

# OHIO STEELHEAD FISHING

A STUDY OF ANGLER PARTICIPATION AND ACTIVITIES



**THE OHIO STATE UNIVERSITY**  
SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES  
*AND*  
**OHIO DEPARTMENT OF NATURAL RESOURCES,**  
DIVISION OF WILDLIFE



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# **Ohio Steelhead Fishing: A Study of Angler Participation and Activities**

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## Executive Summary

This study was conducted to provide insight into the attitudes, motivations and activities of steelhead anglers in Ohio. Specifically, we examined fishing involvement, motivations for fishing, and constraints to anglers' fishing participation; we also queried anglers about their fishing activities, expenditures on fishing-related equipment, and satisfaction with fishing in Ohio. Steelhead anglers were compared with a random sample of Ohio fishing license holders in order to determine if and how this group differs from your "average" angler.

Specific research objectives for this study included:

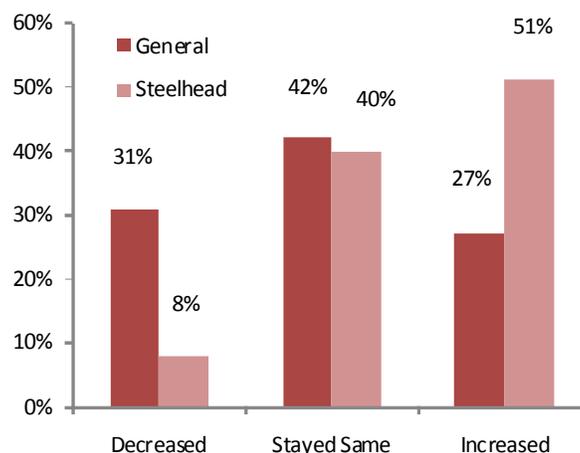
1. Describe levels of participation in steelhead fishing (e.g. number of days fished, importance/centrality of activity, spending patterns, favorite streams/rivers).
2. Quantify angler satisfaction with steelhead fishing in Ohio.
3. Determine what types of experiences motivate participation in steelhead fishing.
4. Identify factors that constrain or otherwise negatively impact steelhead anglers fishing experiences and/or participation in steelhead fishing.
5. Determine the economic value of Ohio's steelhead fishery.
6. Compare and contrast steelhead anglers with other types of Ohio anglers on the above characteristics.
7. Compare and contrast resident and non-resident anglers on the above characteristics.

We mailed questionnaires to 1,442 steelhead anglers, and 1,000 anglers who purchased Ohio fishing licenses in the last five years (hereafter referred to as "general anglers"). After adjusting for undeliverable surveys and invalid responses, the response rates were 61.4% for steelhead anglers (S) and 31.6% for general anglers (G).

### Recent Fishing Activities

Roughly 40% of both steelhead anglers and general anglers reported their fishing activities had stayed the same over the last five years. However, only 27% of general anglers indicated that their fishing activities had increased over the previous five years, while 51% of steelhead anglers reported increased fishing activities over the same time period (Figure 1). We asked anglers to estimate how many days they fished during the past 12 months across different types of waters. Steelhead anglers reported significantly more days

Figure 1. Recent fishing activities of Ohio anglers.



of fishing on *Lake Erie* ( $G=5.9$ ,  $S=15.6$ ,  $t=5.25$ ,  $p<0.001$ ), and *tributaries of Lake Erie* ( $G=3.0$ ,  $S=36.6$ ,  $t=10.72$ ,  $p<0.001$ ), significantly fewer days on the *Ohio River* ( $G=2.4$ ,  $S=0.6$ ,  $t=3.35$ ,  $p=0.001$ ) and days spent on *lakes and reservoirs* ( $G=17.3$ ,  $S=13.4$ ,  $t=2.33$ ,  $p=0.02$ ); while steelhead and general anglers did not differ in terms of days spent on *inland rivers and streams excluding the Ohio River* ( $G=10.2$ ,  $S=13.9$ ,  $t=1.80$ ,  $p=0.07$ ) and days spent on *ponds* ( $G=12.63$ ,  $S=10.7$ ,  $t=1.27$ ,  $p=0.21$ ).

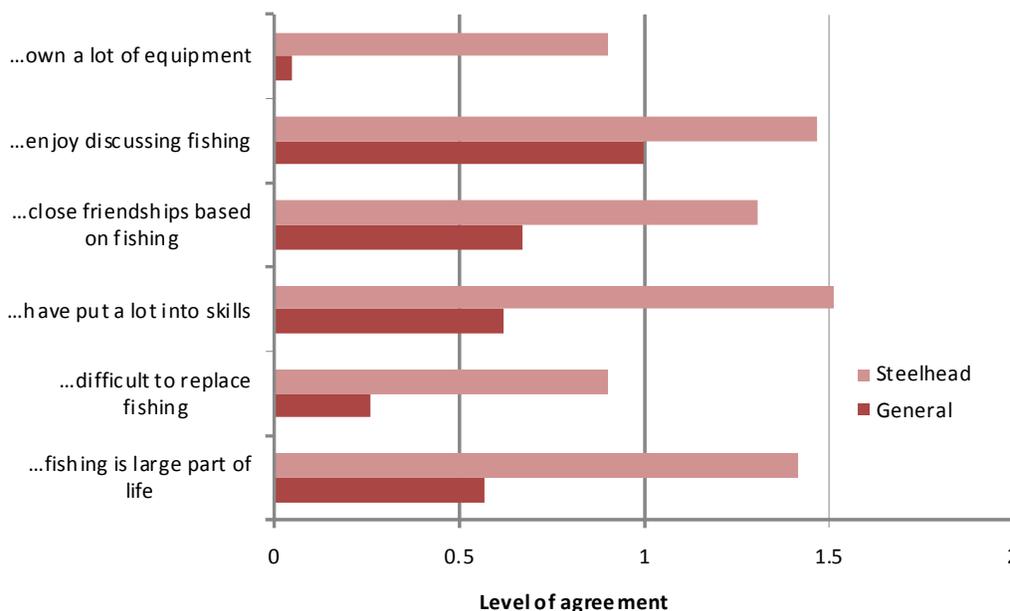
We asked steelhead anglers which type of gear they used while fishing for steelhead. Nearly two-thirds (64%) reported using a fly rod, while more than half (55%) used a spinning/noodle rod. Fewer anglers used center pin reels (11%) and other (3%) equipment.

The vast majority of all respondents—both steelhead and general anglers—were satisfied with their overall fishing experience in Ohio. Approximately 89% of steelhead anglers reported satisfaction with their fishing experience in Ohio, while 68% of general anglers reported being satisfied. Similarly, 84% of steelhead anglers reported satisfaction with their overall steelhead fishing experience. Over three-quarters were satisfied with the size of the steelhead trout they caught, and almost 70% were satisfied with the number of steelhead caught.

## Importance of Fishing

Survey recipients responded to 12 items designed to address the importance of fishing as an activity. These items asked anglers how important fishing is to them, the extent to which they identify themselves as anglers, the extent to which their social activities revolve around fishing, etc. Steelhead anglers expressed significantly higher ( $p<0.05$ ) mean levels of agreement across all 12 items (see Figure 2), indicating that, on average, steelhead anglers viewed fishing as a significantly more important recreational activity than general fishing license holders.

Figure 2. Perceived importance of fishing.



## Economics of Fishing

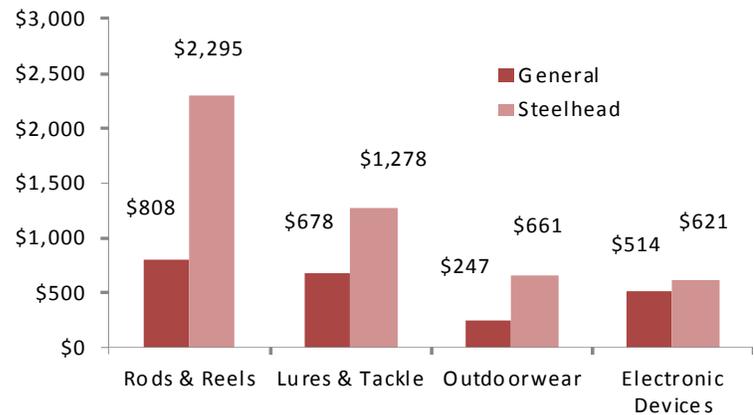
We asked several questions designed to assess anglers' economic investment in fishing in general, as well as steelhead fishing. We found no significant differences between general and steelhead anglers in terms of property owned primarily for fishing ( $G=11\%$ ,  $S=9\%$ ,  $\chi^2=1.05$ ,  $p=0.31$ ), nor boat ownership ( $G=52\%$ ,  $S=48\%$ ,  $\chi^2=1.57$ ,  $p=0.21$ ). However, steelhead anglers reported significantly higher replacement costs for (a) rods and reels, (b) lures and tackle, and (c) outdoorwear ( $p < 0.01$  for all tests; see Figure 3). Furthermore, steelhead anglers estimated that equipment used primarily for steelhead angling

accounted for \$2,076 of an estimated \$4,855 in total equipment costs—roughly 43% of their total equipment costs. Specifically, equipment used primarily for steelhead fishing accounted for: (a) 44% of the costs of rods and reels, (b) 36% of lures and tackle, (c) 69% of outdoorwear, and (d) 19% of electronic devices. Steelhead anglers spent nearly as much on equipment specific to steelhead fishing (\$2,076) as general anglers spent on all fishing-related equipment combined (\$2,247).

Steelhead anglers also reported having spent more money than general anglers on fishing equipment and travel during the previous 12 months. Specifically, 37% of general anglers and 78% of steelhead anglers reported spending \$200 or more on fishing equipment during the previous 12 months ( $\chi^2=162.99$ ,  $p < 0.001$ ; Figure 4). Similarly, 42% of general anglers and 77% of steelhead anglers reported spending \$200 or more on travel during the previous 12 months ( $\chi^2=97.35$ ,  $p < 0.001$ ). When asked to indicate how much they spent specifically on steelhead fishing during the previous 12 months, 60% of steelhead anglers reported that they had spent more than \$200 on equipment and 56% reported spending more than \$200 on travel.

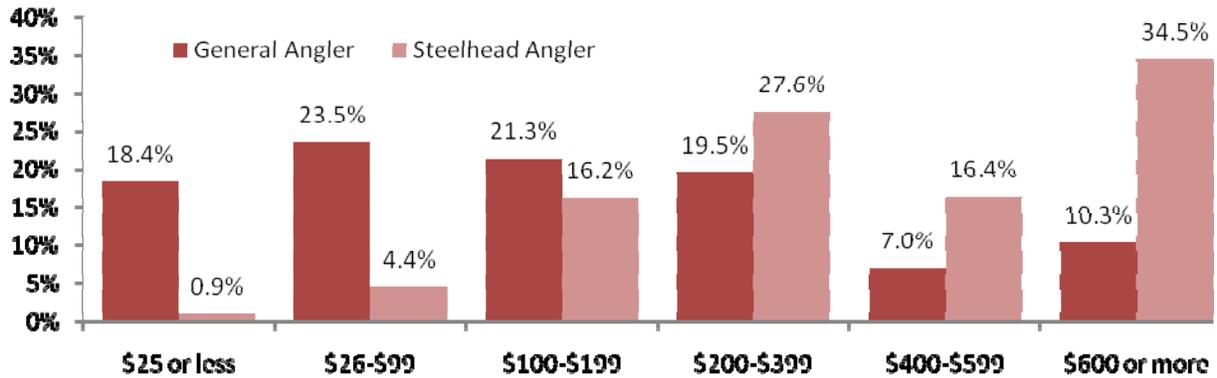
To estimate the yearly economic contribution of steelhead anglers to Ohio's economy we first took the median value for each response category (e.g. \$100 to \$199 equals \$149.50)<sup>1</sup>, multiplied this value by the number of anglers that fell within the category, and summed across all response categories. We then divided this sum by the total number of anglers in order to estimate each steelhead angler's yearly economic contribution. Separate calculations were run to determine money spent on equipment as well as money spent on travel. Steelhead anglers reported having spent an average of \$399 on fishing equipment and \$407 on travel during the previous 12 months, for a total contribution of \$806 per angler. In contrast, general license holders spent an average of \$204 on fishing equipment and \$250 on travel, for a total of \$454—or roughly 56% of steelhead anglers' reported expenses.

Figure 3. Replacement costs of various fishing-related equipment.



<sup>1</sup> The values used for each response category are as follows: \$25 or less = \$12.50; \$26-99 = \$62.50; \$100-\$199 = \$149.50; \$200-\$399 = \$299.50; \$400-\$599 = \$499.50; and \$600 or more = \$600.

Figure 4. Anglers' total equipment expenditures during previous 12 months.



### Other Avidity Indicators

Other behavioral indicators of avidity also show substantial differences between steelhead anglers and general license holders. Specifically, steelhead anglers reported higher participation in fishing tournaments ( $G=30\%$ ,  $S=43\%$ ,  $\chi^2=13.82$ ,  $p<0.001$ ), membership in a greater number of fishing-related organizations ( $G=0.83$ ,  $S=1.1$ ,  $t=9.72$ ,  $p=0.002$ ) and, on average, owned a greater number of fishing rods ( $G=9.3$ ,  $S=15.1$ ,  $t=6.94$ ,  $p<0.001$ ). In combination, these factors indicate that steelhead anglers are highly specialized anglers that exhibit high levels of involvement in their sport.

### Motivations for Fishing

Survey recipients responded to 17 items designed to assess their motivations for fishing. Steelhead and general anglers differed on most of the individual motivational items. Importantly, even where differences were not significant, steelhead anglers consistently reported higher motivations across all items. We ran a series of exploratory principal components analyses (PCA) using Varimax rotation in order to look for underlying latent motivational variables. The final PCA produced three latent components that explained 64% of the variability across 11 motivational items (Table 1). We labeled these components (1) *Rest and Relaxation*, (2) *Social-Competitive*, and (3) *Internal-Competitive*, to reflect the items that loaded highly ( $> 0.5$ ) on each component. To derive a summary score, we computed means across the items in each of the three motivational-types (i.e. components). Again, steelhead anglers exhibited significantly ( $p<0.01$ ) higher motivations than general anglers across all three motivational-types (Figure 5). These results lend additional support for the notion that steelhead anglers represent a more avid class of fishermen than general Ohio fishing license holders.

**Table 1. Motivations of steelhead and general anglers.**

	Component			Means <sup>1</sup>		T test
	Rest & Relaxation	Social-Competitive	Internal-Competitive	General Angler	Steelhead Angler	
Being in a quiet and peaceful place	<b>.837</b>	.042	.069	5.12	<b>5.32</b>	2.39*
Relaxing	<b>.832</b>	.088	.046	5.16	5.31	1.85ns
Giving your mind a rest	<b>.757</b>	.069	.108	4.72	<b>5.00</b>	2.66**
Getting away from crowds of people	<b>.724</b>	.029	.155	4.81	<b>5.21</b>	4.21***
A chance to compete with other anglers	-.013	<b>.826</b>	.220	1.59	1.79	1.49ns
Competing with friends who fish	.035	<b>.827</b>	.166	2.18	2.32	0.97ns
Being around other anglers	.095	<b>.745</b>	-.022	2.22	2.38	1.23ns
Proving your skill as an angler	.137	<b>.651</b>	.362	2.64	<b>3.41</b>	5.57***
Catching a lot of fish	.060	.107	<b>.869</b>	3.96	4.05	0.80ns
Catching big fish	.099	.187	<b>.825</b>	4.12	<b>4.38</b>	2.32*
Developing your skills & abilities	.319	.283	<b>.519</b>	3.91	<b>4.92</b>	8.59***

<sup>1</sup>Mean is based on the scale 0 = not at all important, 6 = very important.

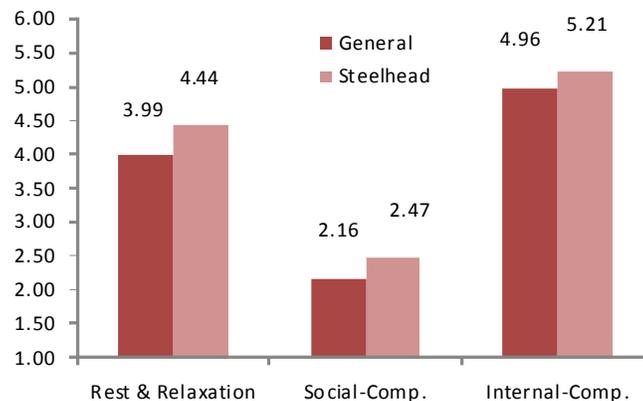
ns.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

## Constraints to Fishing

Survey participants responded to 27 items designed to assess factors that impeded or constrained their fishing activities. Items were measured along a continuum from 0 (not at all limiting) to 6 (very limiting). Both general and steelhead anglers identified *work commitments* as the factor most limiting their fishing activities. Only two other factors, (i.e. *crowding at fishing areas* and *family commitments*) had means higher than the middle-point of the scale (the top 5 constraints are shown in Figure 6).

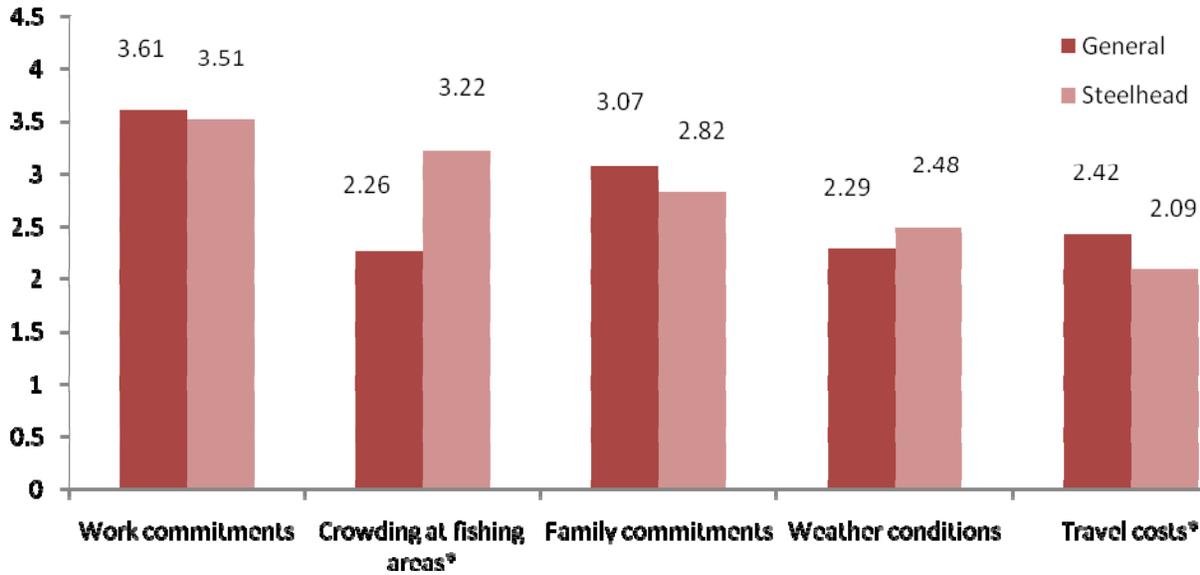
General anglers and steelhead anglers differed significantly ( $p < 0.05$ ) on 22 of the 27 items assessed. Interestingly, in all but one case (*crowding at fishing areas*), steelhead anglers reported significantly lower constraints than general anglers. Indeed, while 72% of general anglers agreed the item “I cannot fish as often as I would like”, only 58% of steelhead anglers agreed with this item. Similarly, 37% of steelhead anglers and 20% of general anglers agreed with the item “I do not feel my fishing is limited much at all.”

Figure 5. Motivations of general and steelhead anglers.



All means differ significantly ( $p < 0.01$ )

Figure 6. Factors constraining anglers' fishing activities.

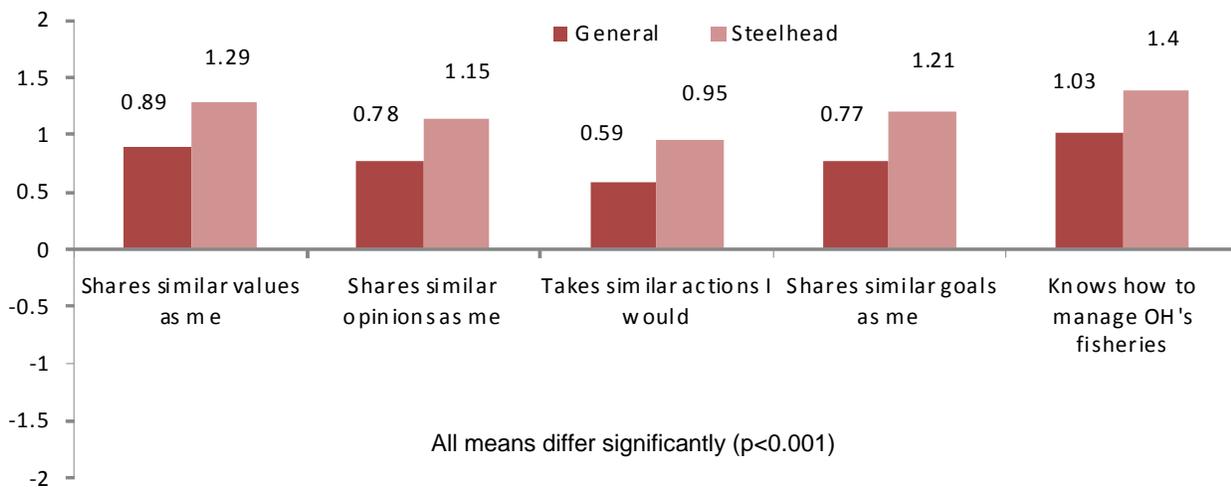


\* Means differ significantly ( $p < 0.05$ )

## Agency Trust and Fisheries Management

This study examined the anglers' shared value similarity—an indicator of trust—with the ODW. Respondents, on average, reported moderately high levels of trust in the ODW. They also felt that ODW knew how to effectively manage Ohio's fisheries and employ appropriate fisheries management techniques. Interestingly, steelhead anglers reported significantly higher levels of value similarity for all items assessed, indicating they were generally more trusting of the ODW than general anglers (Figure 7).

Figure 7. Anglers' trust in the Ohio Division of Wildlife.



