31	0.43	3.47
		0.00	3.57	0.00	0.00	7.14	25.00	5.36	0.00	0.00	0.00	0.00	37.50	8.93	12.50	
		0.00	1.68	0.00	0.00	1.77	4.50	13.04	0.00	0.00	0.00	0.00	4.69	1.95	5.98	
	4	0	1	0	0	1	7	0	0	0	0	0	12	0	0	21
		0.00	0.06	0.00	0.00	0.06	0.43	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	1.30
		0.00	4.76	0.00	0.00	4.76	33.33	0.00	0.00	0.00	0.00	0.00	57.14	0.00	0.00	
		0.00	0.84	0.00	0.00	0.44	2.25	0.00	0.00	0.00	0.00	0.00	2.68	0.00	0.00	
	5	0	3	0	0	15	13	0	2	1	0	0	11	13	4	62
		0.00	0.19	0.00	0.00	0.93	0.81	0.00	0.12	0.06	0.00	0.00	0.68	0.81	0.25	3.85
		0.00	4.84	0.00	0.00	24.19	20.97	0.00	3.23	1.61	0.00	0.00	17.74	20.97	6.45	
		0.00	2.52	0.00	0.00	6.64	4.18	0.00	16.67	3.03	0.00	0.00	2.46	5.08	3.42	
	6	0	4	0	0	0	8	0	0	0	0	0	17	0	2	31
		0.00	0.25	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	1.05	0.00	0.12	1.92
		0.00	12.90	0.00	0.00	0.00	25.81	0.00	0.00	0.00	0.00	0.00	54.84	0.00	6.45	
		0.00	3.36	0.00	0.00	0.00	2.57	0.00	0.00	0.00	0.00	0.00	3.79	0.00	1.71	
	7	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.37
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.34	0.00	0.00	
	8	1	2	0	0	4	8	0	0	0	0	0	8	0	0	23
		0.06	0.12	0.00	0.00	0.25	0.50	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	1.43
		4.35	8.70	0.00	0.00	17.39	34.78	0.00	0.00	0.00	0.00	0.00	34.78	0.00	0.00	
		2.94	1.68	0.00	0.00	1.77	2.57	0.00	0.00	0.00	0.00	0.00	1.79	0.00	0.00	
	10	2	5	1	1	24	21	1	2	2	0	0	27	34	19	139
		0.12	0.31	0.06	0.06	1.49	1.30	0.06	0.12	0.12	0.00	0.00	1.67	2.11	1.18	8.62
		1.44	3.60	0.72	0.72	17.27	15.11	0.72	1.44	1.44	0.00	0.00	19.42	24.46	13.67	
		5.88	4.20	11.11	20.00	10.62	6.75	4.35	16.67	6.06	0.00	0.00	6.03	13.28	16.24	
	12	0	4	0	0	4	10	3	0	1	0	0	15	4	6	47
		0.00	0.25	0.00	0.00	0.25	0.62	0.19	0.00	0.06	0.00	0.00	0.93	0.25	0.37	2.92
		0.00	8.51	0.00	0.00	8.51	21.28	6.38	0.00	2.13	0.00	0.00	31.91	8.51	12.77	
		0.00	3.36	0.00	0.00	1.77	3.22	13.04	0.00	3.03	0.00	0.00	3.35	1.56	5.13	
	13	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
		0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
		0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	14	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.19
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.00	
	15	0	4	0	0	3	11	0	0	0	0	1	16	8	2	45
		0.00	0.25	0.00	0.00	0.19	0.68	0.00	0.00	0.00	0.00	0.06	0.99	0.50	0.12	2.79
		0.00	8.89	0.00	0.00	6.67	24.44	0.00	0.00	0.00	0.00	2.22	35.56	17.78	4.44	
		0.00	3.36	0.00	0.00	1.33	3.54	0.00	0.00	0.00	0.00	6.67	3.57	3.13	1.71	
	16	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
		0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
		0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	17	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
		0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
		0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	18	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	
	20	2	6	0	2	35	16	1	2	5	0	1	38	41	9	158
		0.12	0.37	0.00	0.12	2.17	0.99	0.06	0.12	0.31	0.00	0.06	2.36	2.54	0.56	9.80
		1.27	3.80	0.00	1.27	22.15	10.13	0.63	1.27	3.16	0.00	0.63	24.05	25.95	5.70	
		5.88	5.04	0.00	40.00	15.49	5.14	4.35	16.67	15.15	0.00	6.67	8.48	16.02	7.69	
	24	0	0	0	0	0	6	0	0	0	0	0	6	0	0	12
		0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.74
		0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	
		0.00	0.00	0.00	0.00	0.00	1.93	0.00	0.00	0.00	0.00	0.00	1.34	0.00	0.00	
	25	4	6	0	0	8	10	0	1	2	0	0	11	15	6	63
		0.25	0.37	0.00	0.00	0.50	0.62	0.00	0.06	0.12	0.00	0.00	0.68	0.93	0.37	3.91
		6.35	9.52	0.00	0.00	12.70	15.87	0.00	1.59	3.17	0.00	0.00	17.46	23.81	9.52	
		11.76	5.04	0.00	0.00	3.54	3.22	0.00	8.33	6.06	0.00	0.00	2.46	5.86	5.13	
	28	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
		0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
		0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Continued.