All means differ significantly ( $p < 0.001$ )

## ***Summary: A Snapshot of Steelhead Anglers***

In summary, Ohio steelhead anglers fish more frequently, spend more money on fishing, perceive fewer constraints to their fishing activities, are more motivated to fish, are more satisfied with their fishing experience, and are more trusting of the Ohio Division of Wildlife's capacity to manage fish resources than the average license holder in Ohio. Of particular importance, Ohio steelhead anglers are generally increasing their frequency of fishing participation - especially relative to general license holders; thus, they are likely to continue to contribute to the conservation of Ohio's natural resources into the near future. In general, our results indicate that Ohio steelhead anglers are an avid, highly-specialized type of recreational angler, and an important stakeholder group for the management of Ohio's fisheries resources.

Steelhead fishing along Ohio's Lake Erie tributaries has become a draw for recreational anglers. The unique characteristics of the natural setting provide for a different type of fishing experience, one that ultimately helps to diversify the types of fishing opportunities in Ohio and serves a quantitatively different type of angler (as shown by the data reported herein). Although the data we collected do not allow us to make causal inferences, the characteristics of steelhead anglers relative to the average fishing license holder in Ohio (e.g., more money spent fishing, more time spent fishing, greater trust in the ODW, more satisfaction with their fishing experiences) suggest this program could be useful for recruitment and the promotion of fishing in Ohio.

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# Introduction

## ***Study Purpose and Objectives***

The Ohio Department of Natural Resources Division of Wildlife (ODW) annually stocks five Lake Erie tributaries with yearling steelhead rainbow trout *Oncorhynchus mykiss*. These steelhead migrate to Lake Erie, where they spend summers maturing in Lake Erie's cool waters before returning to the tributaries in the fall, winter, and spring to spawn, and provide Ohio anglers with excellent fishing opportunities (steelhead caught in these tributaries average roughly 25" and 6 pounds and can reach sizes over 12 lbs). Unfortunately, little recent information is available regarding the extent of Ohio anglers' participation in steelhead fishing, factors that potentially affect participation in steelhead fishing, or steelhead anglers fishing economic expenditures. This study reports on an effort to address these deficiencies. Specifically, the purpose of this study was to describe steelhead anglers' rates of participation in steelhead fishing, fishing-related expenditures, desired experiences (i.e., motivations), and satisfaction with steelhead fishing opportunities, and to differentiate them from other anglers in these regards.

Specific objectives of this study include:

1. Describe levels of participation in steelhead fishing (e.g. number of days fished, importance/centrality of activity, spending patterns, favorite streams/rivers).
2. Quantify angler satisfaction with steelhead fishing in Ohio.
3. Determine what types of experiences motivate participation in steelhead fishing.
4. Identify factors that constrain or otherwise negatively impact steelhead anglers fishing experiences and/or participation in steelhead fishing.
5. Determine the economic value of Ohio's steelhead fishery.
6. Compare and contrast steelhead anglers with other types of Ohio anglers on the above characteristics.
7. Compare and contrast resident and non-resident anglers on the above characteristics.

## **Methods**

### ***Sampling***

The sample for the steelhead angler portion of this study was collected via creel surveys conducted from October 2008 to May 2009. Individuals contacted by creel clerks were also asked about their willingness to participate in a follow-up survey. Those individuals who indicated their willingness to participate were included in our sample of steelhead anglers. In total, we mailed surveys to 1,442 steelhead anglers. Additionally, we drew a random sample of 1,000 anglers, defined as anyone who had purchased an Ohio fishing license within the last five years, from Ohio's electronic license database. Hereafter, we will refer to these individuals as "general" anglers. The sampling strategy was designed to collect a minimum of 300 returned questionnaires, which provides for estimates with a margin of error of less than 5% at the 90% confidence level (or 6% at the 95% confidence level).

### ***Data Collection***

Data were collected using a mail-back survey following the process outlined by Dillman (2007) to increase response rates. In conjunction with ODW personnel, we constructed a questionnaire, created personalized cover letters, and made multiple contacts with the targeted respondents. Potential study respondents were contacted five times between July 2009 and November 2009. In the initial contact, a cover letter, survey questionnaire, and business-reply envelope were mailed to all potential study

participants. The personalized cover letter explained the purpose of the study and made an appeal for respondents to complete and return the survey. Approximately 4 weeks after the first mailing, a second mailing that included a personalized cover letter and replacement questionnaire with business-reply envelope was sent to all individuals with valid addresses who had not yet replied. Approximately 6 weeks after the first mailing, a third complete mailing with a personalized cover letter, replacement questionnaire with business reply envelope was sent to all individuals who had not yet replied due to an omission of return envelopes in some of the second mailing. Approximately 12 weeks after the first mailing, a fourth mailing that included another cover letter and replacement questionnaire with another business-reply envelope was sent to all individuals with valid addresses who had not yet replied. Finally, about 18 weeks after the initial mailing, a 6-item postcard was sent to people who had not responded. Returned surveys were collected through December 7<sup>th</sup>, 2009.

### ***Survey Instrument***

The data collection instrument was a 12-page self-administered survey with 10 pages of questions (Appendix A). The questionnaire included the following sections:

- Part 1: General fishing background;
- Part 2: How important fishing is to you;
- Part 3: General equipment, expenses and activities;
- Part 4: Fishing activities during the past year;
- Part 5: Steelhead trout fishing in Ohio;
- Part 6: Motivations for fishing;
- Part 7: Constraints to your fishing activity;
- Part 8: Fisheries management;
- Part 9: Sociodemographics;

### ***Data Entry and Analysis***

We contracted with an outside vendor to have data professionally keypunched. Data were then transferred into Statistical Package for the Social Sciences (SPSS for Windows 17.0) for analysis. We computed basic measures of central tendency and frequencies for both steelhead anglers and general anglers. Comparative results between steelhead anglers and general anglers were computed using independent samples t-tests, chi-square tests and ANOVA depending upon the level of measurement.

### ***Survey Response Rate***

Of the 1,442 questionnaires mailed to steelhead anglers, 40 were undeliverable. Of the remaining 1,402 surveys, a total of 857 full-length surveys were returned, resulting in an overall response rate of 61.1%. Of the 1,000 questionnaires mailed to the general angler sample, 124 were undeliverable. Of the remaining 858 surveys, a total of 277 full-length surveys were returned, resulting in an overall response rate of 31.6%. In order to examine nonresponse bias, postcards with 6 items from the original survey were sent to the 604 general anglers that had not responded to the initial four mailings. To determine nonresponse for steelhead anglers, we randomly selected 250 individuals from those that had not yet responded to the initial four mailings. We received 96 responses to the follow-up postcards for a response rate of 11.24%. Differences between early and late responses are described in Section 7.

## Section 1: Fishing Participation

### ***Findings:***

#### ***Number of Years in the Past Five Years Fished in Ohio***

##### *Steelhead Anglers*

Respondents indicated which of the past five years (2004-2008) they fished in Ohio. The vast majority (83.1%) of steelhead respondents indicated purchasing a license in all five years (Table 1-1). The number of years lived in Ohio was positively correlated with the number of years purchasing a fishing license ( $r=0.28$ ,  $p\leq 0.01$ ). Also, education was negatively correlated with the number of years purchasing a fishing license ( $r=-0.10$ ,  $p\leq 0.01$ ). Age and income were not related to the number of years respondents reported purchasing a fishing license.

##### *Compared to general anglers*

The number of Ohio fishing licenses purchased by steelhead anglers over the past five years did not differ from the number purchased by general anglers ( $t = -0.09$ , n.s.; Table 1-1). There was also no significant association between the number of years general anglers purchased a fishing license and age, income, education, or number of years they lived in Ohio.

#### ***Changes in Fishing Participation in the Past Five Years***

##### *Steelhead Anglers*

Respondents reported if the number of days per year that they fished in Ohio in the past five years had decreased, increased, or stayed approximately the same. About half (52%) of steelhead respondents reported that their fishing had increased, while 40% said it had stayed the same and 8% said it had decreased (Table 1-2).

There was no relationship between age, income, number of years lived in Ohio, or education and respondents reported level of fishing.

##### *Compared to general anglers*

When compared with general anglers, steelhead anglers were more likely to report that their fishing had increased over the past five years, while general anglers were more likely to report that their fishing had decreased. ( $\chi^2=104.50$ ,  $p\leq 0.01$ ; Table 1-2).

#### ***Years of Fishing Experience***

##### *Steelhead Anglers*

Respondents were asked what year they began fishing, and what year they began fishing in Ohio. Answers were then subtracted from 2009 to create two new variables, respondent's total years fished, and total years fished in Ohio. The average number of total years respondents reported fishing was 40.1 years. Total fishing experience ranged from 0 to 74 years. The average number of total years respondents reported fishing in Ohio was 33.6 years. Total Ohio fishing years ranged from 0 to 74.

##### *Compared to general anglers*

## Section 1: Fishing Participation

There was no difference between steelhead anglers and general anglers in their average number of total years fished. General anglers had a slightly higher average number of total years fished in Ohio (35.9 years) than steelhead anglers (33.6 years;  $t = 2.19$ ,  $p \leq 0.05$ ).

### *Frequency of Fishing for Particular Species over Past 12 Months*

#### *Steelhead Anglers*

Respondents were asked to indicate how often they fished for each species listed over the past 12 months. Possible responses were “never”, “seldom”, “sometimes”, “often”, or “always”. Walleye, sauger and saugeye were grouped together. Over 80% of steelhead respondents indicated they “always” or “often” fished for steelhead in the past 12 months (Table 1-11). About half of steelhead respondents indicated they “sometimes” or “often” fish for yellow perch<sup>2</sup> (50.4%; Table 1-6), largemouth bass (56%; Table 1-7), smallmouth bass (58%; Table 1-9), or walleye, sauger or saugeye (49%; Table 1-13). About half of steelhead anglers reported “seldom” or “sometimes” fishing for bluegill (51%; Table 1-3). Over half reported “never” or “seldom” fishing for crappie (54%; Table 1-4), inland trout (60%; Table 1-12), catfish (65%; Table 1-5), or white bass (75%; Table 1-10). The majority of steelhead respondents indicated they “never” fish for muskellunge (69%; Table 1-8). About one-third of steelhead respondents indicated they “always” fished for “whatever is biting” (34.3%; Table 1-14).

#### *Compared to general anglers*

There were no significant differences between steelhead anglers’ responses and general anglers’ responses regarding perch, largemouth bass, muskellunge, or walleye, sauger or saugeye. Steelhead anglers were more likely to indicate they “often” or “always” fished for steelhead trout than general anglers ( $\chi^2=73.03$ ,  $p \leq 0.001$ ; Table 1-11). A significantly greater number of steelhead anglers said they never or seldom fished for bluegill ( $\chi^2=49.83$ ,  $p \leq 0.001$ ; Table 1-3), white bass ( $\chi^2=9.70$ ,  $p \leq 0.01$ ; Table 1-10), or catfish ( $\chi^2=62.42$ ,  $p \leq 0.001$ ; Table 1-5). Steelhead respondents were slightly more likely to report that they “sometimes” or “often” fished for smallmouth bass ( $\chi^2=16.39$ ,  $p \leq 0.01$ ; Table 1-9) and inland trout ( $\chi^2=36.17$ ,  $p \leq 0.001$ ; Table 1-12). General anglers were more likely to indicate that they “often” or “always” fished for crappie ( $\chi^2=53.99$ ,  $p \leq 0.001$ ; Table 1-4). General anglers were more likely to indicate they “always” fish for “whatever is biting” ( $\chi^2=28.82$ ,  $p \leq 0.001$ ; Table 1-14).

### *Fishing Participation on Ohio Water Areas*

#### *Steelhead Anglers*

Respondents were asked to rank six water bodies (Lake Erie, Lake Erie tributaries, the Ohio River, Ohio inland rivers or streams, Ohio inland lakes and reservoirs, and ponds) in the order of most fished to least fished, with “1” being the most fished and “6” being the least fished. Lake Erie tributaries received the highest percentage of first place rankings, with 49% of steelhead anglers ranking it as number “1”, followed by Lake Erie at 24%, and Ohio inland rivers and streams at 15% (Table 1-16, Table 1-15, and Table 1-18). The vast majority of steelhead anglers ranked the Ohio River as a “6” (81%; Table 1-17). About half of steelhead anglers ranked Ohio inland lakes or reservoirs (55%) and ponds (48%) somewhere in the middle (with a score of “3” or “4”; Table 1-19 and Table 1-20).

#### *Compared to other anglers*

Slightly more general anglers ranked Lake Erie as a “1”, while far more steelhead anglers ranked Lake Erie as a “2” ( $\chi^2 = 69.69$ ,  $p \leq 0.001$ ; Table 1-15). Steelhead anglers were far more likely to rank Lake Erie

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<sup>2</sup> Survey response category was “Perch”.

## Section 1: Fishing Participation

tributaries as a “1”, and general anglers were more likely to rank them as a “5” or “6” ( $\chi^2 = 250.12$ ,  $p \leq 0.001$ ; Table 1-16). Overall, almost three-quarters of respondents ranked the Ohio River as a “6”, but steelhead anglers overwhelmingly did so, while only about half of general anglers ranked it as a “6” ( $\chi^2 = 92.16$ ,  $p \leq 0.001$ ; Table 1-17). While the rankings for Ohio inland rivers or streams was fairly similar between the two groups, general anglers were more likely to rank them as a “1”, “2”, or “3”, and steelhead anglers were more likely to rank them as a “4”, “5”, or “6” ( $\chi^2 = 18.61$ ,  $p \leq 0.01$ ). For both ponds and Ohio inland lakes or reservoirs, general anglers were more likely to rank them as a “1” or “2”, while steelhead anglers were more likely to rank them as a “3”, “4”, or “5” ( $\chi^2 = 54.47$ ,  $p \leq 0.001$ ;  $\chi^2 = 104.16$ ,  $p \leq 0.001$ ; Tables 1-19 and 1-20).

### *Days Fished on Ohio Waters in the Past 12 Months*

#### *Steelhead Anglers*

Respondents were asked to indicate how many days during the past 12 months they had fished on each of the following water bodies: Lake Erie, Lake Erie tributaries, the Ohio River, Ohio inland rivers or streams, Ohio inland lakes and reservoirs, and ponds. Steelhead anglers spent an average of 36.6 days on Lake Erie tributaries, 15.7 days on Lake Erie, 13.9 on Ohio inland rivers or streams, 13.5 on Ohio inland lakes or reservoirs, 10.7 days on ponds, and 0.6 days on the Ohio River (Table 1-21).

#### *Compared to general anglers*

Steelhead anglers spent significantly more time on Lake Erie tributaries ( $t = -21.04$ ,  $p \leq 0.001$ ), Lake Erie ( $t = -8.04$ ,  $p \leq 0.001$ ), and Ohio inland rivers or streams ( $t = -2.26$ ,  $p \leq 0.05$ ) when compared with general anglers. Meanwhile, general anglers spent significantly more time on the Ohio River ( $t = 2.08$ ,  $p \leq 0.05$ ) and Ohio inland lakes or reservoirs ( $t = 2.33$ ,  $p < 0.05$ ) than steelhead anglers. There was no difference between steelhead anglers and general anglers in their time spent on ponds (Table 1-21).

### *Other States Fishing License Purchased in Last Three Years*

#### *Steelhead Anglers*

Respondents were asked to indicate which states other than Ohio they had purchased a fishing license over the past 3 years, and were given four blank spaces to fill in. The most frequently reported state that steelhead anglers fished in other than Ohio was Pennsylvania ( $n=335$ ), followed by New York ( $n=225$ ), and Michigan ( $n=188$ ). If all responses for Canada are summed (including responses indicating specific provinces), it becomes the next most fished place outside of Ohio ( $n=121$ ; Table 1-22).

#### *Compared to general anglers*

General anglers listed Michigan most frequently ( $n=35$ ), followed by Canada (all provinces included) ( $n=20$ ), Kentucky ( $n=14$ ), and Florida and Tennessee ( $n=13$ ; Table 1-22).

### *Angler Skills*

#### *Steelhead Anglers*

Respondents were asked to compare their angling skills to those of both other anglers in general and other anglers they knew by ranking them on a scale ranging from “Much Lower” to “Much Higher”. Almost half of steelhead anglers ranked their skills as “Higher” than other anglers in general (47%), while another 24% ranked their skills as “Much Higher”. One-quarter said that they were “About the same” as other

## Section 1: Fishing Participation

anglers in general. When asked to compare themselves to other anglers they knew, most still ranked their skills as “Higher” or “Much Higher” (59%), although the number for those that said they were “About the same” increased to just over one-third (Tables 1-23, 1-24).

### *Compared to other anglers*

When comparing their skills to other anglers’ skills in general, the most common answer among general anglers was “About the same” (39%), followed by “Higher” (27%), and “Lower” (21%). When comparing to other anglers they knew, the most common response again was “About the same” (39%), followed by “Higher” (28%), and “Lower” (21%). When both steelhead anglers and general anglers compared themselves to other anglers in general, steelhead anglers ranked their skills higher than general anglers ( $\chi^2=167.70$ ,  $p\leq 0.001$ ). Steelhead anglers also ranked their skills higher than general anglers when comparing themselves to other anglers they knew ( $\chi^2=119.27$ ,  $p\leq 0.001$ ; Tables 1-23, 1-24).

### *Catch and Release: Fishing in General*

#### *Steelhead Anglers*

Respondents were asked to answer how frequently they release legal-size fish, and could respond “Never”, “Seldom”, “Sometimes”, “Often”, and “Always”. The most common answer for steelhead anglers was “Often” (48%), followed by “Always” (37%), and “Sometimes” (12%). They were also asked what action they take once they catch their limit; possible responses were: “Quit fishing”, “Keep fishing and replace smaller fish with larger fish (cull)”, “Keep fishing and release all the fish I catch”, and “Not applicable”. The most common response here was “Catch and release” (42%), followed by “Not Applicable” (27%) and “Quit fishing” (26%; Tables 1-25, 1-26).

#### *Compared to other anglers*

When asked how frequently they release legal-size fish, general anglers reported “Often” most frequently (34%), followed by “Always” (29%), and “Sometimes” (28%). When asked what action they took after catching their limit, the most frequent answer was “Quit fishing” (44%), followed by “Catch and release” (27%), and “Not applicable” (18%). Steelhead anglers were more likely than general anglers to report “Often” or “Always” releasing legal-size fish ( $\chi^2=61.24$ ,  $p\leq 0.001$ ). Steelhead anglers were more likely to indicate that they “Catch and release” upon reaching their limit than general anglers were ( $\chi^2=47.26$ ,  $p\leq 0.001$ ; Tables 1-25, 1-26).

## Section 1: Fishing Participation

### *Satisfaction with Fishing in General over Past 12 Months*

#### *Steelhead Anglers*

Respondents were asked to report how satisfied they were with various aspects of their fishing experience in Ohio over the past 12 months, using the scale -2 (very dissatisfied) to 2 (very satisfied). Almost 90% of steelhead anglers were satisfied or very satisfied with the overall fishing experience in Ohio over the past 12 months ( $\bar{x} = 1.22$ ; Table 1-27). Around three-quarters were satisfied or very satisfied with the size of the fish they caught (84%;  $\bar{x} = 1.07$ ; Table 1-28), the number of fish they caught (74%;  $\bar{x} = 0.85$ ; Table 1-29). Over half were satisfied or very satisfied with the access at lakes and reservoirs (61%;  $\bar{x} = 0.62$ ; Table 1-32), and the access at streams and rivers (59%;  $\bar{x} = 0.42$ ; Table 1-33), while under half were satisfied or very satisfied with the behavior of other anglers (43%;  $\bar{x} = 0.19$ ; Table 1-30), and the behavior of other non-anglers (38%) ( $\bar{x} = 0.22$ ; Table 1-31).

#### *Compared to general anglers*

Steelhead anglers were significantly more satisfied than general anglers with their overall fishing experience ( $F=87.46$ ,  $p \leq 0.001$ ,  $\eta^2=0.07$ ; Table 1-27), the size of the fish caught ( $F=135.63$ ,  $p \leq 0.001$ ,  $\eta^2=0.11$ ; Table 1-28), and the number of fish caught ( $F=82.03$ ,  $p \leq 0.001$ ,  $\eta^2=0.07$ ; Table 1-29). General anglers, however, were more satisfied than steelhead anglers with the behavior of other anglers ( $F=3.94$ ,  $p \leq 0.05$ ; Table 1-30).

## Section 1: Fishing Participation

**Table 1-1: Number of Years Purchased Ohio Fishing License in the Past Five Years**

Angler Type	Sample n	Number of Years Purchased Fishing License in the Past 5 Years						Mean
		0	1	2	3	4	5	
General	275	3	11	9	15	16	223	4.52
Steelhead	839	19	31	27	34	33	710	4.53
								t = -0.09, n.s.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 1-2: Changes in Fishing Participation in the Past Five Years.**

Angler Type	Sample n	Decreased	Stayed about the same	Increased
Overall	1114	14.0%	40.5%	45.5%
General	275	31.3%	41.5%	27.3%
Steelhead	839	8.3%	40.2%	51.5%
<b>Chi-square</b>	104.53***			
<b>Cramer's V</b>	0.31			

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 1-3: Frequency Fished for Bluegill in Past 12 Months.**

Angler Type	Sample n	Never	Seldom	Sometimes	Often	Always
Overall	1004	26.0%	18.6%	29.8%	19.8%	5.8%
General	250	18.0%	12.4%	29.2%	28.4%	12.0%
Steelhead	754	28.6%	20.7%	30.0%	17.0%	3.7%
<b>Chi-square</b>	49.83***					
<b>Cramer's V</b>	0.22					

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

## Section 1: Fishing Participation

**Table 1-4: Frequency Fished for Crappie in Past 12 Months.**

Angler Type	Sample n	Never	Seldom	Sometimes	Often	Always
Overall	988	29.0%	19.3%	28.4%	16.7%	6.5%
General	240	20.4%	11.7%	29.6%	25.0%	13.3%
Steelhead	748	31.8%	21.8%	28.1%	14.0%	4.3%
<b>Chi-square</b>	53.99***					
<b>Cramer's V</b>	0.23					

n.s.=not significant, \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$

**Table 1-5: Frequency Fished for Catfish in Past 12 Months.**

Angler Type	Sample n	Never	Seldom	Sometimes	Often	Always
Overall	958	38.8%	19.3%	23.6%	12.9%	5.3%
General	245	24.5%	13.5%	31.0%	30.4%	3.5%
Steelhead	713	43.8%	21.3%	21.0%	10.4%	4.3%
<b>Chi-square</b>	62.42***					
<b>Cramer's V</b>	0.26					

n.s.=not significant, \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$

**Table 1-6: Frequency Fished for Yellow Perch<sup>1</sup> in Past 12 Months.**

Angler Type	Sample n	Never	Seldom	Sometimes	Often	Always
Overall	975	25.9%	16.2%	26.2%	22.7%	9.0%
General	236	27.1%	19.1%	25.4%	18.6%	9.7%
Steelhead	739	25.6%	15.3%	26.4%	24.0%	8.8%
<b>Chi-square</b>	4.20, n.s.					
<b>Cramer's V</b>	0.07					

n.s.=not significant, \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$

<sup>1</sup>Survey response category was "Perch".

## Section 1: Fishing Participation

**Table 1-7: Frequency Fished for Largemouth Bass in Past 12 Months.**

Angler Type	Sample n	Never	Seldom	Sometimes	Often	Always
Overall	994	16.2%	15.0%	29.5%	26.0%	13.4%
General	242	15.3%	13.2%	28.9%	24.0%	18.6%
Steelhead	752	16.5%	15.6%	29.7%	26.6%	11.7%
<b>Chi-square</b>	7.85, n.s.					
<b>Cramer's V</b>	0.09					

n.s.=not significant, \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$

**Table 1-8: Frequency Fished for Muskellunge in Past 12 Months.**

Angler Type	Sample n	Never	Seldom	Sometimes	Often	Always
Overall	934	69.6%	15.8%	9.0%	3.2%	2.4%
General	220	71.4%	11.8%	10.9%	4.1%	1.8%
Steelhead	714	69.0%	17.1%	8.4%	2.9%	2.5%
<b>Chi-square</b>	5.30, n.s.					
<b>Cramer's V</b>	0.08					

n.s.=not significant, \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$

**Table 1-9: Frequency Fished for Smallmouth Bass in Past 12 Months.**

Angler Type	Sample n	Never	Seldom	Sometimes	Often	Always
Overall	999	19.6%	15.3%	31.5%	22.7%	10.8%
General	238	25.6%	16.4%	23.9%	19.7%	14.3%
Steelhead	761	17.7%	15.0%	33.9%	23.7%	9.7%
<b>Chi-square</b>	16.39**					
<b>Cramer's V</b>	0.13					

n.s.=not significant, \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$

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**Table 1-10: Frequency Fished for White Bass in Past 12 Months.**

Angler Type	Sample n	Never	Seldom	Sometimes	Often	Always
Overall	948	50.6%	21.4%	18.5%	6.4%	3.1%
General	229	45.4%	18.8%	22.7%	8.7%	4.4%
Steelhead	719	52.3%	22.3%	17.1%	5.7%	2.6%
<b>Chi-square</b>	9.72**					
<b>Cramer's V</b>	0.10					

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 1-11: Frequency Fished for Steelhead Trout in Past 12 Months.**

Angler Type	Sample n	Never	Seldom	Sometimes	Often	Always
Overall	1056	15.4%	5.5%	13.2%	30.4%	35.5%
General	225	71.1%	9.3%	11.1%	4.0%	4.4%
Steelhead	831	.4%	4.5%	13.7%	37.5%	43.9%
<b>Chi-square</b>	726.03***					
<b>Cramer's V</b>	0.83					

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 1-12: Frequency Fished for Inland Trout in Past 12 Months.**

Angler Type	Sample n	Never	Seldom	Sometimes	Often	Always
Overall	933	48.7%	16.0%	16.4%	12.0%	7.0%
General	219	65.3%	14.6%	10.0%	5.5%	4.6%
Steelhead	714	43.6%	16.4%	18.3%	14.0%	7.7%
<b>Chi-square</b>	36.17***					
<b>Cramer's V</b>	0.20					

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

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**Table 1-13: Frequency Fished for Walleye, Sauger or Saugeye in Past 12 Months.**

Angler Type	Sample n	Never	Seldom	Sometimes	Often	Always
Overall	1000	22.4%	15.2%	27.0%	22.2%	13.2%
General	241	18.7%	14.1%	32.0%	19.1%	16.2%
Steelhead	759	23.6%	15.5%	25.4%	23.2%	12.3%
<b>Chi-square</b>	8.63, n.s.					
<b>Cramer's V</b>	0.09					

n.s.=not significant, \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$

**Table 1-14: Frequency Fished for “Whatever is biting” in Past 12 Months.**

Angler Type	Sample n	Never	Seldom	Sometimes	Often	Always
Overall	949	19.0%	9.0%	19.5%	14.2%	38.4%
General	247	9.7%	7.3%	17.4%	15.8%	49.8%
Steelhead	702	22.2%	9.5%	20.2%	13.7%	34.3%
<b>Chi-square</b>	28.82***					
<b>Cramer's V</b>	0.17					

n.s.=not significant, \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$

**Table 1-15: Rankings for Lake Erie.**

Angler Type	Sample n	Percent of Anglers ranking Lake Erie as a...					
		1	2	3	4	5	6
Overall	880	25.0	26.1	16.1	14.1	12.3	6.4
General	155	29.0	13.0	14.5	13.5	12.5	17.5
Steelhead	761	23.8	30.0	16.6	14.3	12.2	3.1
<b>Chi-square</b>	69.69***						
<b>Cramer's V</b>	0.28						

n.s.=not significant, \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$

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**Table 1-16: Rankings for Lake Erie tributaries.**

Angler Type	Sample n	Percent of Anglers ranking Lake Erie tributaries as a...					
		1	2	3	4	5	6
Overall	916	41.4	24.6	11.8	9.4	10.0	2.8
General	155	5.2	17.4	11.6	18.7	36.1	11.0
Steelhead	761	48.8	26.0	11.8	7.5	4.7	1.2
<b>Chi-square</b>	250.12***						
<b>Cramer's V</b>	0.52						

n.s.=not significant, \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$

**Table 1-17: Rankings for the Ohio River.**

Angler Type	Sample n	Percent of Anglers ranking the Ohio River as a...					
		1	2	3	4	5	6
Overall	628	3.5	3.7	3.8	8.9	6.8	73.2
General	147	7.5	5.4	10.9	22.4	6.1	47.6
Steelhead	481	2.3	3.1	1.7	4.8	7.1	81.1
<b>Chi-square</b>	92.16***						
<b>Cramer's V</b>	0.38						

n.s.=not significant, \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$

**Table 1-18: Rankings for Ohio Inland Rivers or Streams.**

Angler Type	Sample n	Percent of Anglers ranking Ohio inland rivers or streams as a...					
		1	2	3	4	5	6
Overall	790	15.4	18.7	22.9	17.0	24.1	1.9
General	184	16.3	23.4	29.9	14.7	14.1	1.6
Steelhead	606	15.2	17.3	20.8	17.7	27.1	2.0
<b>Chi-square</b>	18.61**						
<b>Cramer's V</b>	0.15						

n.s.=not significant, \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$

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**Table 1-19: Rankings for Ohio Inland Lakes or Reservoirs.**

Angler Type	Sample n	Percent of Anglers ranking Ohio inland lakes or reservoirs as a...					
		1	2	3	4	5	6
Overall	849	21.1	21.6	25.1	21.8	9.9	0.6
General	218	40.4	29.4	14.7	9.2	5.0	1.4
Steelhead	631	14.4	18.9	28.7	26.1	11.6	0.3
<b>Chi-square</b>	104.16***						
<b>Cramer's V</b>	0.35						

n.s.=not significant, \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$

**Table 1-20: Rankings for Ponds.**

Angler Type	Sample n	Percent of Anglers ranking Ponds as a...					
		1	2	3	4	5	6
Overall	819	13.2	19.0	23.9	21.5	17.8	4.5
General	212	23.1	27.8	20.8	16.5	7.5	4.2
Steelhead	607	9.7	16.0	25.0	23.2	21.4	4.6
<b>Chi-square</b>	54.47***						
<b>Cramer's V</b>	0.26						

n.s.=not significant, \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$

**Table 1-21: Average Number of Days Spent on Ohio Waters.**

Water body	Sample n	Steelhead	General	T
Lake Erie	954	15.72	5.9	-8.04***
Lake Erie tributaries	983	36.55	2.91	-21.04***
Ohio River	701	0.62	2.37	2.08*
Ohio inland rivers or streams	851	13.93	10.18	-2.26*
Ohio inland lakes or reservoirs	930	13.45	17.32	2.33*
Ponds	921	10.72	12.67	1.27, n.s.

n.s.=not significant, \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$

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**Table 1-22: Out of State Fishing License Purchases over Past Three Years.**

Angler Type	Sample n <sup>1</sup>	Responses for each state as percentage of total responses... <sup>2</sup>						
		Pennsylvania	New York	Michigan	Canada <sup>3</sup>	Kentucky	Florida	Tennessee
Overall	1612	21.3%	14.5%	13.8%	8.7%	2.8%	5.2%	2.3%
General	168	5.4%	5.4%	20.8%	11.9%	8.3%	7.7%	7.7%
Steelhead	1444	23.2%	15.6%	13.0%	8.4%	2.1%	4.9%	1.7%

**Notes:**

<sup>1</sup>Blanks were considered missing values and are not included here.

<sup>2</sup>Only the top four states for each Angler Type are reported.

<sup>3</sup>Canada is summed across all reported provinces.

**Table 1-23: Angler Skills Compared to Other Anglers in General.**

Angler Type	Sample n	My skills are...				
		Much Lower	Lower	About the same	Higher	Much Higher
Overall	1101	1.5%	7.6%	28.7%	42.3%	19.8%
General	272	5.1%	20.6%	39.0%	27.2%	8.1%
Steelhead	829	0.4%	3.4%	25.3%	47.3%	23.6%
Chi-square	167.70***					
Cramer's V	0.39***					

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 1-24: Angler Skills Compared to Other Anglers "I Know".**

Angler Type	Sample n	My skills are...				
		Much Lower	Lower	About the same	Higher	Much Higher
Overall	1096	2.0%	9.7%	36.1%	38.4%	13.8%
General	272	7.0%	20.6%	39.3%	27.6%	5.5%
Steelhead	824	0.4%	6.1%	35.1%	42.0%	16.5%
Chi-square	119.27***					
Cramer's V	0.33***					

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

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**Table 1-25: Frequency of Release of Legal-Size Fish.**

Angler Type	Sample n	I release legal-size fish...				
		Never	Seldom	Sometimes	Often	Always
Overall	1099	0.50%	3.5%	16.1%	44.6%	35.3%
General	270	1.5%	7.0%	27.8%	34.4%	29.3%
Steelhead	829	0.2%	2.3%	12.3%	47.9%	37.3%
Chi-square	61.24***					
Cramer's V	0.24***					

n.s.=not significant, \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$

**Table 1-26: Action Taken After Catching Limit.**

Angler Type	Sample n	When I catch my limit I usually...			
		Quit Fishing	Cull	Catch and Release	Not Applicable
Overall	1084	30.60%	6.4%	38.1%	24.6%
General	270	44.4%	10.0%	27.4%	18.1%
Steelhead	814	26.0%	5.2%	41.6%	27.1%
Chi-square	47.26***				
Cramer's V	0.21***				

n.s.=not significant, \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$

**Table 1-27: Satisfaction with the Overall Fishing Experience in Ohio Over the Past 12 Months.**

Angler Type	Sample n	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Means <sup>1</sup>
Overall	1104	0.7%	4.5%	10.9%	52.7%	31.2%	1.09
General	271	1.8%	8.1%	22.1%	53.5%	14.4%	0.70
Steelhead	833	0.4%	3.4%	7.2%	52.5%	36.6%	1.22
F=87.46***, $\eta^2=0.07$							

Notes:

<sup>1</sup>Mean is based on the scale: -2=Very dissatisfied, -1=Dissatisfied, 0=Neutral, 1=Satisfied, 2=Very Satisfied

n.s.=not significant, \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$

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**Table 1-28: Satisfaction with the Size of the Fish Caught Over the Past 12 Months.**

Angler Type	Sample n	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Means <sup>1</sup>
Overall	1102	1.9%	8.9%	12.9%	50.6%	25.7%	0.89
General	270	4.4%	19.6%	23.7%	41.9%	10.4%	0.34
Steelhead	832	1.1%	5.4%	9.4%	53.5%	30.6%	1.07
F=135.63***, $\eta^2=0.11$							

**Notes:**

<sup>1</sup>Mean is based on the scale: -2=Very dissatisfied, -1=Dissatisfied, 0=Neutral, 1=Satisfied, 2=Very Satisfied

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 1-29: Satisfaction with the Number of Fish Caught Over the Past 12 Months.**

Angler Type	Sample n	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Means <sup>1</sup>
Overall	1101	2.9%	13.5%	16.4%	45.0%	22.2%	0.70
General	269	5.2%	23.4%	24.5%	37.9%	8.9%	0.22
Steelhead	832	2.2%	10.3%	13.8%	47.2%	26.4%	0.85
F=79.96***, $\eta^2=0.07$							

**Notes:**

<sup>1</sup>Mean is based on the scale: -2=Very dissatisfied, -1=Dissatisfied, 0=Neutral, 1=Satisfied, 2=Very Satisfied

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 1-30: Satisfaction with the Behavior of Other Anglers Over the Past 12 Months.**

Angler Type	Sample n	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Means <sup>1</sup>
Overall	1099	4.6%	17.8%	34.5%	36.5%	6.6%	0.22
General	270	2.6%	12.6%	40.7%	37.4%	6.7%	0.58
Steelhead	829	5.3%	19.5%	32.4%	36.2%	6.5%	0.62
F=3.94*, $\eta^2=0.00$							

**Notes:**

<sup>1</sup>Mean is based on the scale: -2=Very dissatisfied, -1=Dissatisfied, 0=Neutral, 1=Satisfied, 2=Very Satisfied

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

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**Table 1-31: Satisfaction with the Behavior of Other Non-anglers Over the Past 12 Months.**

Angler Type	Sample n	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Means <sup>1</sup>
Overall	1092	4.9%	17.0%	46.2%	31.8%	5.0%	0.20
General	270	5.6%	11.5%	51.1%	28.9%	3.0%	0.12
Steelhead	822	4.7%	12.3%	44.5%	32.7%	5.7%	0.22
F=2.63 n.s., $\eta^2=0.00$							

**Notes:**

<sup>1</sup>Mean is based on the scale: -2=Very dissatisfied, -1=Dissatisfied, 0=Neutral, 1=Satisfied, 2=Very Satisfied

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 1-32: Satisfaction with Access at Lakes and Reservoirs Over the Past 12 Months.**

Angler Type	Sample n	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Means <sup>1</sup>
Overall	1084	1.8%	8.9%	28.3%	48.5%	12.5%	0.61
General	271	2.2%	10.3%	26.2%	49.8%	11.4%	0.58
Steelhead	813	1.6%	8.4%	29.0%	48.1%	12.9%	0.62
F=0.52 n.s., $\eta^2=0.00$							

**Notes:**

<sup>1</sup>Mean is based on the scale: -2=Very dissatisfied, -1=Dissatisfied, 0=Neutral, 1=Satisfied, 2=Very Satisfied

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 1-33: Satisfaction with Access at Rivers and Streams Over the Past 12 Months.**

Angler Type	Sample n	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Means <sup>1</sup>
Overall	1095	6.9%	15.2%	22.4%	42.6%	12.9%	0.39
General	269	3.3%	12.3%	40.1%	37.9%	6.3%	0.32
Steelhead	826	8.1%	16.1%	16.6%	44.2%	15.0%	0.42
F=1.77 n.s., $\eta^2=0.00$							

**Notes:**

<sup>1</sup>Mean is based on the scale: -2=Very dissatisfied, -1=Dissatisfied, 0=Neutral, 1=Satisfied, 2=Very Satisfied

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

## Section 2: Steelhead Fishing Activities

### **Findings:**

#### ***Steelhead Fishing Participation***

Respondents were asked if they had fished for steelhead trout in the past 12 months (June 2008-May 2009). Overall, 78.2% said that they had fished for steelhead in the past 12 months, with 98% of steelhead angler respondents (those participants identified by the creel survey) answering “yes” and 15% of general anglers (those participants identified through the random sample of license holders) answering “yes” (Table 2-1).

Those that indicated they had fished for steelhead in the past 12 months were then asked to indicate how many days they had fished for steelhead in the past 12 months. Overall, anglers averaged 35.5 days. Steelhead anglers averaged 36.6 days, significantly more than general anglers who averaged 12.2 days ( $t=-7.746$ ,  $p\leq 0.001$ ; Table 2-2).

There was no correlation between the number of days spent fishing for steelhead and age or number of individuals in the household under 18. However, higher income ( $r= -0.205$ ,  $p\leq 0.001$ ) and higher education ( $r= -0.182$ ,  $p\leq 0.001$ ) were both correlated with fewer steelhead fishing days.

#### ***Steelhead Fishing: Places***

Respondents were asked to indicate if they had fished for steelhead somewhere other than Ohio over the past 12 months, and if so, where they had fished. Overall, 34% indicated fishing for steelhead outside of Ohio. About one-third of steelhead anglers said they had fished for steelhead outside of Ohio, which was significantly more than the 18% of general anglers that had indicated they fished for steelhead outside of Ohio ( $t= -2.753$ ,  $p\leq 0.01$ ; Table 2-3). The most frequently mentioned state was Pennsylvania (47%), followed by New York (31%), and Michigan (16%; Table 2-4).

Respondents were also asked to list their three most preferred public access sites for steelhead fishing in Ohio. At least 225 different places were listed- from as general as “All Erie tribs” to as specific as “Eddie’s Boat Docks”. The Rocky River was mentioned in general 125 times, the Grand River 114 times, the Chagrin River 83 times, Conneaut Creek 74 times, the Ashtabula River 56 times, the Vermillion River 50 times, Arcola Creek 23 times, and the Cuyahoga River 4 times. Other, more specific locations on each river and creek were mentioned, along with several other smaller tributaries.

#### ***Catching Steelhead***

Respondents were asked to indicate what percentage of the time they release legal-size fish while fishing for steelhead with the responses that follow: 0-20%, 21-40%, 41-60%, 61-80%, or 81-100%. Overall, 74% of respondents answered that they release legal-size steelhead 81-100% of the time, with another 10% answering 61-80% of the time. Those general anglers that reported fishing for steelhead most frequently answered 81-100% of the time (43%), followed by 0-20% of the time (30%). Steelhead angler responses are identical to the overall responses. Steelhead anglers were far more likely to answer that they release fish 80-100% of the time than general anglers were ( $t= -3.97$ ,  $p\leq 0.001$ ; Table 2-5).

Participants were asked what percentage of the time they caught their daily limit of steelhead, and could respond as follows: 0-20%, 21-40%, 41-60%, 61-80%, or 81-100%. Overall, 27% of respondents

## Section 2: Steelhead Fishing Activities

indicated catching their limit 81-100% of the time, while 22.3% were at the other end of the spectrum, catching their limit 0-20% of the time. Around half (48%) of steelhead anglers reported catching their limit 61% of the time or more, significantly higher than the 23% of general anglers that reported catching their limit of steelhead 61% of the time or more ( $t = -3.867$ ,  $p \leq 0.001$ ; Table 2-6).

Upon catching their limit of steelhead, overall, anglers most frequently reported releasing all fish caught (53%). About one-third answered “Not applicable”, indicating that the given answers of catch and release, cull, or quit fishing were not accurate descriptors of their typical actions upon catching their limit. Steelhead anglers most frequently reported catch and release (55%), as did general anglers (40%). Steelhead anglers were more likely to report using catch and release than general anglers, while general anglers were more likely to quit fishing ( $\chi^2 = 9.97$ ,  $p \leq 0.05$ ; Table 2-7).

Respondents were asked to indicate what type of gear they typically used when fishing for steelhead. Responses included spinning/noodle rod gear, center pin, fly fishing rod, and a space where any other gear used could be listed. Respondents were asked to check all that apply. Of those that indicated they had fished for steelhead in the past 12 months, 63% indicated using fly rods, 56% indicated using spinning/noodle rods, 10% indicated using center pin rods, and 4% marked “other”. The filled-in answers for “other” were varied, the most common being spey rods ( $n=4$ ) and trolling gear ( $n=4$ ; Table 2-8). General anglers were more likely to use spinning/noodle rods, while steelhead anglers were more likely to use fly rods.

### *Satisfaction with Steelhead Fishing in Ohio*

Respondents were asked to indicate how satisfied they were with several factors related to steelhead fishing in Ohio on a scale from very dissatisfied to very satisfied. Factors related to steelhead fishing included steelhead fishing experience (Table 2-9), size of the fish caught (Table 2-10), number of fish caught (Table 2-11), behavior of other anglers (Table 2-12), behavior of non-anglers (Table 2-13), access at lakes (Table 2-14), and access at rivers/streams (Table 2-15). Overall, anglers were significantly satisfied with all of these factors (Table 2-16). Steelhead anglers were more satisfied than general anglers regarding their overall steelhead fishing experience ( $F = 14.094$ ,  $p \leq 0.001$ ,  $\eta^2 = 0.016$ ; Table 2-9), the size of the fish caught ( $F = 12.173$ ,  $p \leq 0.001$ ,  $\eta^2 = 0.014$ ; Table 2-10), and the number of fish caught ( $F = 4.341$ ,  $p \leq 0.05$ ,  $\eta^2 = 0.005$ ; Table 2-11).

## Section 2: Steelhead Fishing Activities

**Table 2-1: Participation in Steelhead Fishing.**

Angler Type	Sample n	Yes	No
Overall	1120	78.2%	21.8%
General	272	15.4%	84.6%
Steelhead	848	98.3%	1.7%

**Table 2-2: Number of Days of Steelhead Fishing Over the Past 12 Months.**

Angler Type	Sample n	Mean (days)
Overall	861	35.5
General	39	12.2
Steelhead	822	36.6
		t= -7.746***

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 2-3: Participation in Steelhead Fishing Outside of Ohio.**

Angler Type	Sample n	Yes	No
Overall	872	34.1%	65.9%
General	40	17.5%	82.5%
Steelhead	832	34.9%	65.1%
		t= -7.746***	

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 2-4: Places Fished for Steelhead Outside of Ohio.**

	Sample n	PA	NY	MI	Canada	IN
Overall <sup>1</sup>	433	47.10%	31.4%	16.40%	0.01%	0.01%

Notes:

<sup>1</sup>Only those responding “yes” to fishing for steelhead in Ohio in the past 12 months and to fishing for steelhead outside of Ohio in the past 12 months.