Table 16. Continued.

	# Trips last year	Stream														TOTAL ALL Streams
		Arcola	Ashtabula	AvonCEI	Beaver	Chagrin	Conneaut	Cowles	Cuyahoga	Euclid	French	Geneva	Grand	Rocky	Vermilion	
Frequency	30	2	4	0	0	25	16	3	2	3	0	0	18	28	16	117
Cell Percent		0.12	0.25	0.00	0.00	1.55	0.99	0.19	0.12	0.19	0.00	0.00	1.12	1.74	0.99	7.26
Row Pct		1.71	3.42	0.00	0.00	21.37	13.68	2.56	1.71	2.56	0.00	0.00	15.38	23.93	13.68	
Col Pct		5.88	3.36	0.00	0.00	11.06	5.14	13.04	16.67	9.09	0.00	0.00	4.02	10.94	13.68	
	32	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
		0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
		0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	35	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.25
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.89	0.00	0.00	
	36	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	
	40	2	5	0	0	13	11	0	0	2	0	1	19	6	9	68
		0.12	0.31	0.00	0.00	0.81	0.68	0.00	0.00	0.12	0.00	0.06	1.18	0.37	0.56	4.22
		2.94	7.35	0.00	0.00	19.12	16.18	0.00	0.00	2.94	0.00	1.47	27.94	8.82	13.24	
		5.88	4.20	0.00	0.00	5.75	3.54	0.00	0.00	6.06	0.00	6.67	4.24	2.34	7.69	
	45	0	1	0	0	0	1	2	0	0	0	0	2	0	0	6
		0.00	0.06	0.00	0.00	0.00	0.06	0.12	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.37
		0.00	16.67	0.00	0.00	0.00	16.67	33.33	0.00	0.00	0.00	0.00	33.33	0.00	0.00	
		0.00	0.84	0.00	0.00	0.00	0.32	8.70	0.00	0.00	0.00	0.00	0.45	0.00	0.00	
	48	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
		0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
		0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		0.00	0.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	50	5	16	0	2	34	27	1	2	7	4	0	46	52	17	213
		0.31	0.99	0.00	0.12	2.11	1.67	0.06	0.12	0.43	0.25	0.00	2.85	3.23	1.05	13.21
		2.35	7.51	0.00	0.94	15.96	12.68	0.47	0.94	3.29	1.88	0.00	21.60	24.41	7.98	
		14.71	13.45	0.00	40.00	15.04	8.68	4.35	16.67	21.21	100.00	0.00	10.27	20.31	14.53	
	55	0	2	0	0	0	0	0	0	0	0	0	1	0	0	3
		0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.19
		0.00	66.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	33.33	0.00	0.00	
		0.00	1.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	
	60	0	4	0	0	7	4	0	0	0	0	1	5	0	0	21
		0.00	0.25	0.00	0.00	0.43	0.25	0.00	0.00	0.00	0.00	0.06	0.31	0.00	0.00	1.30
		0.00	19.05	0.00	0.00	33.33	19.05	0.00	0.00	0.00	0.00	4.76	23.81	0.00	0.00	
		0.00	3.36	0.00	0.00	3.10	1.29	0.00	0.00	0.00	0.00	6.67	1.12	0.00	0.00	
	65	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
		0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
		100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		2.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	70	0	0	0	0	0	0	0	0	0	0	0	1	3	3	7
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.19	0.19	0.43
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.29	42.86	42.86	
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	1.17	2.56	
	75	0	0	4	0	13	7	0	0	5	0	0	4	11	2	46
		0.00	0.00	0.25	0.00	0.81	0.43	0.00	0.00	0.31	0.00	0.00	0.25	0.68	0.12	2.85
		0.00	0.00	8.70	0.00	28.26	15.22	0.00	0.00	10.87	0.00	0.00	8.70	23.91	4.35	
		0.00	0.00	44.44	0.00	5.75	2.25	0.00	0.00	15.15	0.00	0.00	0.89	4.30	1.71	
	80	2	0	3	0	3	7	0	0	0	0	0	8	0	0	23
		0.12	0.00	0.19	0.00	0.19	0.43	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	1.43
		8.70	0.00	13.04	0.00	13.04	30.43	0.00	0.00	0.00	0.00	0.00	34.78	0.00	0.00	
		5.88	0.00	33.33	0.00	1.33	2.25	0.00	0.00	0.00	0.00	0.00	1.79	0.00	0.00	
	90	0	0	0	0	0	1	0	0	0	0	1	1	0	0	3
		0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.06	0.06	0.00	0.00	0.19
		0.00	0.00	0.00	0.00	0.00	33.33	0.00	0.00	0.00	0.00	33.33	33.33	0.00	0.00	
		0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.00	6.67	0.22	0.00	0.00	
	100 or more	4	15	1	0	14	33	2	1	5	0	4	39	15	5	138
		0.25	0.92	0.06	0.00	0.87	2.05	0.12	0.06	0.31	0.00	0.25	2.42	0.93	0.31	8.55
		2.90	10.87	0.72	0.00	10.14	23.91	1.45	0.72	3.62	0.00	2.90	28.26	10.87	3.62	
		11.76	12.60	11.11	0.00	6.19	10.61	8.70	8.33	15.15	0.00	26.67	8.70	5.86	4.27	
	Total	34	119	9	5	226	311	23	12	33	4	15	448	256	117	1612
		2.11	7.38	0.56	0.31	14.02	19.29	1.43	0.74	2.05	0.25	0.93	27.79	15.88	7.26	100.00
	mean	36.26	32.34	72.22	30	32.82	30.05	22.04	33.75	50.97	50	41.73	26.8	31.29	28.49	30.66
	std dev	38.47	40.19	28.45	21.6	33.27	39.3	29.42	46.51	47.39	.	44.56	35.19	30.98	32.78	36.32
	median	25	20	75	20	25	13	12	22.5	50	50	20	13	25	20	20