<sup>2</sup>Only those places with 5 or more responses are shown here

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

## Section 2: Steelhead Fishing Activities

**Table 2-5: Frequency of Release of Legal-Size Steelhead.**

Angler Type	Sample n	I release legal-size steelhead...					Mean <sup>2</sup>
		0-20%	21-40%	41-60%	61-80%	81-100%	
Overall <sup>1</sup>	866	3.70%	3.7%	3.70%	8.8%	82.7%	4.38
General	40	30.0%	5.0%	10.0%	12.5%	42.5%	3.33
Steelhead	826	7.0%	2.7%	5.60%	9.6%	75.2%	4.43
t= -3.970***							

**Notes:**

<sup>1</sup>Only those responding “yes” to fishing for steelhead in Ohio in the past 12 months

<sup>2</sup>Means based on the scale: 1 = 0-20%, 2 = 21-40%, 3 = 41-60%, 4 = 61-80%, 5 = 81-100%.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 2-6: Frequency of Catching Daily Limit of Steelhead.**

Angler Type	Sample n	How often do you catch your daily limit of steelhead?					Mean <sup>2</sup>
		0-20%	21-40%	41-60%	61-80%	80-100%	
Overall <sup>1</sup>	861	22.3%	14.9%	15.7%	19.7%	27.4%	3.15
General	40	45.0%	20.0%	12.5%	12.5%	10.0%	2.25
Steelhead	821	21.2%	14.6%	15.8%	20.2%	28.1%	3.19
t= -3.864***							

**Notes:**

<sup>1</sup>Only those responding “yes” to fishing for steelhead in Ohio in the past 12 months

<sup>2</sup>Means based on the scale: 1 = 0-20%, 2 = 21-40%, 3 = 41-60%, 4 = 61-80%, 5 = 81-100%.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 2-7: Action After Catching Limit of Steelhead.**

Angler Type	Sample n	When I catch my limit I usually...			
		Quit Fishing	Cull	Catch and Release	Not Applicable
Overall	863	12.1%	2.5%	54.7%	30.7%
General	40	27.5%	2.5%	40.0%	30.0%
Steelhead	823	11.3%	2.6%	55.5%	30.7%
Chi-square	9.970*				
Cramer's V	0.107*				

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

## Section 2: Steelhead Fishing Activities

**Table 2-8: Type of Gear Used When Fishing for Steelhead.**

Angler Type	Sample n	Marked			
		Spinning/noodle	Center pin	Fly	Other
Overall	876	55.9%	10.4%	62.7%	3.7%
General	42	73.8%	4.8%	28.6%	9.5%
Steelhead	834	55.0%	10.7%	64.4%	3.4%
Chi-square		5.718*	0.932 n.s.	21.927***	2.746 n.s.
Cramer's V		0.081*	0.041 n.s.	0.158***	0.070*

n.s.=not significant, \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$

**Table 2-9: Overall Satisfaction with Steelhead Fishing in Ohio.**

Angler Type	Sample n	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Means <sup>2</sup>
Overall <sup>1</sup>	867	1.6%	6.2%	8.9%	46.9%	36.3%	1.10
General	40	5.0%	17.5%	17.5%	35.0%	25.0%	0.58
Steelhead	834	1.5%	5.7%	8.5%	47.5%	36.9%	1.13
F=14.094***, $\eta^2=0.016$							

Notes:

<sup>1</sup>Only those responding “yes” to fishing for steelhead in Ohio in the past 12 months

<sup>2</sup> Mean is based on the scale: -2=Very dissatisfied, -1=Dissatisfied, 0=Neutral, 1=Satisfied, 2=Very Satisfied

n.s.=not significant, \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$

**Table 2-10: Satisfaction with the Size of Steelhead Caught.**

Angler Type	Sample n	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Means <sup>2</sup>
Overall <sup>1</sup>	871	1.7%	3.7%	10.4%	47.1%	37.1%	1.14
General	40	2.5%	12.5%	22.5%	40.0%	22.5%	0.68
Steelhead	831	1.7%	3.2%	9.9%	47.4%	37.8%	1.16
F=12.173***, $\eta^2=0.014$							

Notes:

<sup>1</sup>Only those responding “yes” to fishing for steelhead in Ohio in the past 12 months

<sup>2</sup> Mean is based on the scale: -2=Very dissatisfied, -1=Dissatisfied, 0=Neutral, 1=Satisfied, 2=Very Satisfied

n.s.=not significant, \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$

## Section 2: Steelhead Fishing Activities

**Table 2-11: Satisfaction with the Number of Steelhead Caught.**

Angler Type	Sample n	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Means <sup>2</sup>
Overall <sup>1</sup>	863	4.3%	11.7%	15.3%	41.7%	27.0%	0.75
General	40	5.0%	22.5%	17.5%	37.5%	17.5%	0.40
Steelhead	823	4.3%	11.2%	15.2%	41.9%	27.5%	0.77
F=4.341*, $\eta^2=0.005$							

**Notes:**

<sup>1</sup>Only those responding “yes” to fishing for steelhead in Ohio in the past 12 months

<sup>2</sup> Mean is based on the scale: -2=Very dissatisfied, -1=Dissatisfied, 0=Neutral, 1=Satisfied, 2=Very Satisfied

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 2-12: Satisfaction with the Behavior of Other Anglers.**

Angler Type	Sample n	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Means <sup>2</sup>
Overall <sup>1</sup>	867	6.2%	19.8%	27.9%	36.6%	9.5%	0.23
General	40	10.0%	30.0%	22.5%	30.0%	7.5%	-0.05
Steelhead	827	6.0%	19.3%	28.2%	36.9%	9.6%	0.25
F=2.931 n.s., $\eta^2= 0.003$							

**Notes:**

<sup>1</sup>Only those responding “yes” to fishing for steelhead in Ohio in the past 12 months

<sup>2</sup> Mean is based on the scale: -2=Very dissatisfied, -1=Dissatisfied, 0=Neutral, 1=Satisfied, 2=Very Satisfied

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 2-13: Satisfaction with the Behavior of Non-Anglers.**

Angler Type	Sample n	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Means <sup>2</sup>
Overall <sup>1</sup>	861	4.5%	10.0%	45.9%	31.9%	7.7%	.28
General	40	10.0%	5.0%	55.0%	22.5%	7.5%	0.13
Steelhead	821	4.3%	10.2%	45.4%	32.4%	7.7%	0.29
F=1.252 n.s., $\eta^2= 0.001$							

**Notes:**

<sup>1</sup>Only those responding “yes” to fishing for steelhead in Ohio in the past 12 months

<sup>2</sup> Mean is based on the scale: -2=Very dissatisfied, -1=Dissatisfied, 0=Neutral, 1=Satisfied, 2=Very Satisfied

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

## Section 2: Steelhead Fishing Activities

**Table 2-14: Satisfaction with Access at Lake for Steelhead Fishing.**

Angler Type	Sample n	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Means <sup>2</sup>
Overall <sup>1</sup>	813	1.7%	7.1%	47.8%	32.7%	10.6%	0.43
General	40	7.5%	12.5%	32.5%	32.5%	15.0%	0.35
Steelhead	773	1.4%	6.9%	48.6%	32.7%	10.3%	0.44
F=0.411 n.s., $\eta^2=0.001$							

**Notes:**

<sup>1</sup>Only those responding “yes” to fishing for steelhead in Ohio in the past 12 months

<sup>2</sup> Mean is based on the scale: -2=Very dissatisfied, -1=Dissatisfied, 0=Neutral, 1=Satisfied, 2=Very Satisfied

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 2-15: Satisfaction with Access at Rivers/Streams for Steelhead Fishing.**

Angler Type	Sample n	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Means <sup>2</sup>
Overall <sup>1</sup>	868	8.3%	17.7%	13.8%	42.4%	17.7%	0.44
General	40	10.0%	12.5%	20.0%	50.0%	7.5%	0.33
Steelhead	828	8.2%	18.0%	13.5%	42.0%	18.2%	0.44
F=0.352 n.s., $\eta^2=0.000$							

**Notes:**

<sup>1</sup>Only those responding “yes” to fishing for steelhead in Ohio in the past 12 months

<sup>2</sup> Mean is based on the scale: -2=Very dissatisfied, -1=Dissatisfied, 0=Neutral, 1=Satisfied, 2=Very Satisfied

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 2-16: Satisfaction with Steelhead Fishing.**

Item	Mean <sup>1,2</sup>	Different from "Neutral"?
Your steelhead fishing experience	1.1	t=35.446***
The size of fish you caught	1.14	t=38.680***
The number of fish you caught	0.75	t=20.079***
The behavior of other anglers	0.23	t=6.396***
The behavior of non-anglers	0.28	t=9.099***
Access at lakes	0.43	t=14.714***
Access at rivers/streams	0.44	t=10.637***

**Notes:**

<sup>1</sup>Only those responding “yes” to fishing for steelhead in Ohio in the past 12 months

<sup>2</sup> Mean is based on the scale: -2=Very dissatisfied, -1=Dissatisfied, 0=Neutral, 1=Satisfied, 2=Very Satisfied

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

## Section 3: Investment in Fishing

### **Findings:**

#### *Importance of Fishing*

##### *Overall*

Respondents were asked how much they agreed with a series of statements about the importance of fishing in their lives. Response was on a scale of -2 (strongly disagree), -1 (disagree), 0 (neutral), 1 (agree), and 2 (strongly agree). The statements included general statements about how important fishing is to them, how much they personally identify as an angler, fishing-related social connections, and fishing equipment (Tables 3-1 to 3-12).

Four questions addressed the importance of fishing to respondents. Over 80% of respondents agreed that “participation in fishing is a large part of my life” ( $\bar{x} = 1.21$ ). Well over half agreed that it would be difficult to find another recreational activity to replace fishing in their life (63%;  $\bar{x} = 0.75$ ) and with the statement that “I would rather fish than do any other recreational activity (65%;  $\bar{x} = 0.88$ ). Almost all respondents disagreed with the statement “I have little or no interest in fishing” (97%;  $\bar{x} = -1.82$ ). Agreement with the statement “I would rather fish than do any other recreational activity” was slightly negatively correlated with household income ( $r=-0.07, p\leq 0.05$ ). Those who agreed that they had little to no interest in fishing also reported slightly lower household income ( $r=-0.10, p\leq 0.01$ ). Income and education were both negatively correlated with agreement with the statement “It would be difficult for me to find another recreational activity to replace fishing” (income  $r=-0.06, p\leq 0.05$ , and education  $r=-0.07, p\leq 0.05$ , respectively; Tables 3-1 through 3-4).

Three questions addressed how much respondents personally identify as anglers. Over 80% of respondents agreed that “fishing says a lot about who I am” ( $\bar{x} = 1.08$ ) and that they have put a lot into developing skills for fishing ( $\bar{x} = 1.29$ ). Over three-quarters agreed that “when I am fishing, I can really be myself” ( $\bar{x} = 1.09$ ). Older respondents tended to agree less that fishing says a lot about who they are ( $r=-0.082, p\leq 0.01$ ), and that when they are fishing they can be themselves ( $r=-0.06, p\leq 0.05$ ; Tables 3-5 through 3-7).

Three questions addressed the importance of the social aspect of fishing. Over 80% agreed that they have close friendships that are based around fishing ( $\bar{x} = 1.16$ ), and that they enjoy discussing fishing with friends ( $\bar{x} = 1.36$ ). Over half agreed that most of their friends are in some way connected with fishing (55%;  $\bar{x} = 0.55$ ). Older respondents tended to agree less with the statement “I enjoy discussing fishing with my friends” ( $r=-0.07, p\leq 0.05$ ). Income and education were both negatively correlated with agreement with the statement “most of my friends are in some way connected with fishing” (income  $r=-0.12, p\leq 0.01$ , and education  $r=-0.16, p\leq 0.01$ , respectively; Tables 3-8 through 3-10).

Finally, two items dealt with fishing equipment. Again, over 80% agreed that they owned a lot of equipment that would be useless if they quit fishing ( $\bar{x} = 1.50$ ), while over half agreed that “compared to other anglers, I own a lot of fishing equipment” ( $\bar{x} = 0.69$ ). Agreement with the statement “over time, I have acquired a lot of equipment that I would not use if I quit fishing” was positively correlated with household income ( $r=0.08, p\leq 0.01$ ) and education ( $r=0.09, p\leq 0.01$ ; Tables 3-11 and 3-12).

## Section 3: Investment in Fishing

### *Steelhead anglers compared to other anglers*

On every item except one, steelhead anglers more strongly agreed that fishing was important to them than general anglers. For the one item for which this is not true, “I have little to no interest in fishing,” steelhead anglers more strongly disagreed than general anglers, though it should be duly noted that almost all respondents disagreed with this statement ( $t=7.098$ ,  $p\leq 0.001$ ; Tables 3-1 through 3-12).

### ***Fishing-Related Expenses***

#### *General Fishing Expenses*

Respondents were asked to estimate the total replacement cost of fishing equipment in four categories: (a) rods and reels, (b) lures, tackle and storage, (c) outdoorwear, (d) electronic devices. Replacement costs for these items averaged \$1937 for rods and reels, \$1135 for lures and tackle, \$576 for outdoorwear, and \$595 for electronic devices. Age ( $r=0.08$ ,  $p\leq 0.05$ ), income ( $r=0.12$ ,  $p\leq 0.01$ ) and education ( $r=0.13$ ,  $p\leq 0.01$ ) were all positively correlated with the replacement costs of rods and reels. Replacement of outdoorwear was positively correlated with income ( $r=0.12$ ,  $p\leq 0.01$ ) and education ( $r=0.07$ ,  $p\leq 0.05$ ; Tables 3-13 through 3-16).

Respondents were also asked how much they spent in the past 12 months on equipment and travel, and could respond in one of six categories: \$25 or less, \$26-\$99, \$100-\$199, \$200-\$399, \$400-\$599, \$600 or more. The most frequent response for equipment expenditures was \$600 or more (28%), followed by \$200-\$399 (26%). For travel expenditures the most frequent response was \$600 or more (37%), followed by \$200-\$399 (19%). Money spent in the past 12 months on equipment was positively correlated with income ( $r=0.23$ ,  $p\leq 0.01$ ), and education ( $r=0.14$ ,  $p< 0.01$ ). Money spent on travel in the past 12 months was positively correlated to age ( $r=0.11$ ,  $p\leq 0.01$ ), income ( $r=0.21$ ,  $p\leq 0.01$ ), and education ( $r=0.13$ ,  $p\leq 0.01$ ; Tables 3-17 and 3-18)

Steelhead anglers reported significantly higher replacement costs for all but electronic devices, and reported spending significantly more than general anglers on both travel and equipment in the past 12 months.

#### *Steelhead Fishing Expenses*

Respondents that indicated having fished for steelhead in the past 12 months in Ohio were asked to indicate how much they spent on travel and equipment in the past 12 months on steelhead fishing trips with the following response categories: \$25 or less, \$26-\$99, \$100-\$199, \$200-\$399, \$400-\$599, \$600 or more. For travel, just over one-third of respondents indicated spending \$400 or more, while for equipment, just under one-third indicated spending \$400 or more. Expenditures on travel ( $r=0.15$ ,  $p\leq 0.01$ ) and equipment ( $r=0.17$ ,  $p\leq 0.01$ ) both positively correlated with income, while equipment expenditures also correlated with education ( $r=0.079$ ,  $p\leq 0.05$ ; Tables 3-19 and 3-20).

Respondents were also asked to estimate the total replacement cost of steelhead fishing equipment in four categories: (a) rods and reels, (b) lures, tackle and storage, (c) outdoorwear, (d) electronic devices. Replacement costs for these items averaged \$1020 for rods and reels, \$450 for lures, tackle and storage, \$445 for outdoorwear, and \$114 for electronic devices. Income ( $r=0.07$ ,  $p\leq 0.05$ ) and education ( $r=0.11$ ,  $p\leq 0.01$ ) were both positively correlated with replacement cost for rods and reels and outdoorwear (income  $r=0.10$ ,  $p\leq 0.01$ , and education  $r=0.10$ ,  $p\leq 0.01$ , respectively; Tables 3-21 through 3-24)

Steelhead anglers reported significantly more money spent in the past 12 months on both equipment ( $t=-5.981$ ,  $p\leq 0.001$ ) and travel ( $t=-4.691$ ,  $p\leq 0.001$ ) than general anglers. Steelhead anglers also reported a higher replacement cost for outdoorwear than general anglers ( $t=-2.150$ ,  $p\leq 0.05$ ).

## Section 3: Investment in Fishing

### ***Fishing-Related Property***

#### *Steelhead Anglers*

Respondents were asked to indicate whether or not they owned either a boat that was used for fishing or property (such as a lot, cabin or motor home) that was bought primarily for fishing. Just under half of steelhead anglers indicated owning a boat (48%), while only 9% indicated owning property (Tables 3-25 and 3-26). Respondents were also asked how many rods they owned. Responses ranged from 1-200, with 10 being the most frequently reported number of rods, and 15 the average (Table 3-27).

#### *Compared to general anglers*

There was no significant difference between steelhead anglers and general anglers in their ownership of boats or property owned for fishing. However, steelhead anglers owned significantly more rods than general anglers ( $t = -6.942, p \leq 0.001$ ; Tables 3-21 through 3-23).

### ***Fishing Tournament Participation***

#### *Steelhead Anglers*

Respondents were asked to indicate whether or not they had ever participated in a fishing tournament. 42.8% said that they had participated in a fishing tournament (Table 3-28). They were also asked to indicate how many times they had participated in tournaments within the last 12 months. Possible responses were as follows: none, 1 to 3 times, 4-9 times, and 10 or more times. Most steelhead anglers indicated they have not fished in competitive tournaments over the past year (80%), while 14% said they had participated 1 to 3 times over the past year, and about 6% indicated participating in 4 or more tournaments (Table 3-29).

#### *Compared to general anglers*

Steelhead anglers were more likely than general anglers to have participated in a fishing tournament ( $t = 3.873, p \leq 0.001$ ; Table 3-28). There were no significant differences between general anglers and steelhead anglers in their tournament participation over the past 12 months. (Table 3-29)

### ***Fishing Club/Organization Membership***

#### *Steelhead Anglers*

Respondents were asked to indicate how many fishing clubs or organizations they belonged to. For steelhead anglers, answers ranged from “0” to “8”, with “0” being the most frequent answer (28.8%), followed by “1” (20.4%), and “2” (10.2%). It may be interesting to note that 36% of steelhead anglers chose not to answer this question, which likely indicates they do not belong to any such organizations. If this assumption is correct, then roughly two-thirds of steelhead anglers don’t belong to any fishing related clubs or organizations, while just under one-third belong to one or two organizations. (Table 3-30).

#### *Compared to other anglers*

Among general anglers, responses ranged from “0” to “4”. Almost half of general anglers responded that they belonged to 0 fishing-related clubs or organizations, while a combined 16% answered “1” or “2”. Again, just over one-third chose not to respond to this question, likely indicating that they do not belong to any such organization, and when added to those that answered “0” make up over 80% of general angling respondents. Leaving out these missing responses, steelhead anglers were more likely than general anglers to belong to a fishing-related club or organization ( $t = 6.001, p \leq 0.001$ ; Table 3-26).

## Section 3: Investment in Fishing

**Table 3-1: Importance of Fishing: Participation in fishing is a large part of my life.**

Angler Type	Sample n	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean <sup>1</sup>
Overall	1121	1.5%	3.9%	13.5%	34.5%	46.6%	1.21
General	276	5.8%	9.4%	28.6%	34.4%	21.7%	0.57
Steelhead	845	0.1%	2.1%	8.5%	34.6%	54.7%	1.42
t = -11.876***							

**Notes:**

<sup>1</sup>Mean is based on the scale: strongly disagree = -2, disagree = -1, neutral = 0, agree = 1, strongly agree = 2.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 3-2: Importance of Fishing: It would be difficult for me to find another recreational activity to replace fishing.**

Angler Type	Sample n	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean <sup>1</sup>
Overall	1122	4.8%	12.8%	19.0%	29.7%	33.7%	0.75
General	273	11.4%	17.6%	25.3%	25.3%	20.5%	0.26
Steelhead	849	2.7%	11.3%	17.0%	31.1%	37.9%	0.90
t = -7.430***							

**Notes:**

<sup>1</sup>Mean is based on the scale: strongly disagree = -2, disagree = -1, neutral = 0, agree = 1, strongly agree = 2.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 3-3: Importance of Fishing: I have little or no interest in fishing.**

Angler Type	Sample n	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean <sup>1</sup>
Overall	1108	87.6%	9.1%	2.0%	0.5%	0.8%	-1.82
General	271	69.0%	21.4%	6.6%	1.1%	1.8%	-1.55
Steelhead	837	93.7%	5.1%	0.5%	0.2%	0.5%	-1.91
t = 7.098***							

**Notes:**

<sup>1</sup>Mean is based on the scale: strongly disagree = -2, disagree = -1, neutral = 0, agree = 1, strongly agree = 2.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

### Section 3: Investment in Fishing

**Table 3-4: Importance of Fishing: I would rather fish than do any other recreational activity.**

Angler Type	Sample n	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean <sup>1</sup>
Overall	1120	2.6%	9.6%	23.2%	26.5%	38.0%	0.88
General	276	7.6%	15.6%	28.6%	26.4%	21.7%	0.39
Steelhead	844	0.9%	7.7%	21.4%	26.5%	43.4%	1.04
t=-8.021***							

Notes:

<sup>1</sup>Mean is based on the scale: strongly disagree = -2, disagree = -1, neutral = 0, agree = 1, strongly agree = 2.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 3-5: Importance of Fishing: Fishing says a lot about who I am.**

Angler Type	Sample n	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean <sup>1</sup>
Overall	1122	1.2%	3.3%	21.0%	35.0%	39.4%	1.08
General	277	3.2%	7.6%	35.4%	22.9%	20.9%	0.61
Steelhead	845	0.6%	1.9%	16.3%	35.7%	45.4%	1.24
t=-9.422***							

Notes:

<sup>1</sup>Mean is based on the scale: strongly disagree = -2, disagree = -1, neutral = 0, agree = 1, strongly agree = 2.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 3-6: Importance of Fishing: I have put a lot into developing skills for fishing.**

Angler Type	Sample n	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean <sup>1</sup>
Overall	1117	1.6%	5.4%	10.2%	32.8%	51.7%	1.29
General	272	6.3%	10.3%	34.6%	32.7%	26.1%	0.62
Steelhead	845	0.1%	1.7%	5.6%	32.8%	59.9%	1.51
t=-11.935							

Notes:

<sup>1</sup>Mean is based on the scale: strongly disagree = -2, disagree = -1, neutral = 0, agree = 1, strongly agree = 2.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

### Section 3: Investment in Fishing

**Table 3-7: Importance of Fishing: When I am fishing I can really be myself.**

Angler Type	Sample n	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean <sup>1</sup>
Overall	1119	1.5%	1.8%	20.6%	38.6%	37.5%	1.09
General	273	3.7%	3.3%	28.6%	40.7%	23.8%	0.78
Steelhead	846	0.8%	1.3%	18.0%	37.9%	42.0%	1.19
t=-6.324***							

**Notes:**

<sup>1</sup>Mean is based on the scale: strongly disagree = -2, disagree = -1, neutral = 0, agree = 1, strongly agree = 2.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 3-8: Importance of Fishing: I have close friendships that are based in a common interest in fishing.**

Angler Type	Sample n	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean <sup>1</sup>
Overall	1122	1.8%	4.2%	13.4%	37.9%	42.8%	1.16
General	273	5.1%	7.7%	22.0%	45.4%	19.8%	0.67
Steelhead	849	0.7%	3.1%	10.6%	35.5%	5.2%	1.31
t=-9.296							

**Notes:**

<sup>1</sup>Mean is based on the scale: strongly disagree = -2, disagree = -1, neutral = 0, agree = 1, strongly agree = 2.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 3-9: Importance of Fishing: I enjoy discussing fishing with my friends.**

Angler Type	Sample n	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean <sup>1</sup>
Overall	1116	0.7%	0.6%	6.7%	46.1%	45.9%	1.36
General	274	2.6%	1.8%	15.7%	52.6%	27.4%	1.00
Steelhead	842	0.1%	0.2%	3.8%	43.9%	51.9%	1.47
t=-10.078***							

**Notes:**

<sup>1</sup>Mean is based on the scale: strongly disagree = -2, disagree = -1, neutral = 0, agree = 1, strongly agree = 2.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

### Section 3: Investment in Fishing

**Table 3-10: Importance of Fishing: Most of my friends are in some way connected with fishing.**

Angler Type	Sample n	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean <sup>1</sup>
Overall	1122	3.6%	12.5%	28.8%	36.0%	19.2%	0.55
General	274	9.1%	15.3%	33.2%	34.3%	8.0%	0.17
Steelhead	848	1.8%	11.6%	27.4%	36.6%	22.8%	0.67
t=-7.049***							

**Notes:**

<sup>1</sup>Mean is based on the scale: strongly disagree = -2, disagree = -1, neutral = 0, agree = 1, strongly agree = 2.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 3-11: Importance of Fishing: Over time, I have acquired equipment that I would not use if I quit fishing.**

Angler Type	Sample n	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean <sup>1</sup>
Overall	1120	0.7%	2.0%	4.5%	32.3%	60.5%	1.50
General	275	2.9%	3.6%	8.7%	42.5%	42.2%	1.17
Steelhead	845	0%	1.4%	3.1%	29.0%	66.5%	1.61
t=-7.101***							

**Notes:**

<sup>1</sup>Mean is based on the scale: strongly disagree = -2, disagree = -1, neutral = 0, agree = 1, strongly agree = 2.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 3-12: Importance of Fishing: Compared to other anglers, I own a lot of fishing equipment.**

Angler Type	Sample n	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean <sup>1</sup>
Overall	1123	3.2%	10.8%	26.9%	31.7%	27.4%	0.69
General	273	11.0%	21.2%	31.5%	24.5%	11.7%	0.05
Steelhead	850	0.7%	7.4%	25.4%	34.0%	32.5%	0.90
t=-10.921***							

**Notes:**

<sup>1</sup>Mean is based on the scale: strongly disagree = -2, disagree = -1, neutral = 0, agree = 1, strongly agree = 2.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

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**Table 3-13: Replacement Costs of Rods and Reels**

Angler Type	Sample n	Mean	Median	Mode	Std. Deviation
Overall	1083	\$1937	\$1000	\$1000	\$3587
General	261	\$808	\$300	\$300	\$1775
Steelhead	822	\$2295	\$1000	\$2000	\$3928
t=-8.46***					

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 3-14: Replacement Costs of Lures, Tackle, and Storage.**

Angler Type	Sample n	Mean	Median	Mode	Std. Deviation
Overall	1063	\$1135	\$500	\$500	\$2171
General	254	\$678	\$200	\$100	\$2076
Steelhead	809	\$1278	\$500	\$1000	\$2182
t=-3.970***					

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 3-15: Replacement Costs of Outdoorwear.**

Angler Type	Sample n	Mean	Median	Mode	Std. Deviation
Overall	1011	\$576	\$300	\$500	\$802
General	207	\$247	\$100	\$0	\$376
Steelhead	804	\$661	\$400	\$500	\$859
t=-10.369***					

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 3-16: Replacement Costs of Electronic Devices.**

Angler Type	Sample n	Mean	Median	Mode	Std. Deviation
Overall	794	\$595	\$250	\$0	\$1073
General	192	\$514	\$200	\$0	\$989
Steelhead	602	\$621	\$300	\$0	\$1099
t=-1.208 n.s.					

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

## Section 3: Investment in Fishing

**Table 3-17: Money Spent in the Past 12 Months on Equipment.**

Angler Type	Sample n	\$25 or less	\$26-\$99	\$100-\$199	\$200-\$399	\$400-\$599	\$600 or more	Mean <sup>1</sup>	Std. Deviation
Overall	1087	5.2%	9.2%	17.5%	25.6%	14.1%	28.4%	4.19	1.50
General	272	18.4%	23.5%	21.3%	19.5%	7.0%	10.3%	3.04	1.54
Steelhead	815	0.9%	4.4%	16.2%	27.6%	16.4%	34.5%	4.58	1.28
t=-14.835***									

**Notes:**

<sup>1</sup>Mean based on the scale: \$25 or less = 1, \$26-\$99 = 2, \$100-\$199 = 3, \$200-\$399 = 4, \$400-\$599 = 5, \$600 or more = 6.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 3-18: Money Spent in the Past 12 Months on Travel.**

Angler Type	Sample n	\$25 or less	\$26-\$99	\$100-\$199	\$200-\$399	\$400-\$599	\$600 or more	Mean <sup>1</sup>	Std. Deviation
Overall	995	8.4%	8.7%	13.9%	18.7%	13.7%	36.6%	4.30	1.66
General	231	22.9%	14.3%	20.3%	13.0%	7.8%	21.6%	3.33	1.83
Steelhead	764	4.1%	7.1%	11.9%	20.4%	15.4%	41.1%	4.59	1.49
t=-9.554***									

**Notes:**

<sup>1</sup>Mean based on the scale: \$25 or less = 1, \$26-\$99 = 2, \$100-\$199 = 3, \$200-\$399 = 4, \$400-\$599 = 5, \$600 or more = 6.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 3-19: Money Spent in the Past 12 Months on Equipment for Steelhead Fishing.**

Angler Type	Sample n	\$25 or less	\$26-\$99	\$100-\$199	\$200-\$399	\$400-\$599	\$600 or more	Mean <sup>1</sup>	Std. Deviation
Overall	831	7.1%	12.0%	22.9%	26.6%	11.4%	20.0%	3.83	1.50
General	39	28.2%	25.6%	28.2%	12.8%	0%	5.1%	2.46	1.32
Steelhead	792	6.1%	11.4%	22.6%	27.3%	12.0%	20.7%	3.90	1.47
t=-5.981***									

**Notes:**

<sup>1</sup>Mean based on the scale: \$25 or less = 1, \$26-\$99 = 2, \$100-\$199 = 3, \$200-\$399 = 4, \$400-\$599 = 5, \$600 or more = 6.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

### Section 3: Investment in Fishing

**Table 3-20: Money Spent in the Past 12 Months on Travel for Steelhead Fishing.**

Angler Type	Sample n	\$25 or less	\$26-\$99	\$100-\$199	\$200-\$399	\$400-\$599	\$600 or more	Mean <sup>1</sup>	Std. Deviation
Overall	732	9.6%	11.3%	23.8%	20.6%	10.5%	24.2%	3.84	1.61
General	34	32.4%	20.6%	23.5%	8.8%	8.8%	5.9%	2.59	1.54
Steelhead	698	8.5%	10.9%	23.8%	21.2%	10.6%	25.1%	3.90	1.59
t=-4.691***									

**Notes:**

<sup>1</sup>Mean based on the scale: \$25 or less = 1, \$26-\$99 = 2, \$100-\$199 = 3, \$200-\$399 = 4, \$400-\$599 = 5, \$600 or more = 6.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 3-21: Steelhead Fishing: Replacement Costs of Rods and Reels.**

Angler Type	Sample n	Mean	Median	Mode	Std. Deviation
Overall	849	\$1020	\$400	\$200	\$1943
General	36	\$463	\$200	\$200	\$1244
Steelhead	813	\$1045	\$450	\$200	\$1965
t=-1.760 n.s.					

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 3-22: Steelhead Fishing: Replacement Costs of Lures, Tackle and Storage.**

Angler Type	Sample n	Mean	Median	Mode	Std. Deviation
Overall	835	\$450	\$200	\$100	\$1004
General	38	\$186	\$100	\$100	\$332
Steelhead	797	\$462	\$200	\$100	\$1023
t=-1.662 n.s.					

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

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**Table 3-23: Steelhead Fishing: Replacement Costs of Outdoorwear**

Angler Type	Sample n	Mean	Median	Mode	Std. Deviation
Overall	827	\$445	\$250	\$200	\$525
General	35	\$259	\$150	\$100	\$474
Steelhead	792	\$454	\$300	\$200	\$525
t=-2.150*					

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 3-24: Steelhead Fishing: Replacement Costs of Electronic Devices.**

Angler Type	Sample n	Mean	Median	Mode	Std. Deviation
Overall	452	\$114	\$0	\$0	\$315
General	22	\$88	\$0	\$0	\$165
Steelhead	430	\$115	\$0	\$0	\$321
t=-0.404 n.s.					

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 3-25: Boat Ownership**

Angler Type	Sample n	Yes	No	Mean <sup>1</sup>
Overall	1125	49.00%	51.00%	1.51
General	276	52.50%	47.50%	1.47
Steelhead	848	47.90%	52.1	1.52
t=-1.345 n.s.				

**Notes:**

<sup>1</sup>Mean is based on the scale: no = 1, yes = 2.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

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**Table 3-26: Fishing-Related Property Ownership.**

Angler Type	Sample n	Yes	No	Mean <sup>1</sup>
Overall	1125	9.3%	90.7%	1.91
General	275	10.9%	89.1%	1.89
Steelhead	850	8.8%	91.2%	1.91
t= -0.984 n.s.				

**Notes:**

<sup>1</sup>Mean is based on the scale: yes = 1, no = 2.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 3-27: Number of Fishing Rods Owned.**

Angler Type	Sample n	Mean	Std. Deviation
Overall	1099	13.65	14.96
General	271	9.32	10.13
Steelhead	828	15.07	15.98
t= -6.942***			

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 3-28: Fishing Tournament Participation.**

Angler Type	Sample n	Yes	No
Overall	1126	39.7%	60.3%
General	275	30.2%	69.8%
Steelhead	851	42.6%	57.0%
t=3.873***			

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

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**Table 3-29: Fishing Tournament Participation Over the Past 12 Months.**

Angler Type	Sample n	None	1-3 times	4-9 times	10 or more times	Means <sup>1</sup>
Overall	1100	81.5%	13.1%	2.9%	2.5%	1.27
General	272	85.7%	9.9%	2.2%	2.2%	1.21
Steelhead	828	80.1%	14.1%	3.1%	2.7%	1.28
t=1.762, n.s.						

**Notes:**

<sup>1</sup>Mean is based on the scale: None = 1, 1-3 times = 2, 4-9 times = 3, 10 or more times = 4.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 3-30: Fishing-related Club or Organization Membership**

Angler Type	Sample n	Mean
Overall	726	0.78
General	179	0.43
Steelhead	547	0.90
t=6.001***		

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

## Section 4: Motivations

### **Findings:**

#### *Overall Outcome Importance*

Respondents were asked to report the importance of 17 possible outcomes of fishing using the scale 0 (very unimportant) to 6 (very important). The reliability for the 17-item scale was  $\alpha=0.701$ , indicating that the items of the scale were closely related at an acceptable level. A factor analysis was conducted to reveal underlying correlations among the items. Three underlying factors with Eigenvalues greater than 1.0 were identified. By examining which items loaded heavily ( $>0.500$ ) on each factor, we found that the factors reflected different underlying motivations including: (a) relaxation, (b) social-competitive, (c) individual-competitive. Six items did not correlate with these factors or loaded on multiple factors, and so were removed from the scale (Tables 4-12 through 4-17).

Four motivations loaded on the first factor and related to relaxation (Cronbach's alpha ( $\alpha$ )=0.803). Items included on this scale are: (a) "giving your mind a rest" ( $\bar{x}=4.93$ ; Table 4-1), (b) "being in a quiet and peaceful place" ( $\bar{x}=5.27$ ; Table 4-2), (c) "relaxing" ( $\bar{x}=4.93$ ; Table 4-3), and (d) "getting away from crowds of people" ( $\bar{x}=5.11$ ; Table 4-4). Age negatively correlated with "giving your mind a rest" ( $r=-0.10$ ,  $p<0.01$ ).

The second factor also had four motivations relating to social-competitiveness ( $\alpha = 0.800$ ). Items included in this scale are (a) "a chance to compete with other anglers" ( $\bar{x} = 1.74$ ; Table 4-5), (b) "proving your skill as an angler" ( $\bar{x} = 3.22$ ; Table 4-6), (c) "competing with friends who fish" ( $\bar{x} = 2.28$ ; Table 4-7), and (d) "being around other anglers" ( $\bar{x} = 2.34$ ; Table 4-8). Age, education and income were all negatively correlated with both "a chance to compete with other anglers" and "competing with friends who fish". Income and education were both negatively correlated with "proving my skill as an angler" and "being around other anglers".

Three motivations loaded on the third factor relating to individual competitiveness ( $\alpha = 0.703$ ). Items included in this scale are: (a) "developing your skills and abilities" ( $\bar{x} = 4.67$ ; Table 4-9), (b) "catching a lot of fish" ( $\bar{x} = 4.03$ ; Table 4-10), and (c) "catching big fish" ( $\bar{x} = 4.32$ ; Table 4-11). Age negatively correlated with all three of these items.

#### *Steelhead anglers compared to general anglers*

Steelhead anglers found everything for the first factor ("giving your mind a rest", "being in a quiet and peaceful place", "relaxing", and "getting away from crowds of people") significantly more important than general anglers, except for relaxing, for which there was no difference (Tables 4-1 through 4-4).

Steelhead anglers only found one item on the second scale significantly more important than general anglers: "proving your skill as an angler" (Tables 4-5 through 4-8).

On the third factor, steelhead anglers found both "catching big fish" and "developing your skills and abilities" significantly more important than general anglers (Tables 4-9 through 4-11).

## Section 4: Motivations

### *Did the possible outcome happen?*

Respondents were also asked if each of these possible outcomes of fishing happened in the past 12 months (Table 4-18 through 4-34). While there was no significant difference between the importance steelhead anglers and general anglers placed on catching their limit, being around other anglers, and catching lots of fish, steelhead anglers were significantly more likely to say that all three of these outcomes happened than general anglers (Tables 4-31, 4-25, and 4-27). Steelhead anglers also placed significantly higher importance on catching big fish and on being alone, and they were significantly more likely to report both of these happening than general anglers (Tables 4-28 and 4-30).

## Section 4: Motivations

**Table 4-1: Motivations for fishing: Importance of...giving your mind a rest.**

Angler Type	Sample n	Not at all important					Very important		Mean <sup>1</sup>
Overall	1109	2.8%	1.1%	1.7%	9.6%	13.2%	22.3%	49.3%	4.93
General	270	4.4%	0.4%	2.2%	12.2%	15.6%	22.6%	42.6%	4.72
Steelhead	839	2.3%	1.3%	1.5%	8.8%	12.4%	22.2%	51.5%	5.00
t=-2.664**									

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all important, 6 = very important.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 4-2: Motivations for fishing: Importance of...being in a quiet and peaceful place.**

Angler Type	Sample n	Not at all important					Very important		Mean <sup>1</sup>
Overall	1114	0.5%	0.6%	1.4%	5.3%	11.0%	23.0%	58.1%	5.27
General	271	1.1%	0%	3.0%	6.3%	13.7%	23.2%	52.8%	5.12
Steelhead	843	0.4%	0.8%	0.9%	5.0%	10.2%	22.9%	59.8%	5.32
t=-2.389**									

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all important, 6 = very important.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 4-3: Motivations for fishing: Importance of...relaxing.**

Angler Type	Sample n	Not at all important					Very important		Mean <sup>1</sup>
Overall	1117	0.9%	0.4%	1.4%	4.7%	11.0%	23.6%	58.0%	5.27
General	272	1.1%	0%	1.5%	8.8%	11.4%	22.1%	55.1%	5.16
Steelhead	845	0.8%	0.5%	1.4%	3.3%	10.9%	24.1%	58.9%	5.31
t=-1.851 n.s.									

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all important, 6 = very important.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

## Section 4: Motivations

**Table 4-4: Motivations for fishing: Importance of...getting away from crowds of people.**

Angler Type	Sample n	Not at all important					Very important			Mean <sup>1</sup>
Overall	1113	1.2%	0.9%	1.5%	8.6%	11.1%	23.0%	53.6%	5.11	
General	272	2.2%	1.1%	2.9%	14.7%	12.9%	20.2%	46.3%	4.81	
Steelhead	841	0.8%	0.8%	1.2%	6.7%	10.6%	23.9%	56.0%	5.21	
t=-4.153***										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all important, 6 = very important.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 4-5: Motivations for fishing: Importance of...a chance to compete with other anglers.**

Angler Type	Sample n	Not at all important					Very important			Mean <sup>1</sup>
Overall	1107	42.0%	12.2%	11.9%	14.8%	7.7%	5.6%	5.8%	1.74	
General	267	47.2%	10.5%	11.6%	13.5%	7.1%	4.5%	5.6%	1.59	
Steelhead	840	40.4%	12.7%	12.0%	15.2%	7.9%	6.0%	5.8%	1.79	
t=-1.488 n.s										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all important, 6 = very important.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 4-6: Motivations for fishing: Importance of...proving your skill as an angler.**

Angler Type	Sample n	Not at all important					Very important			Mean <sup>1</sup>
Overall	1110	16.0%	7.7%	7.7%	20.9%	18.1%	13.2%	16.3%	3.22	
General	268	24.3%	10.4%	9.3%	22.0%	13.1%	8.6%	12.3%	2.64	
Steelhead	842	13.4%	6.8%	7.2%	20.5%	19.7%	14.7%	19.6%	3.41	
t=-5.568***										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all important, 6 = very important.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

## Section 4: Motivations

**Table 4-7: Motivations for fishing: Importance of...competing with friends who fish.**

Angler Type	Sample n	Not at all important						Very important		Mean <sup>1</sup>
Overall	1113	33.2%	9.6%	11.1%	16.0%	11.3%	9.3%	9.4%	2.28	
General	271	35.1%	10.0%	10.3%	16.6%	12.2%	6.6%	9.2%	2.18	
Steelhead	842	32.7%	9.5%	11.3%	15.8%	11.0%	10.2%	9.5%	2.32	
t=-0.965 n.s.										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all important, 6 = very important.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 4-8: Motivations for fishing: Importance of...being around other anglers.**

Angler Type	Sample n	Not at all important						Very important		Mean <sup>1</sup>
Overall	1105	23.7%	12.2%	15.3%	23.8%	11.4%	7.2%	6.3%	2.34	
General	267	28.5%	11.6%	15.4%	20.6%	9.7%	6.4%	7.9%	2.22	
Steelhead	838	22.2%	12.4%	15.3%	24.8%	11.9%	7.5%	5.8%	2.38	
t=-1.229 n.s.										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all important, 6 = very important.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 4-9: Motivations for fishing: Importance of...developing your skills and abilities.**

Angler Type	Sample n	Not at all important						Very important		Mean <sup>1</sup>
Overall	1111	3.1%	1.8%	4.1%	11.9%	16.2%	21.0%	42.0%	4.67	
General	270	7.4%	3.3%	6.7%	20.7%	22.2%	14.4%	25.2%	3.91	
Steelhead	841	1.7%	1.3%	3.2%	9.0%	14.3%	23.1%	47.4%	4.92	
t=-8.587***										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all important, 6 = very important.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

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**Table 4-10: Motivations for fishing: Importance of...catching a lot of fish.**

Angler Type	Sample n	Not at all important					Very important		Mean <sup>1</sup>
Overall	1117	3.5%	3.1%	5.6%	24.0%	25.1%	16.2%	22.5%	4.03
General	271	5.2%	4.8%	5.5%	21.4%	23.6%	15.9%	23.6%	3.96
Steelhead	846	3.0%	2.6%	5.7%	24.8%	25.5%	16.3%	22.1%	4.05
t=-0.803 n.s.									

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all important, 6 = very important.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 4-11: Motivations for fishing: Importance of...catching big fish.**

Angler Type	Sample n	Not at all important					Very important		Mean <sup>1</sup>
Overall	1117	2.7%	2.3%	5.2%	17.4%	23.3%	21.0%	28.1%	4.32
General	273	4.0%	3.3%	8.1%	19.8%	19.0%	17.6%	28.2%	4.12
Steelhead	844	2.3%	2.0%	4.3%	16.6%	24.6%	22.2%	28.1%	4.38
t=-2.324*									

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all important, 6 = very important.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 4-12: Motivations for fishing: Importance of...being with friends.**

Angler Type	Sample n	Not at all important					Very important		Mean <sup>1</sup>
Overall	1111	2.3%	1.4%	3.0%	10.8%	15.8%	23.0%	43.7%	4.80
General	270	1.9%	2.2%	3.3%	12.6%	17.0%	18.5%	44.4%	4.74
Steelhead	841	2.5%	1.2%	2.9%	10.2%	15.5%	24.4%	43.4%	4.82
t=-0.756 n.s.									