Table 17. Steelhead angler replies to question regarding the planned frequency of trips compared to last year for steelhead fishing in Ohio, summarized by stream for anglers interviewed during the September 2009-May 2010 Ohio steelhead tributary creel surveys.

	Freq of Trips (value)	Stream														TOTAL ALL Streams
		Arcola	Ashtabula	AvonCEI	Beaver	Chagrin	Conneaut	Cowles	Cuyahoga	Euclid	French	Geneva	Grand	Rocky	Vermilion	
Frequency	More (+1.0)	19	68	4	2	113	148	14	3	9	0	8	225	138	56	807
Cell Percent		1.18	4.22	0.25	0.12	7.02	9.19	0.87	0.19	0.56	0.00	0.5	13.98	8.57	3.48	50.12
Row Pct		2.35	8.43	0.50	0.25	14.00	18.34	1.73	0.37	1.12	0.00	0.99	27.88	17.10	6.94	
Col Pct		55.88	57.14	44.44	40.00	50.22	48.37	60.87	25.00	27.27	0.00	50.00	50.34	53.49	47.06	
	Same (0.0)	9	35	5	3	109	119	3	9	23	4	5	170	116	60	670
		0.56	2.17	0.31	0.19	6.77	7.39	0.19	0.56	1.43	0.25	0.31	10.56	7.20	3.73	41.61
		1.34	5.22	0.75	0.45	16.27	17.76	0.45	1.34	3.43	0.60	0.75	25.37	17.31	8.96	
		26.47	29.41	55.56	60.00	48.44	38.89	13.04	75.00	69.70	100.00	31.25	38.03	44.96	50.42	
	Less (-1.0)	6	16	0	0	2	36	6	0	0	0	3	52	0	1	122
		0.37	0.99	0.00	0.00	0.12	2.24	0.37	0.00	0.00	0.00	0.19	3.23	0.00	0.06	7.58
		4.92	13.11	0.00	0.00	1.64	29.51	4.92	0.00	0.00	0.00	2.46	42.62	0.00	0.82	
		17.65	13.45	0.00	0.00	0.89	11.76	26.09	0.00	0.00	0.00	18.75	11.63	0.00	0.84	
	No Opinion (.)	0	0	0	0	1	3	0	0	1	0	0	0	4	2	11
		0.00	0.00	0.00	0.00	0.06	0.19	0.00	0.00	0.06	0.00	0.00	0.00	0.25	0.12	0.68
		0.00	0.00	0.00	0.00	9.09	27.27	0.00	0.00	9.09	0.00	0.00	0.00	36.36	18.18	
		0.00	0.00	0.00	0.00	0.44	0.98	0.00	0.00	3.03	0.00	0.00	0.00	1.55	1.68	
	Total	34	119	9	5	225	306	23	12	33	4	16	447	258	119	1610
		2.11	7.39	0.56	0.31	13.98	19.01	1.43	0.75	2.05	0.25	0.99	27.76	16.02	7.39	100.00
	Mean Value	0.38	0.44	0.44	0.40	0.50	0.37	0.35	0.25	0.28	0.00	0.31	0.39	0.54	0.47	0.43

Table 18. Steelhead angler replies to question regarding daily expenditures (in dollars) to steelhead fish on that day; data is summarized by stream for angler responses in the September 2009-May 2010 Ohio steelhead tributary creel surveys.

Stream	N responses	Mean	Median	Mode	Std dev
Arcola	34	$11.85	$10	$10	$8.30
Ashtabula	119	35.33	10	10	108.54
AvonCEI	9	6.78	5	10	3.64
Beaver	5	12.00	10	5	8.76
Chagrin	223	20.27	10	10	35.03
Conneaut	307	38.73	20	10	50.73
Cowles	23	37.52	10	10	98.67
Cuyahoga	12	14.58	10	10	8.46
Euclid	33	8.69	10	10	4.53
French	4	7.50	7.50	10	3.54
Geneva	16	14.56	10	10	23.12
Grand	447	33.11	10	10	94.92
Rocky	256	25.83	15	10	46.11
Vermilion	117	21.46	10	10	29.14
ALL Streams	1,605	$29.07	$10	$10	$70.59

Figure 1. Map of streams and range of locations visited by creel clerks during the September 2008-May 2010 Ohio steelhead tributary creel surveys.