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all important, 6 = very important.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

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**Table 4-13: Motivations for fishing: Importance of...being alone.**

Angler Type	Sample n	Not at all important					Very important			Mean <sup>1</sup>
Overall	1111	12.8%	7.0%	10.3%	21.2%	15.4%	14.4%	19.0%	3.39	
General	269	20.8%	6.7%	10.0%	21.2%	13.4%	11.2%	16.7%	3.00	
Steelhead	842	10.2%	7.1%	10.3%	21.1%	16.0%	15.4%	19.7%	3.51	
t=-3.731***										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all important, 6 = very important.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 4-14: Motivations for fishing: Importance of...catching your limit.**

Angler Type	Sample n	Not at all important					Very important			Mean <sup>1</sup>
Overall	1110	25.0%	7.7%	11.0%	18.6%	13.4%	9.4%	15.0%	2.76	
General	270	26.7%	5.9%	9.3%	17.0%	14.8%	9.3%	17.0%	2.83	
Steelhead	840	24.4%	8.2%	11.5%	19.0%	13.0%	9.4%	14.4%	2.74	
t=0.644 n.s.										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all important, 6 = very important.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 4-15: Motivations for fishing: Importance of...getting away from family for a while.**

Angler Type	Sample n	Not at all important					Very important			Mean <sup>1</sup>
Overall	1108	28.6%	9.8%	13.2%	16.8%	13.0%	8.6%	10.0%	2.42	
General	269	30.5%	10.0%	12.6%	12.6%	15.6%	7.8%	10.8%	2.39	
Steelhead	839	28.0%	9.8%	13.3%	18.1%	12.2%	8.8%	9.8%	2.42	
t=-0.196 n.s.										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all important, 6 = very important.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

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**Table 4-16: Motivations for fishing: Importance of...doing something with your family.**

Angler Type	Sample n	Not at all important					Very important			Mean <sup>1</sup>
Overall	1108	9.3%	3.5%	5.2%	14.3%	15.6%	18.4%	33.7%	4.13	
General	271	6.6%	1.8%	4.4%	12.5%	12.9%	22.9%	38.7%	4.47	
Steelhead	837	10.2%	4.1%	5.5%	14.8%	16.5%	17.0%	32.0%	4.02	
t=3.516***										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all important, 7 = very important.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 4-17: Motivations for fishing: Importance of...catching some fish to eat.**

Angler Type	Sample n	Not at all important					Very important			Mean <sup>1</sup>
Overall	1116	31.7%	8.1%	8.4%	16.0%	11.9%	9.4%	14.4%	2.54	
General	273	20.5%	4.4%	5.9%	13.9%	13.6%	14.3%	27.5%	3.48	
Steelhead	843	35.3%	9.3%	9.3%	16.7%	11.4%	7.8%	10.2%	2.24	
t=8.365***										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all important, 7 = very important.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 4-18: Motivations for fishing: Did it happen...giving your mind a rest.**

Angler Type	Sample n	Not at all				Very much		Mean <sup>1</sup>
Overall	1053	3.1%	3.1%	11.9%	32.7%	49.2%	3.22	
General	254	6.3%	4.3%	15.4%	33.1%	40.9%	2.98	
Steelhead	799	2.1%	2.8%	10.8%	32.5%	51.8%	3.29	
t=-3.952***								

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all, 4 = very much.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

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**Table 4-19: Motivations for fishing: Did it happen...being in a quiet and peaceful place.**

Angler Type	Sample n	Not at all				Very much	Mean <sup>1</sup>
Overall	1063	1.4%	2.2%	17.3%	36.2%	42.9%	3.17
General	254	3.1%	1.2%	16.5%	36.2%	42.9%	3.15
Steelhead	809	0.9%	2.5%	17.6%	36.2 <sup>^</sup>	42.9%	3.18
t=-0.506 n.s.							

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all, 4 = very much.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 4-20: Motivations for fishing: Did it happen...relaxing.**

Angler Type	Sample n	Not at all				Very much	Mean <sup>1</sup>
Overall	1060	1.4%	1.0%	9.7%	33.6%	54.2%	3.38
General	256	3.9%	2.0%	12.5%	32.8%	48.8%	3.21
Steelhead	804	0.6%	0.7%	8.8%	33.8%	56.0%	3.44
t=-3.404**							

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all, 4 = very much.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 4-21: Motivations for fishing: Did it happen...getting away from crowds of people.**

Angler Type	Sample n	Not at all				Very much	Mean <sup>1</sup>
Overall	1053	4.2%	9.9%	29.1%	28.5%	28.4%	2.67
General	252	6.0%	6.3%	22.2%	29.0%	36.5%	2.84
Steelhead	801	3.6%	11.0%	31.2%	28.3%	25.8%	2.62
t=2.737**							

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all, 4 = very much.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

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**Table 4-22: Motivations for fishing: Did it happen...a chance to compete with other anglers.**

Angler Type	Sample n	Not at all					Very much	Mean <sup>1</sup>
Overall	1053	43.9	15.7%	18.7%	12.4%	9.3%	1.28	
General	248	53.2%	15.7%	17.7%	6.0%	7.3%	0.98	
Steelhead	805	41.0%	15.7%	19.0%	14.4%	9.9%	1.37	
t=-4.054***								

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all, 4 = very much.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 4-23: Motivations for fishing: Did it happen...proving your skill as an angler.**

Angler Type	Sample n	Not at all					Very much	Mean <sup>1</sup>
Overall	1052	15.1%	9.1%	28.0%	29.4%	18.3%	2.27	
General	249	27.7%	12.4%	29.3%	20.5%	10.0%	1.73	
Steelhead	803	11.2%	8.1%	27.6%	32.1%	20.9%	2.43	
t=-7.466***								

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all, 4 = very much.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 4-24: Motivations for fishing: Did it happen...competing with friends who fish.**

Angler Type	Sample n	Not at all					Very much	Mean <sup>1</sup>
Overall	1053	32.6%	13.1%	22.1%	19.1%	13.1%	1.67	
General	253	37.5%	12.3%	22.1%	15.8%	12.3%	1.53	
Steelhead	800	31.0%	13.4%	22.1%	20.1%	13.4%	1.72	
t=-1.800 n.s.								

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all, 4 = very much.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

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**Table 4-25: Motivations for fishing: Did it happen...being around other anglers.**

Angler Type	Sample n	Not at all				Very much		Mean <sup>1</sup>
Overall	1046	13.1%	11.5%	30.4%	29.3%	15.7%	2.23	
General	253	25.3%	12.6%	31.6%	20.2%	10.3%	1.77	
Steelhead	793	9.2%	11.1%	30.0%	32.3%	17.4%	2.38	
t=-6.535***								

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all, 4 = very much.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 4-26: Motivations for fishing: Did it happen...developing your skills and abilities.**

Angler Type	Sample n	Not at all				Very much		Mean <sup>1</sup>
Overall	1057	4.6%	6.7%	27.1%	39.5%	22.1%	2.68	
General	252	13.1%	12.3%	40.5%	25.4%	8.7%	2.04	
Steelhead	805	2.0%	5.0%	22.9%	43.9%	26.3%	2.88	
t=-10.712***								

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all, 4 = very much.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 4-27: Motivations for fishing: Did it happen...catching a lot of fish.**

Angler Type	Sample n	Not at all				Very much		Mean <sup>1</sup>
Overall	1057	5.4%	12.7%	34.2%	30.7%	17.0%	2.41	
General	250	12.0%	22.4%	35.6%	20.4%	9.6%	1.93	
Steelhead	807	3.3%	9.7%	33.7%	34.0%	19.3%	2.56	
t=-8.343***								

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all, 4 = very much.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

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**Table 4-28: Motivations for fishing: Did it happen...catching big fish.**

Angler Type	Sample n	Not at all				Very much		Mean <sup>1</sup>
Overall	1057	6.9%	9.7%	27.2%	33.4%	22.8%	2.55	
General	254	16.9%	16.5%	31.5%	20.5%	14.6%	1.99	
Steelhead	803	3.7%	7.6%	25.8%	37.5%	25.4%	2.73	
t=-8.386***								

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all, 4 = very much.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 4-29: Motivations for fishing: Did it happen...being with friends.**

Angler Type	Sample n	Not at all				Very much		Mean <sup>1</sup>
Overall	1055	2.4%	5.0%	16.1%	32.4%	44.1%	3.11	
General	255	3.9%	6.7%	16.5%	30.6%	42.4%	3.01	
Steelhead	800	1.9%	4.5%	16.0%	33.0%	44.6%	3.14	
t=-1.835 n.s.								

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all, 4 = very much.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 4-30: Motivations for fishing: Did it happen...being alone.**

Angler Type	Sample n	Not at all				Very much		Mean <sup>1</sup>
Overall	1047	13.8%	11.2%	30.5%	25.7%	18.8%	2.24	
General	249	26.1%	10.4%	24.5%	20.5%	18.5%	1.95	
Steelhead	798	10.0%	11.4%	32.3%	27.3%	18.9%	2.34	
t=-3.850***								

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all, 4 = very much.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

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**Table 4-31: Motivations for fishing: Did it happen...catching your limit.**

Angler Type	Sample n	Not at all				Very much		Mean <sup>1</sup>
Overall	1051	20.4%	10.1%	26.0%	22.3%	21.3%	2.14	
General	253	32.8%	15.0%	26.9%	13.4%	11.9%	1.57	
Steelhead	798	16.4%	8.5%	25.7%	25.1%	24.3%	2.32	
t=-7.685***								

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all, 4 = very much.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 4-32: Motivations for fishing: Did it happen...getting away from family for a while.**

Angler Type	Sample n	Not at all				Very much		Mean <sup>1</sup>
Overall	1046	19.9%	11.7%	27.7%	24.5%	16.3%	2.06	
General	251	31.1%	12.7%	26.7%	16.7%	12.7%	1.67	
Steelhead	795	16.4%	11.3%	28.1%	26.9%	17.4%	2.18	
t=-5.052***								

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all, 4 = very much.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 4-33: Motivations for fishing: Did it happen...doing something with your family.**

Angler Type	Sample n	Not at all				Very much		Mean <sup>1</sup>
Overall	1049	11.5%	8.6%	22.7%	25.5%	31.7%	2.57	
General	253	7.9%	5.5%	19.4%	25.3%	41.9%	2.88	
Steelhead	796	12.7%	9.5%	23.7%	25.5%	28.5%	2.48	
t=4.405***								

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all, 4 = very much.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

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**Table 4-34: Motivations for fishing: Did it happen...catching some fish to eat.**

Angler Type	Sample n	Motivations					Mean <sup>1</sup>
		Not at all				Very much	
Overall	1052	30.0%	13.4%	18.3%	19.3%	19.0%	1.84
General	255	23.5%	14.1%	18.4%	19.2%	24.7%	2.07
Steelhead	797	32.1%	13.2%	18.2%	19.3%	17.2%	1.76
t=2.888**							

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all, 4 = very much.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

## Section 5: Constraints

### ***Findings:***

#### ***How is Fishing Participation Constrained?***

##### *Overall*

We asked respondents to report how their fishing was constrained. Respondents were asked to check all of the statements that they felt applied to their fishing participation from a list of four items, and could also mark that they didn't feel their fishing was constrained much at all. About one-third reported that they felt their fishing was not limited much at all. Over half reported not being able to fish as often as they would like, 19% said there were types of fishing that they would like to try but can't. Another 17% reported that they stopped previous fishing activities, though they would still like to do them. And only 3% indicated that they do not enjoy fishing as much as they might otherwise (Table 5-1).

##### *Steelhead anglers compared to other anglers*

Steelhead anglers were significantly more likely to report not feeling constrained than general anglers ( $\chi^2=27.259$ ,  $p\leq 0.001$ ). Likewise, general anglers were more likely to report feeling constrained by three of the four statements listed (Table 5-1).

#### ***Factors That Constrain Fishing Participation***

##### *Overall*

Respondents were asked to rate 27 possible constraints to fishing on the scale 0 (not at all limiting) to 6 (very limiting). One constraint, work commitments, had a mean score greater than the midpoint on the scale (3.53). All other constraints had mean scores less than the midpoint on the scale. Five constraints had mean ratings between 2.0 and 3.0: (a) family commitments (2.88), (b) crowding at fishing areas (2.98), (c) interest in other activities (2.04), (d) travels costs (2.17), and (f) weather conditions (2.43). All other constraints were rated less than 2 on the 7-point scale (Tables 5-2 through 5-28).

Respondents with higher levels of income ( $r=0.159$ ,  $p\leq 0.001$ ) and education ( $r=0.133$ ,  $p\leq 0.001$ ) were more constrained by family commitments. Similarly, respondents with higher levels of income ( $r=0.213$ ,  $p\leq 0.001$ ) and education ( $r=0.113$ ,  $p\leq 0.001$ ) were more constrained by work commitments. Older respondents were less limited by work ( $r=-0.369$ ,  $p\leq 0.001$ ) and family commitments ( $r=-0.164$ ,  $p\leq 0.001$ ) than younger respondents.

Respondents with more income and education were less limited by the expense of fishing. Respondents with higher levels of income were less constrained by the (a) cost of equipment ( $r=-0.224$ ,  $p\leq 0.001$ ), (b) cost of licenses ( $r=-0.189$ ,  $p\leq 0.001$ ), (c) travel costs ( $r=-0.223$ ,  $p\leq 0.001$ ), or (d) lack of equipment ( $r=-0.148$ ,  $p\leq 0.001$ ). Respondents with higher levels of education were also less constrained by the (a) cost of equipment ( $r=-0.102$ ,  $p\leq 0.001$ ), (b) cost of licenses ( $r=-0.108$ ,  $p\leq 0.001$ ), (c) travel costs ( $r=-0.067$ ,  $p\leq 0.05$ ), or (d) a lack of equipment ( $r=0.101$ ,  $p\leq 0.01$ ). Older respondents were also less constrained by the cost of equipment ( $r=-0.136$ ,  $p\leq 0.001$ ).

Older respondents in general reported being more limited by perceived obstacles to their fishing experience like (b) safety concerns ( $r=0.133$ ,  $p\leq 0.001$ ), (d) weather conditions ( $r=0.094$ ,  $p\leq 0.01$ ), and (f) concern about contaminants/pollutants in fish ( $r=0.109$ ,  $p\leq 0.001$ ). Higher income respondents were less limited by obstacles like: (a) fishing regulations ( $r=-0.086$ ,  $p\leq 0.01$ ), (b) safety concerns ( $r=-0.062$ ,

## Section 5: Constraints

$p \leq 0.05$ ), (c) fish populations too low ( $r = -0.081$ ,  $p \leq 0.01$ ), (d) type of people that go fishing ( $r = -0.068$ ,  $p \leq 0.05$ ), and (e) concern about contaminants/pollutants in fish ( $r = -0.157$ ,  $p \leq 0.001$ ).

As respondents age increased, they were more limited by physical constraints and the effects of age, while respondents who had higher incomes and higher educational levels reported being less limited by these issues. Specifically, age was positively correlated with the following listed constraints: (a) physically unable to go fishing ( $r = 0.194$ ,  $p \leq 0.001$ ), (b) age ( $r = 0.236$ ,  $p \leq 0.001$ ), (c) poor health ( $r = 0.188$ ,  $p \leq 0.001$ ), (d) poor access to the types of fishing I enjoy ( $r = 0.114$ ,  $p \leq 0.001$ ). Income was negatively correlated with the same constraints: (a) physically unable to go fishing ( $r = -0.163$ ,  $p \leq 0.001$ ), (b) age ( $r = -0.112$ ,  $p \leq 0.001$ ), (c) poor access to the types of fishing I enjoy ( $r = -0.090$ ,  $p \leq 0.01$ ), and (c) poor health ( $r = -0.194$ ,  $p \leq 0.001$ ). Similarly, education was negatively correlated with the constraints: (a) physically unable to go fishing ( $r = -0.092$ ,  $p \leq 0.01$ ), (c) poor health ( $r = -0.119$ ,  $p \leq 0.001$ ).

### *Steelhead anglers compared to general anglers*

General anglers were significantly more constrained than steelhead anglers on 18 of 28 items. These included costs (equipment ( $t = 2.668$ ,  $p \leq 0.01$ ), license ( $t = 5.538$ ,  $p \leq 0.001$ ), and travel ( $t = 2.557$ ,  $p \leq 0.05$ )), regulations ( $t = 4.102$ ,  $p \leq 0.001$ ), interests in other activities ( $t = 3.537$ ,  $p \leq 0.001$ ) or spending time at home ( $t = 2.376$ ,  $p \leq 0.05$ ). They were also more constrained by the amount of planning ( $t = 2.650$ ,  $p \leq 0.01$ ) and effort required to go ( $t = 3.087$ ,  $p \leq 0.01$ ) and poor health ( $t = 2.064$ ,  $p \leq 0.05$ ). They were constrained by perceived environmental issues like fish populations being too low ( $t = 3.547$ ,  $p \leq 0.001$ ) or concern about contaminants/pollutants in fish ( $t = 3.792$ ,  $p < 0.001$ ). General anglers were also constrained by lack of: need ( $t = 2.671$ ,  $p \leq 0.01$ ) or desire to catch fish for food ( $t = 2.309$ ,  $p \leq 0.05$ ), opportunities ( $t = 2.310$ ,  $p \leq 0.05$ ), people to go with ( $t = 1.988$ ,  $p \leq 0.05$ ), knowledge ( $t = 3.272$ ,  $p \leq 0.001$ ), skills ( $t = 4.274$ ,  $p \leq 0.001$ ), and equipment ( $t = 4.221$ ,  $p \leq 0.001$ ; Tables 5-2 through 5-28).

Steelhead anglers were more constrained due to crowding at fishing areas than general anglers ( $t = -7.846$ ,  $p \leq 0.001$ ; Table 5-4).

## Section 5: Constraints

**Table 5-1: Constraints to fishing activities: percent who reported...**

Angler Type	There are types of fishing that I would like to start, but can't.	I have stopped fishing activities that I did in the past, although I would still like to do them.	I cannot fish as often as I would like.	I do not enjoy fishing as much as I might otherwise.	I do not feel my fishing is limited much at all.
Overall	19.2%	16.5%	61.2%	2.7%	32.4%
General	20.8%	23.7%	72.0%	5.0%	19.7%
Steelhead	18.7%	14.2%	57.6%	2.0%	36.6%
	$\chi^2=0.567$ n.s., Cramer's V= 0.022	$\chi^2=13.647^{***}$ , Cramer's V= 0.110	$\chi^2=18.429^{***}$ , Cramer's V= 0.127	$\chi^2=7.339^{**}$ , Cramer's V= 0.080	$\chi^2=27.259^{***}$ , Cramer's V= 0.155

**Notes:**

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 5-2: How much family commitments limit fishing participation.**

Angler Type	Sample n	Not at all limiting						Very limiting		Mean <sup>1</sup>
Overall	1104	12.7%	11.6%	15.3%	24.2%	16.1%	11.6%	8.5%	2.88	
General	269	14.5%	8.2%	12.6%	23.4%	14.9%	14.9%	11.5	3.07	
Steelhead	835	12.1%	12.7%	16.2%	24.4%	16.5%	10.5%	7.5%	2.82	
t=1.959 n.s.										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all limiting, 6 = very limiting.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 5-3: How much work commitments limit fishing participation.**

Angler Type	Sample n	Not at all limiting						Very limiting		Mean <sup>1</sup>
Overall	1104	16.3%	5.4%	7.0%	12.7%	16.8%	22.3%	19.6%	3.53	
General	272	16.5%	4.4%	7.0%	12.5%	13.6%	25.0%	21.0%	3.61	
Steelhead	832	16.2%	5.8%	7.0%	12.7%	17.8%	21.4%	19.1%	3.51	
t=0.712 n.s.										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all limiting, 6 = very limiting.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

## Section 5: Constraints

**Table 5-4: How much crowding at fishing areas limits fishing participation.**

Angler Type	Sample n	Not at all limiting					Very limiting		Mean <sup>1</sup>
Overall	1112	11.3%	10.0%	17.4%	20.4%	20.4%	12.2%	8.2%	2.98
General	274	23.7%	13.1%	19.3%	17.5%	15.0%	6.2%	5.1%	2.26
Steelhead	838	7.3%	8.9%	16.8%	21.4%	22.2%	14.2%	9.2%	3.22
t=-7.846***									

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all limiting, 6 = very limiting.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 5-5: How much cost of equipment limits fishing participation.**

Angler Type	Sample n	Not at all limiting					Very limiting		Mean <sup>1</sup>
Overall	31.4%	19.7%	19.7%	15.1%	7.5%	7.5%	4.4%	2.3%	1.70
General	271	27.3%	20.3%	17.3%	15.5%	9.6%	5.9%	4.1%	1.94
Steelhead	837	32.7%	19.5%	20.4%	14.9%	6.8%	3.9%	1.7%	1.62
t=2.668**									

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all limiting, 6 = very limiting.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 5-6: How much cost of licenses limits fishing participation.**

Angler Type	Sample n	Not at all limiting					Very limiting		Mean <sup>1</sup>
Overall	1109	44.5%	20.0%	14.5%	11.1%	3.8%	2.8%	3.2%	1.31
General	273	33.0%	18.3%	18.7%	12.5%	6.2%	4.0%	7.3%	1.82
Steelhead	836	48.3%	20.6%	13.2%	10.6%	3.0%	2.4%	1.9%	1.14
t=5.538***									

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all limiting, 6 = very limiting.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

## Section 5: Constraints

**Table 5-7: How much travel costs limit fishing participation.**

Angler Type	Sample n	Not at all limiting						Very limiting		Mean <sup>1</sup>
Overall	1107	23.6%	17.4%	17.5%	18.7%	10.2%	7.6%	5.0%	2.17	
General	274	22.6%	13.5%	18.6%	16.4%	10.6%	9.5%	8.8%	2.42	
Steelhead	833	23.9%	18.7%	17.2%	19.4%	10.1%	7.0%	3.7%	2.09	
t=2.557*										

Notes:

<sup>1</sup>Mean is based on the scale 0 = not at all limiting, 6 = very limiting.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 5-8: How much fishing regulations limit fishing participation.**

Angler Type	Sample n	Not at all limiting						Very limiting		Mean <sup>1</sup>
Overall	1107	52.3%	20.4%	11.2%	9.4%	4.4%	1.4%	0.9%	1.01	
General	274	44.5%	18.6%	12.8%	12.8%	8.0%	1.5%	1.8%	1.33	
Steelhead	833	54.9%	21.0%	10.7%	8.3%	3.2%	1.3%	0.6%	0.90	
t=4.102***										

Notes:

<sup>1</sup>Mean is based on the scale 0 = not at all limiting, 6 = very limiting.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 5-9: How much availability of people to fish with limits fishing participation.**

Angler Type	Sample n	Not at all limiting						Very limiting		Mean <sup>1</sup>
Overall	1109	42.2%	17.5%	14.8%	13.3%	7.0%	3.8%	1.4%	1.42	
General	274	38.0%	16.4%	15.0%	16.8%	9.1%	2.9%	1.8%	1.59	
Steelhead	835	43.6%	17.8%	14.7%	12.2%	6.3%	4.1%	1.2%	1.37	
t=1.988*										

Notes:

<sup>1</sup>Mean is based on the scale 0 = not at all limiting, 6 = very limiting.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

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**Table 5-10: How much physical ability to go fishing limits fishing participation.**

Angler Type	Sample n	Not at all limiting						Very limiting		Mean <sup>1</sup>
Overall	1108	69.4%	13.1%	5.8%	6.0%	2.6%	2.0%	1.2%	0.70	
General	274	65.7%	13.5%	6.2%	5.8%	4.4%	2.9%	1.5%	0.84	
Steelhead	834	70.6%	12.9%	5.6%	6.0%	2.0%	1.7%	1.1%	0.65	
t=1.926 n.s.										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all limiting, 6 = very limiting.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 5-11: How much inadequate fishing skills limit fishing participation.**

Angler Type	Sample n	Not at all limiting						Very limiting		Mean <sup>1</sup>
Overall	1109	70.2%	14.8%	5.6%	6.8%	1.2%	0.6%	0.8%	0.59	
General	275	58.9%	17.1%	8.7%	11.6%	2.2%	0.4%	1.1%	0.87	
Steelhead	834	74.0%	14.0%	4.6%	5.2%	0.8%	0.7%	0.7%	0.50	
t=4.274***										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all limiting, 6 = very limiting.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 5-12: How much interest in other activities limits fishing participation.**

Angler Type	Sample n	Not at all limiting						Very limiting		Mean <sup>1</sup>
Overall	1100	26.0%	13.8%	19.3%	21.7%	11.3%	5.6%	2.3%	2.04	
General	272	21.3%	13.2%	16.5%	22.1%	14.7%	7.7%	4.4%	2.36	
Steelhead	828	27.5%	14.0%	20.2%	21.6%	10.1%	5.0%	1.6%	1.94	
t=3.537***										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all limiting, 6 = very limiting.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

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**Table 5-13: How much safety concerns limit fishing participation.**

Angler Type	Sample n	Not at all limiting					Very limiting			Mean <sup>1</sup>
Overall	1109	61.3%	18.5%	8.7%	6.7%	2.5%	1.3%	1.0%	0.78	
General	272	59.6%	20.2%	6.6%	8.5%	1.5%	2.2%	1.5%	0.85	
Steelhead	837	61.9%	17.9%	9.4%	6.1%	2.9%	1.0%	0.8%	0.76	
t=0.931 n.s.										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all limiting, 6 = very limiting.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 5-14: How much low fish populations limit fishing participation.**

Angler Type	Sample n	Not at all limiting					Very limiting			Mean <sup>1</sup>
Overall	1107	36.9%	16.7%	13.6%	14.3%	7.9%	6.1%	4.6%	1.76	
General	279	32.4%	15.6%	10.5%	14.9%	10.5%	6.9%	9.1%	2.13	
Steelhead	832	38.3%	17.1%	14.5%	14.1%	7.0%	5.9%	3.1%	1.64	
t=3.547***										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all limiting, 6 = very limiting.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 5-15: How much no desire to catch fish for food limits fishing participation.**

Angler Type	Sample n	Not at all limiting					Very limiting			Mean <sup>1</sup>
Overall	1093	66.7%	13.4%	7.0%	8.3%	1.9%	1.1%	1.6%	0.75	
General	272	59.9%	15.4%	8.8%	10.7%	1.5%	1.1%	2.6%	0.92	
Steelhead	821	68.9%	12.7%	6.5%	7.6%	2.1%	1.1%	1.2%	0.69	
t=2.309*										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all limiting, 6 = very limiting.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

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**Table 5-16: How much no need to catch fish for food limits fishing participation.**

Angler Type	Sample n	Not at all limiting						Very limiting		Mean <sup>1</sup>
Overall	1093	70.0%	11.9%	5.7%	6.8%	2.4%	1.5%	1.8%	0.71	
General	271	63.5%	13.7%	5.2%	10.7%	2.2%	1.5%	3.3%	0.92	
Steelhead	822	72.1%	11.3%	5.8%	5.5%	2.4%	1.5%	1.3%	0.64	
t=2.671**										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all limiting, 6 = very limiting.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 5-17: How much weather conditions limit fishing participation.**

Angler Type	Sample n	Not at all limiting						Very limiting		Mean <sup>1</sup>
Overall	1105	19.1%	14.9%	15.0%	24.7%	13.0%	7.6%	5.6%	2.43	
General	272	19.9%	17.3%	16.2%	24.6%	10.7%	5.9%	5.5%	2.29	
Steelhead	833	18.8%	14.2%	14.6%	24.7%	13.8%	8.2%	5.6%	2.48	
t=-1.539 n.s.										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all limiting, 6 = very limiting.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 5-18: How much interest in spending free time at home limits fishing participation.**

Angler Type	Sample n	Not at all limiting						Very limiting		Mean <sup>1</sup>
Overall	1102	34.5%	19.8%	17.4%	18.2%	6.1%	2.8%	1.2%	1.55	
General	273	32.2%	17.2%	16.5%	18.3%	11.4%	2.6%	1.8%	1.74	
Steelhead	829	35.2%	20.6%	17.7%	18.2%	4.3%	2.9%	1.0%	1.48	
t=2.376*										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all limiting, 6 = very limiting.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

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**Table 5-19: How much the type of people that go fishing limit fishing participation.**

Angler Type	Sample n	Not at all limiting						Very limiting		Mean <sup>1</sup>
Overall	1101	48.6%	19.6%	11.5%	13.8%	3.9%	1.6%	0.9%	1.13	
General	272	53.3%	16.9%	11.8%	12.1%	4.0%	1.5%	0.4%	1.03	
Steelhead	829	47.0%	20.5%	11.5%	14.4%	3.9%	1.7%	1.1%	1.17	
t=-1.457 n.s.										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all limiting, 6 = very limiting.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 5-20: How much the amount of planning required to go limits fishing participation.**

Angler Type	Sample n	Not at all limiting						Very limiting		Mean <sup>1</sup>
Overall	1105	55.5%	22.4%	9.6%	7.6%	3.3%	1.0%	0.5%	0.86	
General	273	50.9%	22.3%	9.2%	8.8%	7.0%	1.1%	0.7%	1.05	
Steelhead	832	57.0%	22.5%	9.7%	7.2%	2.2%	1.0%	0.5%	0.80	
t=3.087**										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all limiting, 6 = very limiting.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 5-21: How much age limits fishing participation.**

Angler Type	Sample n	Not at all limiting						Very limiting		Mean <sup>1</sup>
Overall	1111	70.2%	13.1%	5.4%	6.8%	2.9%	0.9%	0.7%	0.65	
General	274	66.4%	15.7%	5.1%	7.7%	3.6%	0.7%	0.7%	0.72	
Steelhead	837	71.4%	12.3%	5.5%	6.5%	2.6%	1.0%	0.7%	0.62	
t=1.095 n.s.										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all limiting, 6 = very limiting.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

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**Table 5-22: How much the amount of effort required to go limits fishing participation.**

Angler Type	Sample n	Not at all limiting						Very limiting		Mean <sup>1</sup>
Overall	1110	51.9%	20.7%	13.4%	8.0%	4.3%	1.2%	0.5%	0.97	
General	275	46.2%	19.3%	14.5%	11.3%	6.5%	1.8%	0.4%	1.20	
Steelhead	835	53.8%	21.2%	13.1%	6.9%	3.6%	1.0%	0.5%	0.90	
t=3.087**										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all limiting, 6 = very limiting.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 5-23: How much a lack of fishing opportunities limits fishing participation.**

Angler Type	Sample n	Not at all limiting						Very limiting		Mean <sup>1</sup>
Overall	1110	49.7%	14.3%	11.6%	10.1%	6.3%	4.1%	3.8%	1.36	
General	274	43.4%	16.8%	10.2%	10.9%	9.1%	5.1%	4.4%	1.58	
Steelhead	936	51.8%	13.5%	12.1%	9.8%	5.4%	3.8%	3.6%	1.29	
t=2.31*										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all limiting, 6 = very limiting.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 5-24: How much concerns about contaminants limits fishing participation.**

Angler Type	Sample n	Not at all limiting						Very limiting		Mean <sup>1</sup>
Overall	1106	48.7%	15.9%	8.2%	10.5%	6.1%	4.1%	6.4%	1.47	
General	272	41.9%	14.0%	9.6%	9.2%	10.3%	4.4%	10.7%	1.88	
Steelhead	834	51.0%	16.5%	7.8%	10.9%	4.8%	4.0%	5.0%	1.34	
t=3.792***										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all limiting, 6 = very limiting.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

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**Table 5-25: How much poor health limits fishing participation.**

Angler Type	Sample n	Not at all limiting						Very limiting		Mean <sup>1</sup>
Overall	1107	73.4%	13.4%	4.2%	4.5%	2.3%	1.5%	0.7%	0.56	
General	274	71.2%	11.3%	5.1%	5.5%	2.9%	3.3%	0.7%	0.70	
Steelhead	833	74.2%	14.0%	3.8%	4.2%	2.0%	1.0%	0.7%	0.52	
t=2.064*										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all limiting, 6 = very limiting.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 5-26: How much poor access to the type of fishing enjoyed limits fishing participation.**

Angler Type	Sample n	Not at all limiting						Very limiting		Mean <sup>1</sup>
Overall	1104	47.3%	15.7%	12.0%	10.1%	6.4%	4.3%	4.2%	1.42	
General	271	49.1%	14.4%	11.1%	12.5%	4.8%	3.7%	4.4%	1.38	
Steelhead	833	46.7%	16.1%	12.4%	9.4%	7.0%	4.4%	4.1%	1.43	
t=-0.411 n.s.										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all limiting, 6 = very limiting.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 5-27: How much a lack of equipment limits fishing participation.**

Angler Type	Sample n	Not at all limiting						Very limiting		Mean <sup>1</sup>
Overall	1110	72.3%	15.0%	6.1%	4.0%	1.1%	0.8%	0.8%	0.52	
General	275	63.3%	16.0%	8.7%	6.2%	2.5%	1.5%	1.7%	0.80	
Steelhead	835	75.2%	14.6%	5.3%	3.2%	0.6%	0.6%	0.5%	0.43	
t=4.221***										

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all limiting, 6 = very limiting.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

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**Table 5-28: How much a lack of knowledge limits fishing participation.**

Angler Type	Sample n	Not at all limiting					Very limiting		Mean <sup>1</sup>
Overall	1108	69.7%	14.4%	8.2%	4.7%	1.3%	1.0%	0.7%	0.59
General	274	63.1%	13.5%	9.5%	10.2%	1.8%	1.1%	0.7%	0.80
Steelhead	834	71.8%	14.7%	7.8%	2.9%	1.1%	1.0%	0.7%	0.52
t=3.272***									

**Notes:**

<sup>1</sup>Mean is based on the scale 0 = not at all limiting, 6 = very limiting.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

## Section 6: Fisheries Management

### ***Findings:***

#### ***Stocking Steelhead***

Respondents were asked to what extent they agreed with 3 potential management options: (a) support stocking additional streams, even if it means fewer fish are stocked in current streams, (b) support stocking the same sites at current levels, (c) support limited closures to stream reaches to establish an Ohio-based steelhead stocking program. Among those who indicated fishing for steelhead trout in Ohio in the past 12 months, most seemed to support the status quo (73%; Table 6-2), while half also agreed with limited stream closures (Table 6-3), and about 40% agreed with stocking additional streams (Table 6-1).

General anglers agreed most strongly than steelhead anglers with stocking additional streams ( $t=2.211$ ,  $p\leq 0.05$ ; Table 6-1) and limited closures ( $t=2.691$ ,  $p\leq 0.01$ ; Table 6-3).

#### ***Trust of ODNR-ODW as Salient Values Similarity***

Respondents were asked to respond to what extent they strongly agreed (2) or strongly disagreed (-2) with five statements regarding the values they believe ODW shares with them. This scale is an indicator of the extent survey respondents trust ODW. Reliability for the scale was high ( $\alpha=0.961$ ). The statements began “I feel that the Ohio Division of Wildlife...” and ended with the following qualifiers: (a) shares similar values as me, (b) shares similar opinions as me, (c) thinks in a similar way as me, (d) takes similar actions as I would, and (e) shares similar goals as me (Tables 6-4 through 6-8).

Overall, means for each of the statements were positive: (a) shares similar values as me ( $\bar{x} = 1.19$ ), (b) shares similar opinions as me ( $\bar{x} = 1.06$ ), (c) thinks in a similar way as me ( $\bar{x} = 0.95$ ), (d) takes similar actions I would ( $\bar{x} = 0.86$ ), and (e) shares similar goals as me ( $\bar{x} = 1.10$ ). The scale did not correlate with age, income or education. Steelhead anglers are significantly higher in their trust of ODW on this scale than general anglers ( $t=-4.294$ ,  $p\leq 0.001$ ).

## Section 6: Fisheries Management

### *Confidence in ODNR-ODW Fisheries Management*

Respondents were asked to what extent they strongly agreed (2) or strongly disagreed (-2) with two statements regarding management: (a) effectively manage Ohio's fisheries, and (b) use appropriate fisheries management techniques. Over 70% of respondents agreed that ODNR-DOW knows how to effectively manage Ohio's fisheries (Table 6-9) and ODW use appropriate fisheries management techniques (Table 6-10). These were not correlated with age, education or income.

Again, steelhead anglers agreed more strongly than general anglers with both of these statements.

### *Support for other fisheries management options*

Respondents were asked how much they strongly agree (2) to strongly disagree (-2) with each of the following management options: (a) I support restoring native lake trout to Ohio waters of Lake Erie, (b) I support chemical control of sea lamprey in Ohio waters, (c) I support physical barriers for sea lamprey control in Ohio waters, and (d) I would support restoring additional native brook trout to Ohio waters, even if harvesting brook trout was prohibited. Over three-quarters of respondents agreed with support for restoring native lake trout and for restoring native brook trout. Three-quarters also supported physical barriers for sea lamprey, while just over two-thirds supported chemical control of sea lamprey. Education ( $r=-0.075$ ,  $p\leq 0.05$ ) and age ( $r=-0.098$ ,  $p\leq 0.001$ ) both negatively correlated with support for restoring native lake trout. Age positively correlated with support for both chemical ( $r=0.132$ ,  $p\leq 0.001$ ) and physical ( $r=0.147$ ,  $p\leq 0.001$ ) control of sea lamprey. Again, age negatively correlated with support for restoring additional native brook trout ( $r=-0.078$ ,  $p\leq 0.01$ ).

There was no difference between general anglers and steelhead anglers in support for restoring native brook trout. For the other three items, steelhead anglers were significantly more supportive than general anglers.

## Section 6: Fisheries Management

**Table 6-1: Support for stocking additional streams, even if it means fewer fish are stocked in current streams.**

Angler Type	Sample n	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean <sup>1</sup>
Overall	865	8.4%	22.2%	30.5%	26.0%	12.8%	0.13
General	41	4.9%	9.8%	31.7%	36.6%	17.1%	0.51
Steelhead	824	8.6%	22.8%	30.5%	25.5%	12.6%	0.11
t=2.211*							

**Notes:**

<sup>1</sup>Mean is based on the scale: strongly disagree = -2, disagree = -1, neutral = 0, agree = 1, strongly agree = 2.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 6-2: Support for stocking the same sites at current levels.**

Angler Type	Sample n	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean <sup>1</sup>
Overall	867	0.7%	4.4%	22.3%	46.3%	26.4%	0.93
General	41	0%	12.2%	17.1%	53.7%	17.1%	0.76
Steelhead	826	0.7%	4.0%	22.5%	45.9%	26.9%	0.94
t=-1.368 n.s.							

**Notes:**

<sup>1</sup>Mean is based on the scale: strongly disagree = -2, disagree = -1, neutral = 0, agree = 1, strongly agree = 2.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 6-3: Support for limited closures to stream reaches to establish an Ohio-based steelhead stocking program.**

Angler Type	Sample n	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean <sup>1</sup>
Overall	865	6.4%	12.4%	36.9%	31.2%	13.2%	0.32
General	41	2.4%	7.3%	22.0%	48.8%	19.5%	0.76
Steelhead	824	6.6%	12.6%	37.6%	30.3%	12.9%	0.30
t=2.691**							

**Notes:**

<sup>1</sup>Mean is based on the scale: strongly disagree = -2, disagree = -1, neutral = 0, agree = 1, strongly agree = 2.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

## Section 6: Fisheries Management

**Table 6-4: I feel that ODW shares similar values as me.**

Angler Type	Sample n	Strongly disagree			Neutral			Strongly agree	Mean <sup>1</sup>
Overall	1113	1.8%	1.5%	2.6%	30.1%	17.7%	26.3%	19.9%	1.19
General	273	2.6%	1.5%	3.3%	39.2%	17.6%	22.0%	13.9%	0.89
Steelhead	840	1.5%	1.5%	2.4%	27.1%	17.7%	17.7%	21.9%	1.29
t=-4.185***									

Notes:

<sup>1</sup>Mean is based on the scale: strongly disagree = -3, neutral = 0, strongly agree = 3.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 6-5: I feel that ODW shares similar opinions as me.**

Angler Type	Sample n	Strongly disagree			Neutral			Strongly agree	Mean <sup>1</sup>
Overall	1113	1.9%	2.4%	3.4%	31.0%	19.3%	25.2%	16.7%	1.06
General	273	2.6%	1.8%	4.4%	40.7%	19.0%	20.1%	11.4%	0.78
Steelhead	840	1.7%	2.6%	3.1%	27.9%	19.4%	26.9%	18.5%	1.15
t=-3.954***									

Notes:

<sup>1</sup>Mean is based on the scale: strongly disagree = -3, neutral = 0, strongly agree = 3.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 6-6: I feel that ODW thinks in a similar way as me.**

Angler Type	Sample n	Strongly disagree			Neutral			Strongly agree	Mean <sup>1</sup>
Overall	1112	2.3%	3.2%	4.1%	31.7%	19.1%	24.5%	15.0%	0.95
General	272	3.7%	2.9%	5.9%	39.3%	18.8%	18.4%	11.0%	0.66
Steelhead	840	1.9%	3.3%	3.6%	29.3%	19.2%	19.2%	26.4%	1.05
t=-4.006***									

Notes:

<sup>1</sup>Mean is based on the scale: strongly disagree = -3, neutral = 0, strongly agree = 3.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

## Section 6: Fisheries Management

**Table 6-7: I feel that ODW takes similar actions I would.**

Angler Type	Sample n	Strongly disagree			Neutral			Strongly agree	Mean <sup>1</sup>
Overall	1111	2.6%	4.7%	7.2%	28.6%	17.9%	24.0%	14.9%	0.86
General	271	3.3%	4.4%	7.4%	39.1%	18.1%	16.2%	11.4%	0.59
Steelhead	840	2.4%	4.8%	7.1%	25.2%	17.9%	26.5%	16.1%	0.95
t=-3.531***									

Notes:

<sup>1</sup>Mean is based on the scale: strongly disagree = -3, neutral = 0, strongly agree = 3.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 6-8: I feel that ODW shares similar goals as me.**

Angler Type	Sample n	Strongly disagree			Neutral			Strongly agree	Mean <sup>1</sup>
Overall	1115	2.5%	2.2%	5.4%	27.3%	16.3%	28.3%	18.0%	1.10
General	274	3.3%	2.6%	6.5%	36.1%	16.1%	23.7%	11.7%	0.77
Steelhead	841	2.3%	2.0%	5.0%	24.4%	16.4%	29.8%	20.1%	1.21
t=-4.378***									

Notes:

<sup>1</sup>Mean is based on the scale: strongly disagree = -3, neutral = 0, strongly agree = 3.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 6-9: I am confident that the ODW knows how to effectively manage Ohio's fisheries.**

Angler Type	Sample n	Strongly disagree			Neutral			Strongly agree	Mean <sup>1</sup>
Overall	1113	2.9%	2.2%	4.9%	17.9%	18.1%	31.7%	22.5%	1.31
General	274	4.4%	2.2%	6.6%	22.6%	19.3%	26.6%	18.2%	1.03
Steelhead	839	2.4%	2.1%	4.3%	16.3%	17.6%	33.4%	23.8%	1.40
t=-3.637***									

Notes:

<sup>1</sup>Mean is based on the scale: strongly disagree = -3, neutral = 0, strongly agree = 3.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

## Section 6: Fisheries Management

**Table 6-10: I am confident that the ODW knows how to use appropriate fisheries management techniques.**

Angler Type	Sample n	Strongly disagree			Neutral			Strongly agree	Mean <sup>1</sup>
Overall	1115	2.4%	2.8%	3.9%	19.5%	16.9%	32.3%	22.3%	1.32
General	275	4.0%	3.3%	3.3%	25.5%	16.0%	29.8%	18.2%	1.08
Steelhead	840	1.9%	2.6%	4.0%	17.5%	17.1%	33.1%	23.7%	1.39
t=-3.092**									

Notes:

<sup>1</sup>Mean is based on the scale: strongly disagree = -3, neutral = 0, strongly agree = 3.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 6-11: I support restoring native lake trout to Ohio waters of Lake Erie.**

Angler Type	Sample n	Strongly disagree			Neutral			Strongly agree	Mean <sup>1</sup>
Overall	1115	3.1%	1.1%	2.1%	16.1%	11.6%	21.1%	44.9%	1.75
General	271	1.8%	0.7%	0.7%	23.2%	12.2%	24.0%	37.3%	1.64
Steelhead	844	3.6%	1.2%	2.5%	13.9%	11.4%	20.1%	47.4%	1.78
t=-1.335 n.s.									