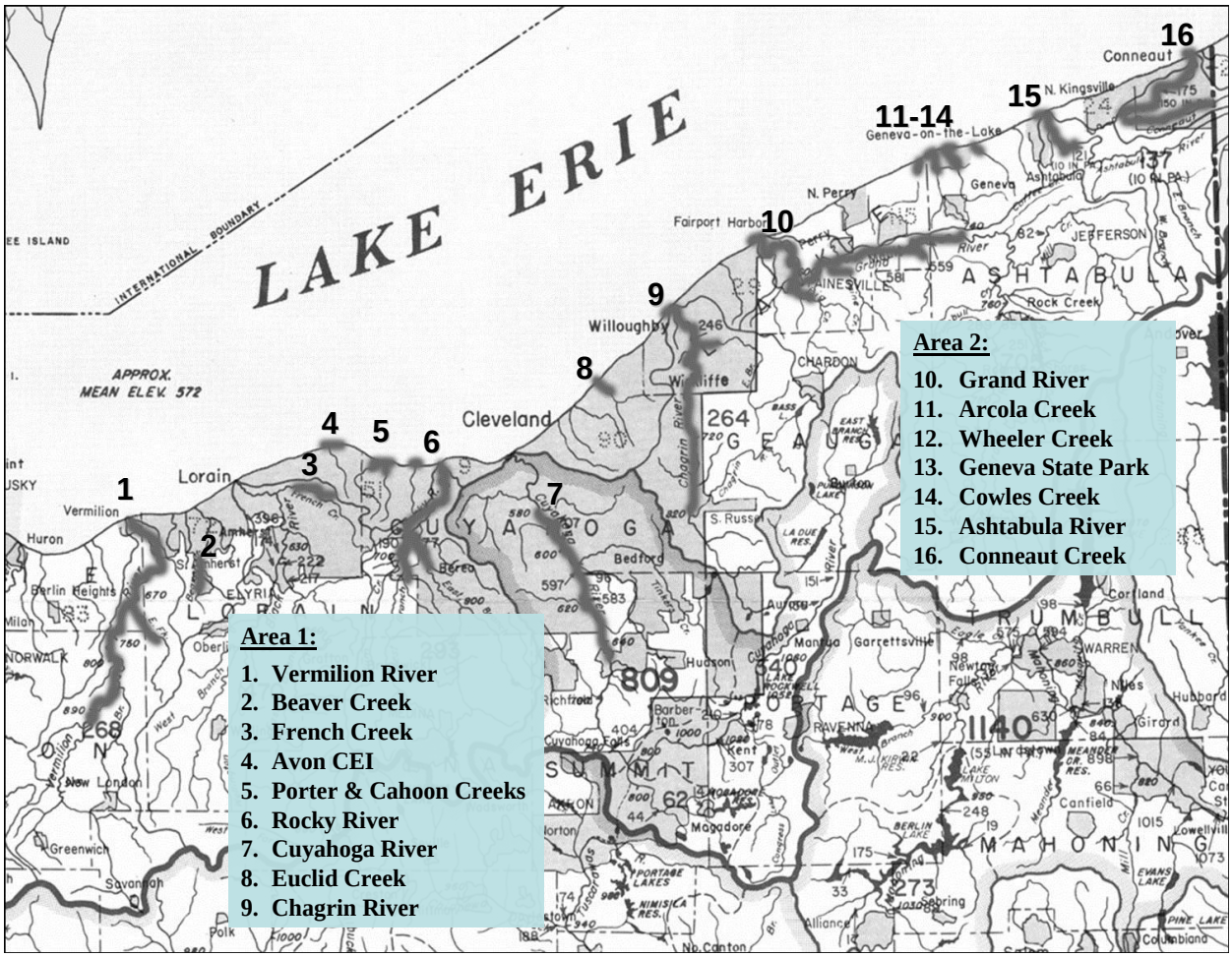
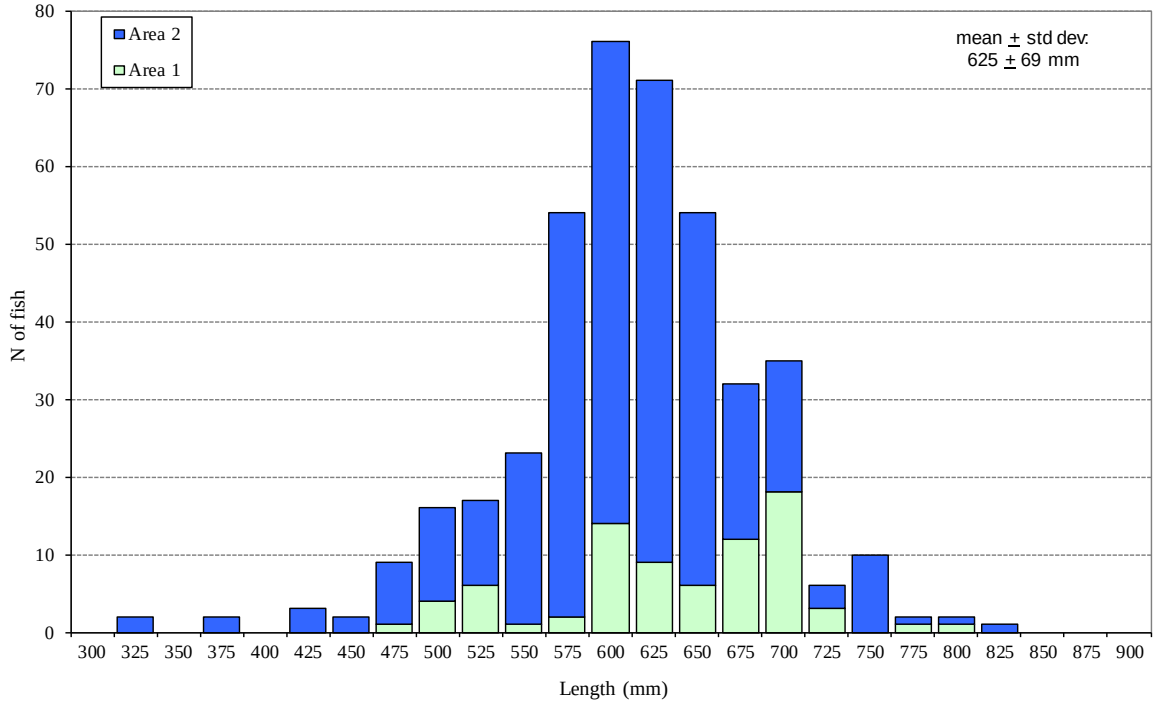


Figure 2. Length distribution (TL, mm) of steelhead observed by creel clerks during the September 2008-May 2009 (2a) and September 2009-May 2010 (2b) Ohio steelhead tributary creel surveys.

2a



2b

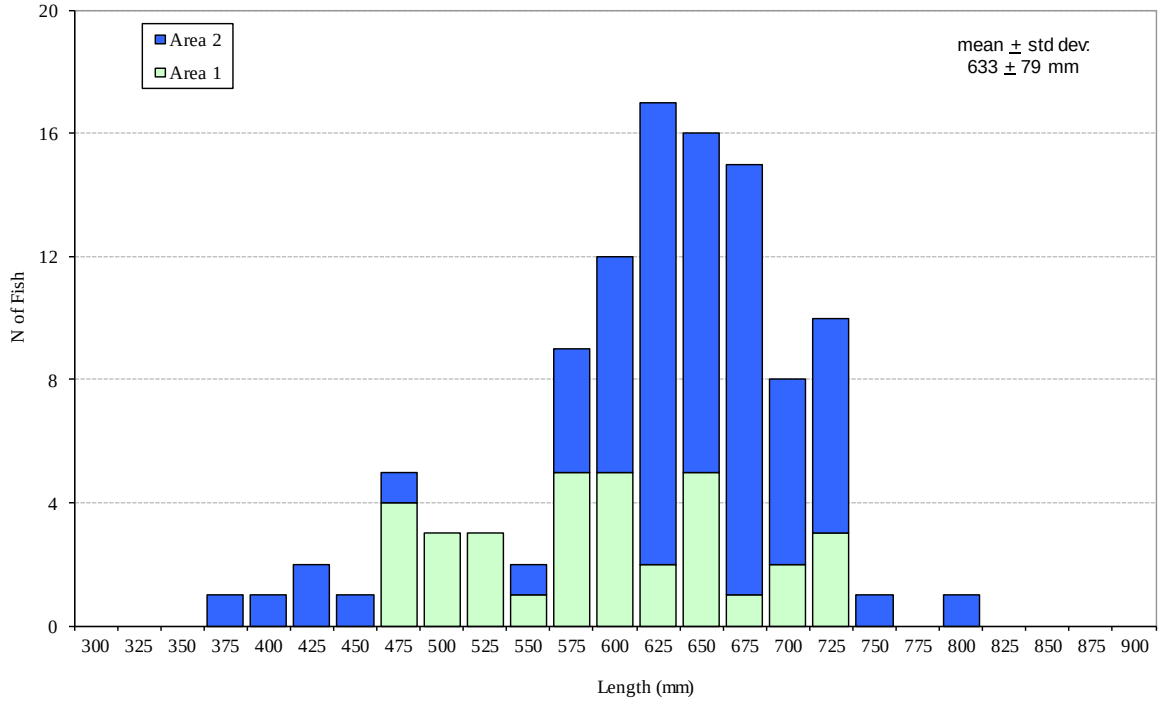
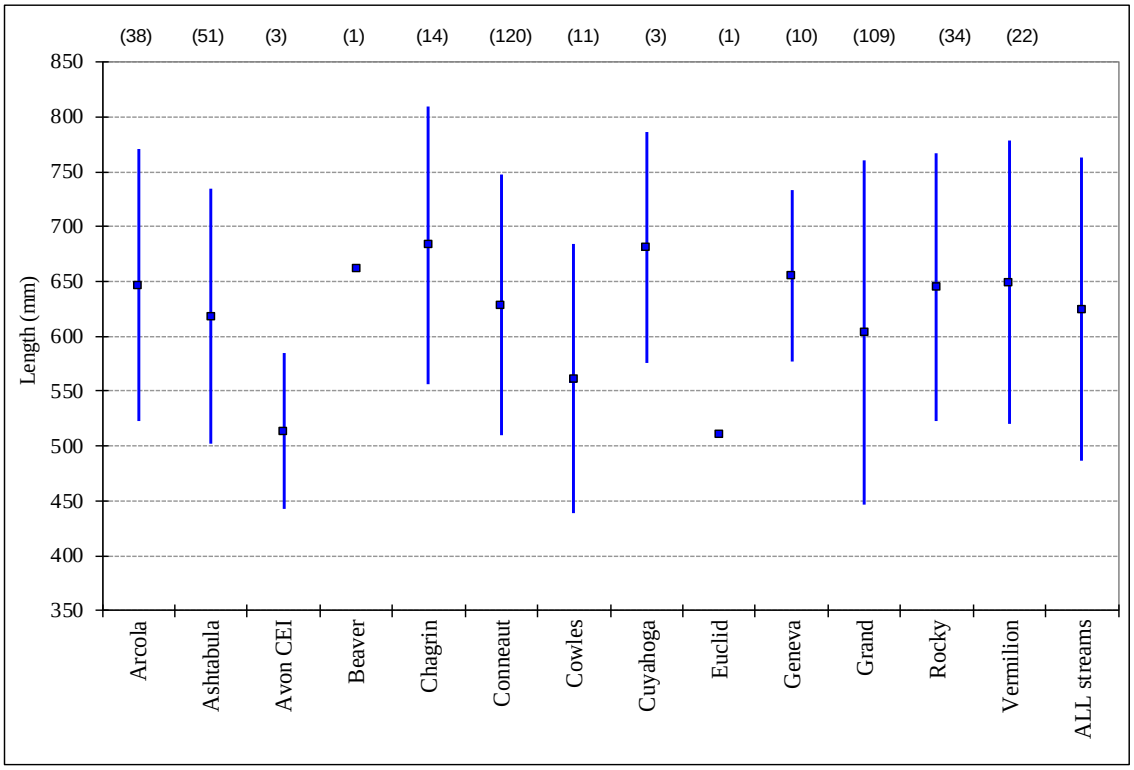


Figure 3. Mean length (TL, mm) and 95% confidence intervals for steelhead observed by creel clerks by location. Figure 3a is for fish observed during the September 2008 - May 2009 surveys and Figure 3b is for fish observed during the September 2009 - May 2010 surveys. Numbers in parentheses represent sample size observed by location.

3a



3b

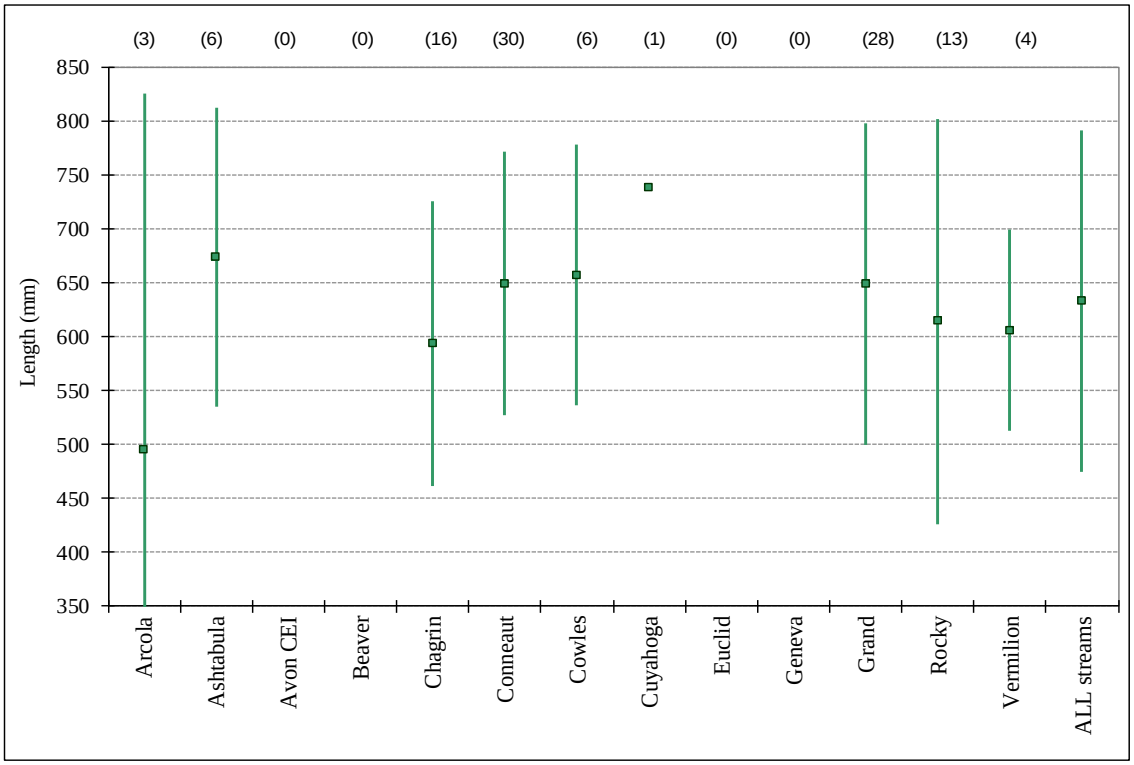
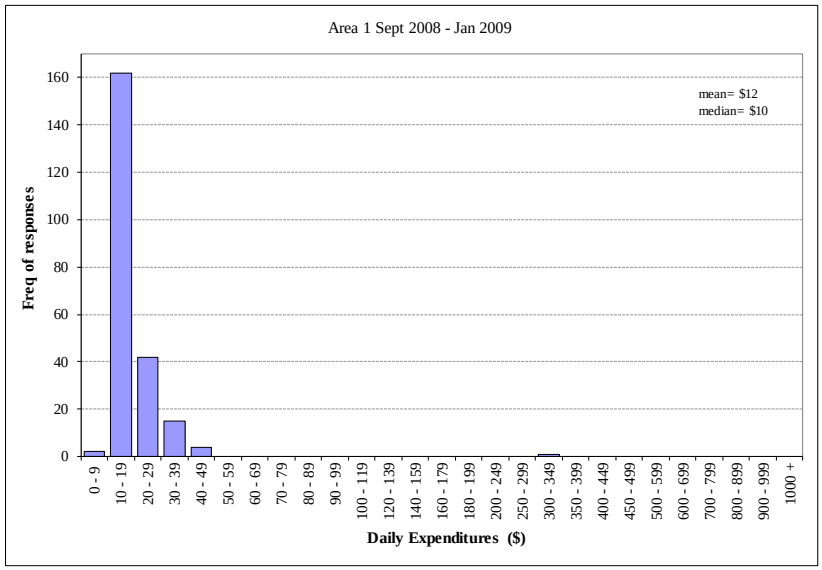
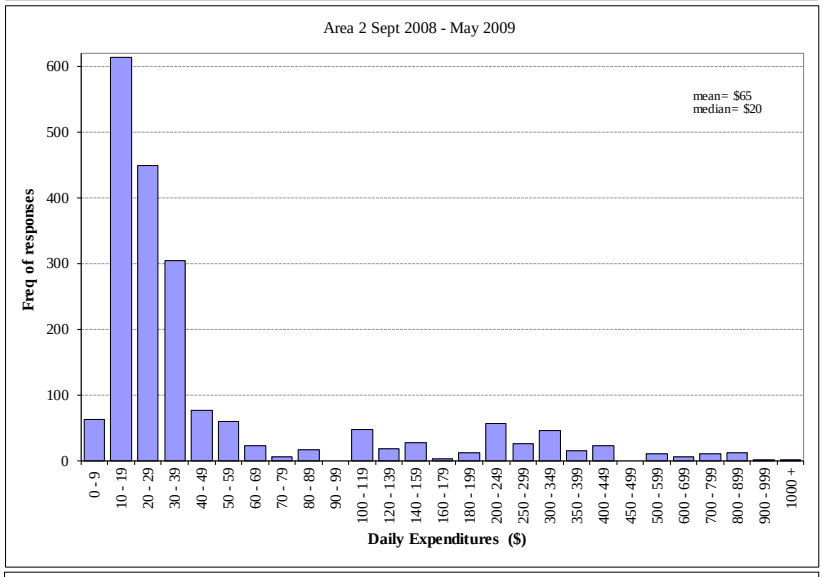


Figure 4. Summaries of steelhead angler expenditures for season and area from interviews during the September 2008-May 2009 Ohio steelhead tributary creel surveys. Figures 4a and 4b represent daily trip expenditure information gathered in Area 1 from Sept. 2008-Jan. 2009 and in Area 2 during the entire survey period. Figure 4c represents annual trip expenditure information gathered from anglers in Area 1 from February - May 2009.

4a



4b



4c

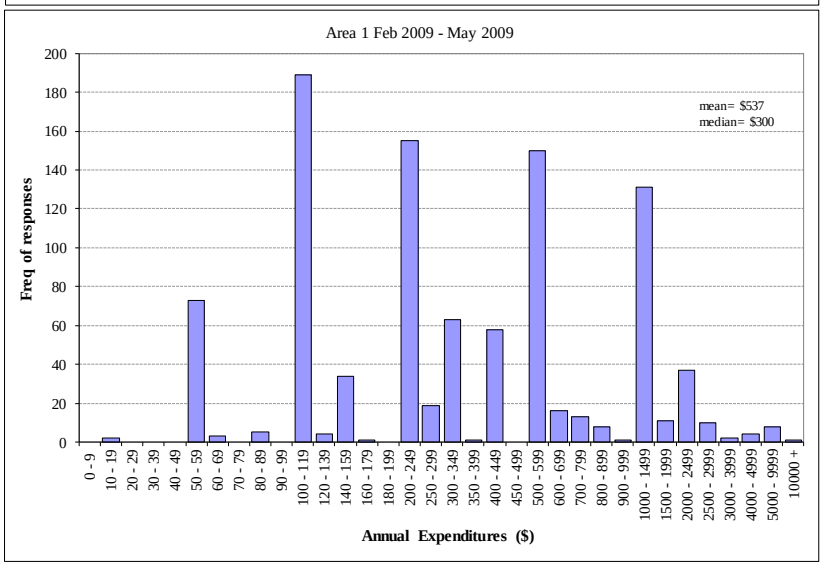
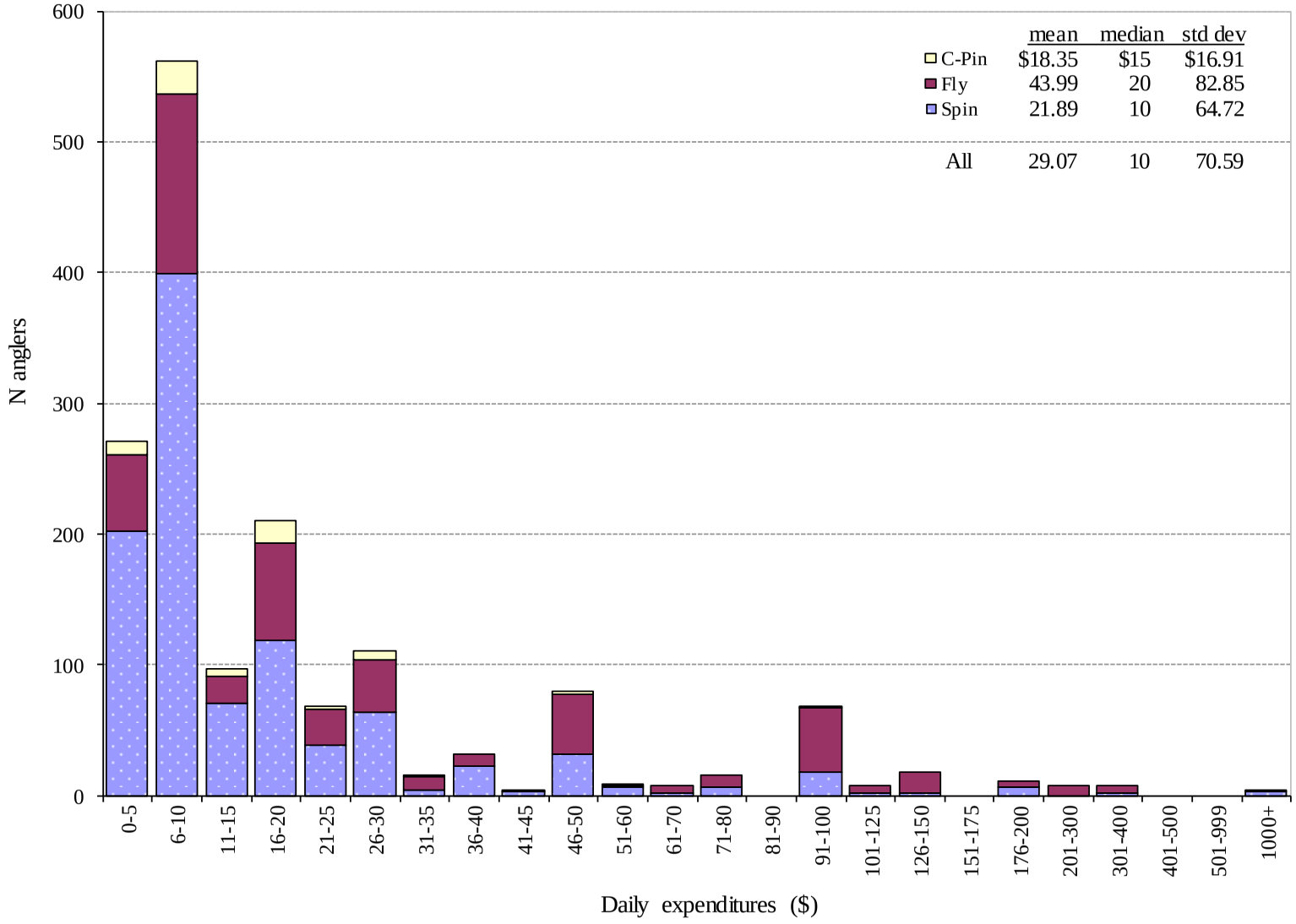


Figure 5. Summaries of estimated daily steelhead angler expenditures from interviews during the September 2009-May 2010 Ohio steelhead tributary creel surveys by angler type (fishing gear used during interview; note, C-Pin=center pin reel).



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