Notes:

<sup>1</sup>Mean is based on the scale: strongly disagree = -3, neutral = 0, strongly agree = 3.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 6-12: I support chemical control of sea lamprey in Ohio waters.**

Angler Type	Sample n	Strongly disagree			Neutral			Strongly agree	Mean <sup>1</sup>
Overall	1113	3.1%	2.0%	3.3%	22.9%	13.3%	19.9%	35.5%	1.43
General	270	4.1%	2.6%	4.4%	25.2%	13.0%	20.0%	30.7%	1.23
Steelhead	843	2.7%	1.8%	3.0%	22.2%	13.4%	19.9%	37.0%	1.50
t=-2.397*									

Notes:

<sup>1</sup>Mean is based on the scale: strongly disagree = -3, neutral = 0, strongly agree = 3.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

## Section 6: Fisheries Management

**Table 6-13: I support physical barriers for sea lamprey control in Ohio waters.**

Angler Type	Sample n	Strongly disagree			Neutral			Strongly agree	Mean <sup>1</sup>
Overall	1112	1.3%	0.8%	1.4%	20.5%	13.0%	23.7%	39.2%	1.71
General	269	1.1%	1.1%	1.5%	25.3%	16.0%	23.8%	31.2%	1.50
Steelhead	843	1.3%	0.7%	1.4%	19.0%	12.1%	23.7%	41.8%	1.78
t=-2.947**									

**Notes:**

<sup>1</sup>Mean is based on the scale: strongly disagree = -3, neutral = 0, strongly agree = 3.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 6-14: I would support restoring additional native brook trout to Ohio waters, even if harvesting brook trout was prohibited.**

Angler Type	Sample n	Strongly disagree			Neutral			Strongly agree	Mean <sup>1</sup>
Overall	1115	3.1%	1.7%	2.8%	16.7%	10.0%	18.7%	46.9%	1.73
General	271	4.1%	1.8%	4.1%	26.2%	11.8%	19.6%	32.5%	1.28
Steelhead	844	2.8%	1.7%	2.4%	13.6%	9.5%	18.5%	51.5%	1.87
t=-5.208***									

**Notes:**

<sup>1</sup>Mean is based on the scale: strongly disagree = -3, neutral = 0, strongly agree = 3.

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

## Section 7: Demographics

### ***Findings:***

#### *Age*

##### *Overall*

Respondents were asked to indicate their age in years. The average respondent age was 48 years (Table 7-1). Respondents ranged in age from 18 to 98 years.

##### *Steelhead anglers compared to other anglers*

There was no difference between steelhead anglers' and general anglers' age.

#### *Percentage of Life Living in Ohio*

##### *Overall*

Respondents were asked to report the number of years they had lived in Ohio. Using respondents' age and number of years living in Ohio, we calculated the proportion of life spent living in the state. On average, respondents had lived in Ohio for 87% of their lives (Table 7-2).

##### *Steelhead anglers compared to other anglers*

There was no significant difference between steelhead anglers and general anglers in the proportion of life they have spent in Ohio.

#### *County of Residence*

##### *Overall*

Respondents were asked to indicate in which Ohio county they lived. The top four counties all hold steelhead streams: Cuyahoga (17%), Lake (12%), Ashtabula (5%), and Lorain (5%; Table 7-10).

##### *Steelhead anglers compared to other anglers*

Steelhead anglers were significantly more likely to indicate residing in these same counties than general anglers ( $\chi^2=489.898$ ,  $p\leq 0.001$ , Cramer's  $V=0.658$ ).

## Section 7: Demographics

### *Gender*

#### *Overall*

Ninety-four percent of respondents were male (Table 7-3).

#### *Steelhead anglers compared to other anglers*

General anglers had a significantly higher proportion of female respondents than steelhead anglers ( $\chi^2=138.284$ ,  $p\leq 0.001$ ; Table 7-3).

### *Number of people currently living in household*

#### *Overall*

Respondents were asked to indicate the number of people currently living in their household. Responses ranged from one to nine, and on average, there were 2.84 people per household (Table 7-8). Respondents were also asked to indicate how many of those were under the age of 18. Responses ranged from zero to seven. On average, there were 0.64 people under the age of 18 in households (Table 7-9).

#### *Steelhead anglers compared to general anglers*

General anglers reported significantly higher numbers of people in their household ( $t=3.495$ ,  $p\leq 0.001$ ) and higher numbers of people under the age of 18 in their household ( $t=2.406$ ,  $p\leq 0.05$ ) than steelhead anglers.

### *Income*

#### *Overall*

Respondents reported their income using 10 categories. About 2% of respondents reported incomes of less than \$10,000 per year, and about 26% of respondents reported an income of \$100,000 or more. (Table 7-4).

#### *Steelhead anglers compared to general anglers*

More steelhead anglers reported incomes of \$100,000 or more. Twenty-eight percent of steelhead anglers reported these incomes, while 19% of general anglers reported incomes of \$100,000 or more ( $\chi^2=27.319$ ,  $p\leq 0.001$ , Cramer's  $V=0.161$ ; Table 7-3).

## Section 7: Demographics

### ***Race***

#### *Overall*

Nearly all respondents (94%) were White (Table 7-5). Less than 1% of respondents considered themselves Hispanic/Latino (Table 7-6).

#### *Steelhead anglers compared to general anglers*

There were no significant differences in the proportion of race between steelhead anglers and general anglers (Table 7-6).

### ***Education***

#### *Overall*

Respondents were asked to select their highest level of education from a list of seven options including: (a) less than 9<sup>th</sup> grade, (b) 9<sup>th</sup> grade to 12<sup>th</sup> grade, no diploma, (c) high school diploma or GED, (d) some college, no degree, (e) associate's degree, (f) bachelor's degree, and (g) graduate or professional degree. More than 70% of respondents had completed at least some college (Table 7-7).

#### *Steelhead anglers compared to general anglers*

Steelhead anglers had a significantly higher proportion of bachelor's, graduate or professional degree-holding respondents ( $\chi^2=22.018$ ,  $p\leq 0.001$ , Cramer's  $V=0.141$ ; Table 7-7).

### ***Late Respondents***

People who responded to the follow-up survey (i.e. reluctant responders) were no different in age from the people who responded to the full survey ( $\bar{x}=48$  years;  $t=0.532$ , n.s.). The reluctant responders had lived a similar proportion of their lives (82%) in Ohio as other respondents had (87%;  $t=1.301$ , n.s.). A greater proportion of reluctant responders were women (19%), compared to the early responders (5.6%;  $t=-3.245$ ,  $p\leq 0.01$ ).

Late responders were more likely to report that their fishing had decreased over the past 5 years and less likely to say that their fishing had increased than responders ( $\chi^2=45.110$ ,  $p\leq 0.001$ , Cramer's  $V=0.193$ ). Late responders also reported having slightly lower years of fishing experience than responders ( $\bar{x}=37$  years) ( $t=1.969$ ,  $p\leq 0.05$ ). Finally, late responders were less likely to have reported fishing for steelhead in Ohio in the past 12 months ( $t=8.992$ ,  $p\leq 0.001$ ).

## Section 7: Demographics

**Table 7-1: Age.**

Angler Type	Sample size (n)	Age
Overall	1086	48.35
General	267	47.13
Steelhead	819	48.74
t=-1.780 n.s.		

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 7-2: Proportion of life living in Ohio.**

Angler Type	Sample size (n)	Mean %
Overall	984	86.53%
General	377	88.88%
Steelhead	353	85.71%
t=1.937 n.s.		

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 7-3: Gender.**

Angler Type	Sample size (n)	Male	Female
Overall	1114	94.4%	5.6%
General	274	80.3%	19.7%
Steelhead	840	99.0%	1.0%
$\chi^2=138.284^{***}$ , Cramer's V=0.352			

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

## Section 7: Demographics

**Table 7-4: Annual household income before taxes.**

Angler Type	Percent of respondents whose income was...										
	n	<\$10K	\$10K- \$14,999	\$15K- \$24,999	\$25K- \$34,999	\$35K- \$49,999	\$50K- \$74,999	\$75K- \$99,999	\$100K- \$149,999	\$150K- \$199,999	\$200K+
Overall	1052	1.7%	1.7%	5.8%	8.2%	14.9%	24.1%	17.3%	18.2%	4.5%	3.6%
General	253	3.6%	2.4%	7.9%	9.9%	13.8%	30.0%	13.0%	15.0%	2.4%	2.0%
Steelhead	799	1.1%	1.5%	5.1%	7.6%	15.3%	22.3%	18.6%	19.1%	5.1%	4.1%
$\chi^2=27.319^{***}$ , Cramer's V=0.161											

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 7-5: Race.**

Angler Type	n	Caucasian/ White	African American/ Black	Asian	American Indian or Alaskan Native
Overall	1131	94.9%	1.2%	0.4%	0.5%
General	277	93.5%	2.2%	0.4%	0.4%
Steelhead	854	95.3%	0.9%	0.4%	0.6%
		$\chi^2=1.415$ n.s., Cramer's V=0.035	$\chi^2=1.678$ n.s., Cramer's V=0.048	$\chi^2=0.001$ n.s., Cramer's V= 0.001	$\chi^2=0.200$ n.s., Cramer's V= 0.013

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 7-6: Hispanic background (of any race).**

Angler Type	Sample size (n)	% Yes
Overall	876	0.8%
General	218	0.9%
Steelhead	658	0.8%
$\chi^2=0.051$ n.s., Cramer's V=0.008		

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

## Section 7: Demographics

**Table 7-7: Highest level of education.**

Angler Type	Percent of respondents whose highest level of education was...						
	Less than 9 <sup>th</sup> grade	9 <sup>th</sup> grade to 12 <sup>th</sup> grad, no diploma	High school diploma (or GED)	Some college, no degree	Associate's degree	Bachelor's degree	Graduate or professional degree
Overall	0.7%	4.9%	22.8%	25.7%	9.7%	21.9%	14.3%
General	1.5%	6.3%	24.6%	31.3%	11.0%	16.5%	8.8%
Steelhead	0.5%	4.4%	22.1%	23.9%	9.3%	23.7%	16.1%
$\chi^2=22.081^{***}$ , Cramer's V=0.141							

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 7-8: Number of people living in household.**

Angler Type	Sample size (n)	Mean
Overall	1099	2.84
General	267	3.11
Steelhead	832	2.76
$t=3.495^{***}$		

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

**Table 7-9: Number of people living in household under the age of 18.**

Angler Type	Sample size (n)	Mean
Overall	1055	0.64
General	256	0.79
Steelhead	799	0.60
$t=2.406^*$		

n.s.=not significant, \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001

## Section 7: Demographics

**Table 7-10: Ohio county of residence.**

County	General	Steelhead	Total	County	General	Steelhead	Total
ADAMS	2	1	3	LICKING	4	1	5
ALLEN	2	0	2	LOGAN	3	1	4
ASHLAND	2	1	3	LORAIN	9	49	58
ASHTABULA	2	59	61	LUCAS	7	1	8
ATHENS	1	2	3	MAHONING	5	27	32
AUGLAIZE	2	1	3	MEDINA	5	18	23
BELMONT	3	4	7	MERCER	3	0	3
BUTLER	7	4	11	MIAMI	4	1	5
CARROLL	2	0	2	MONTGOMERY	12	3	15
CHAMPAIGN	1	0	1	MORROW	2	4	6
CLARK	5	2	7	MUSKINGUM	0	1	1
CLERMONT	4	2	6	NOBLE	1	0	1
CLINTON	2	0	2	OTTAWA	2	6	8
COLUMBIANA	3	2	5	PAULDING	1	0	1
CRAWFORD	1	2	3	PERRY	2	0	2
CUYAHOGA	12	180	192	PICKAWAY	1	0	1
DARKE	3	0	3	PORTAGE	5	19	24
DEFIANCE	1	0	1	PREBLE	1	1	2
DELAWARE	8	1	9	PUTNAM	3	1	4
ERIE	3	16	19	RICHLAND	7	3	10
FAIRFIELD	4	2	6	ROSS	0	1	1
FAYETTE	3	0	3	SANDUSKY	2	4	6
FRANKLIN	20	15	35	SCIOTO	5	0	5
FULTON	0	1	1	SENECA	5	0	5
GALLIA	1	0	1	SHELBY	2	0	2
GEAUGA	3	31	34	STARK	8	21	29
GREENE	4	1	5	SUMMIT	9	48	57
GUERNSEY	3	1	4	TRUMBULL	6	38	44
HAMILTON	4	5	9	TUSCARAWAS	5	3	8
HANCOCK	1	2	3	VANWERT	1	0	1
HARDIN	3	0	3	WARREN	5	2	7
HARRISON	1	0	1	WASHINGTON	2	1	3
HIGHLAND	2	0	2	WAYNE	4	11	15
HOCKING	2	0	2	WILLIAMS	1	0	1
HOLMES	0	1	1	WOOD	8	4	12
HURON	2	3	5	WYANDOT	2	0	2
JEFFERSON	1	0	1	BLANK	1	111	118
KNOX	2	0	2	Total	277	854	1131
LAKE	5	135	140				
LAWRENCE	1	0	1				

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## **Appendix A: Survey Instrument**

# OHIO STEELHEAD FISHING

A study of angler participation and activities



**Conducted by The Ohio State University  
for the Ohio Division of Wildlife**

*Please return your completed questionnaire in the enclosed envelope.  
The envelope is self-addressed and no postage is required.  
Your help on this study is greatly appreciated!*



**THE OHIO STATE UNIVERSITY**  
School of Environment & Natural Resources  
210 Kottman Hall | 2021 Coffey Road | Columbus, Ohio 43210



# Appendix A: Survey Instrument

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## I. GENERAL FISHING BACKGROUND

A. In what year did you begin fishing (not necessarily in Ohio)? \_\_\_\_\_ (If not sure, please estimate)

B. In what year did you begin fishing in Ohio? \_\_\_\_\_ (If not sure, please estimate)

C. For the previous 5 years, please indicate which years you fished in Ohio: (Check all that apply)

- 2008
- 2007
- 2006
- 2005
- 2004
- I did not fishing during any of these years

D. During the past five years, would you say the number of days per year that you fish in Ohio has:

- Decreased
- Stayed about the same
- Increased

E. Other than Ohio, in which states and provinces have you purchased a fishing license in the last 3 years?

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_
- 3. \_\_\_\_\_
- 4. \_\_\_\_\_

F. During the past 12 months, how often have you fished in Ohio for... (Circle one for each type of fish)

	Never	Seldom	Sometimes	Often	Always
Bluegill Sunfish	0	1	2	3	4
Crappie	0	1	2	3	4
Catfish	0	1	2	3	4
Perch	0	1	2	3	4
Largemouth bass	0	1	2	3	4
Muskellunge	0	1	2	3	4
Smallmouth bass	0	1	2	3	4
White bass	0	1	2	3	4
Steelhead trout	0	1	2	3	4
Inland Trout (e.g., rainbow, brown)	0	1	2	3	4
Walleye, Sauger, or Saugeye	0	1	2	3	4
Whatever is biting	0	1	2	3	4

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**G. Relative to your fishing habits, please rank the following water bodies in the order of most fished to least fished.**

- |                             |  |
|-----------------------------|--|
| _____ Lake Erie             | _____ Ohio inland rivers or streams ( <u>NOT</u> the Ohio River) |
| _____ Lake Erie tributaries | _____ Ohio inland lakes and reservoirs                           |
| _____ Ohio River            | _____ Ponds  |

**H. Do you own a boat that you use for fishing?** (Check one)  Yes  No

**I. Do you own property such as a lot, cabin, or motor home bought with the primary purpose of fishing?** (Check one)  Yes  No

**J. Have you ever participated in a fishing tournament?** (Check one)  Yes  No

## II. HOW IMPORTANT FISHING IS TO YOU?

**A. Please indicate how much you agree or disagree with the following statements.**

(Circle one for each item)

	Strongly disagree	Disagree	Neutral/ neither	Agree	Strongly agree
Fishing says a lot about who I am.	-2	-1	0	1	2
Participation in fishing is a large part of my life.	-2	-1	0	1	2
I have put a lot into developing skills for fishing.	-2	-1	0	1	2
Over time, I have acquired equipment that I would not use if I quit fishing.	-2	-1	0	1	2
I would rather fish than do any other recreational activity.	-2	-1	0	1	2
I have close friendships that are based on a common interest in fishing.	-2	-1	0	1	2
I have little or no interest in fishing.	-2	-1	0	1	2
When I am fishing I can really be myself.	-2	-1	0	1	2
I enjoy discussing fishing with my friends.	-2	-1	0	1	2
Most of my friends are in some way connected with fishing.	-2	-1	0	1	2
Compared to other anglers, I own a lot of fishing equipment.	-2	-1	0	1	2
It would be difficult for me to find another recreational activity to replace fishing.	-2	-1	0	1	2

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## III. GENERAL EQUIPMENT, EXPENSES AND ACTIVITIES

A. How many fishing rods do you own? \_\_\_\_\_ Rods

B. Please estimate the total replacement cost of your fishing equipment for each of the following categories:

Rods and reels	\$ _____	Outdoorwear ( <i>waders, etc.</i> )	\$ _____
Lures, tackle and storage	\$ _____	Electronic devices ( <i>GPS, fish finders, etc.</i> )	\$ _____

C. Please estimate how much money you spent in the last 12 months (June 1, 2008 to May 31, 2009) on fishing...

1. **Equipment** (e.g., rods, reels, lines, lures, swivels, depth/fish finders, etc.)

- \$25 or less
- \$26 to \$99
- \$100 to \$199
- \$200 to \$399
- \$400 to \$599
- \$600 or more

2. **Travel** (e.g., motels, cabins, or campgrounds; fuel costs, meals, flights, etc.)

- \$25 or less
- \$26 to \$99
- \$100 to \$199
- \$200 to \$399
- \$400 to \$599
- \$600 or more

D. How many (if any) fishing-related clubs/organizations do you belong to? (*Write in answer*)

\_\_\_\_\_ Clubs/organizations

E. Thinking about your angling skills, please circle the most appropriate answers below.

(Circle one for each item)

	Much Lower	Lower	About the same	Higher	Much Higher
Compared to other anglers <u>in general</u> , my skills are...	-2	-1	0	1	2
Compared to other anglers I <u>know</u> , my skills are...	-2	-1	0	1	2

F. In general, when fishing I release legal-size fish... (*Check one*)

- Never
- Seldom
- Sometimes
- Often
- Always

G. When I catch my limit, I usually... (*Check one*)

- Quit fishing
- Keep fishing and replace smaller fish with larger fish (cull)
- Keep fishing and release all the fish I catch
- Not Applicable

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### IV. FISHING ACTIVITIES DURING THE PAST YEAR

The next set of questions concern your fishing activities during the past 12 months (from June 1, 2008 - May 31, 2009). Please keep this timeframe in mind when answering each question.

**A. During the past 12 months (June 1, 2008 - May 31, 2009), please estimate how many days you fished on each of the following types of water bodies.**

- \_\_\_\_\_ Days on Lake Erie
- \_\_\_\_\_ Days on Lake Erie tributaries
- \_\_\_\_\_ Days on the Ohio River
- \_\_\_\_\_ Days on Ohio inland rivers or streams (NOT the Ohio River)
- \_\_\_\_\_ Days on Ohio inland lakes and reservoirs
- \_\_\_\_\_ Days on ponds

**B. How many times did you fish in competitive fishing tournaments during the past 12 months?**

- None
- 1 to 3 times
- 4 to 9 times
- 10 or more times

**C. Over the last 12 months of fishing, how satisfied or dissatisfied were you with:**

(Circle one for each item)

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied
Your overall fishing experience	-2	-1	0	1	2
The size of the fish you caught	-2	-1	0	1	2
The number of fish you caught	-2	-1	0	1	2
The behavior of other anglers	-2	-1	0	1	2
The behavior of non-anglers	-2	-1	0	1	2
Access at lakes/reservoirs	-2	-1	0	1	2
Access at rivers/streams	-2	-1	0	1	2

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### V. STEELHEAD TROUT FISHING IN OHIO

The next set of questions concern your participation in steelhead angling.

A. Have you fished for steelhead trout in the last 12 months (June 1, 2008-May 31, 2009) in Ohio?

No → (If no, please skip to section VI.)

Yes

→ B. How many days in the last 12 months did you fish for steelhead? \_\_\_\_\_ Days

C. Did you fish for steelhead in any states other than Ohio in the last 12 months?

No → (If no, please skip to question E)

Yes

→ D. Please indicate 2 states other than Ohio where you most often fished for steelhead.

1. \_\_\_\_\_ 2. \_\_\_\_\_

E. Please estimate how much money you spent on steelhead fishing trips in the last 12 months (June 2008 to May 2009)...

1. **Equipment** (e.g., rods, reels, lines, lures, swivels, depth/fish finders, etc.)

- \$25 or less
- \$26 to \$99
- \$100 to \$199
- \$200 to \$399
- \$400 to \$599
- \$600 or more

2. **Travel** (e.g., motels, cabins or campgrounds, fuel costs, meals, flights, etc.)

- \$25 or less
- \$26 to \$99
- \$100 to \$199
- \$200 to \$399
- \$400 to \$599
- \$600 or more

F. Please estimate the replacement cost of the following equipment you use specifically for steelhead fishing:

Rods and reels \$ \_\_\_\_\_ Outdoorwear (*waders, vests, etc.*) \$ \_\_\_\_\_

Lures, tackle and storage \$ \_\_\_\_\_ Electronic devices (*GPS, fish finders, etc.*) \$ \_\_\_\_\_

G. When fishing for steelhead, I generally release legal-size fish... (Check one)

- 0 – 20% of the time
- 21 – 40% of the time
- 41 – 60% of the time
- 61 – 80% of the time
- 81 – 100% of the time

H. How often do you catch your daily limit of steelhead? (Check one)

- 0 – 20% of the time
- 21 – 40% of the time
- 41 – 60% of the time
- 61 – 80% of the time
- 81 – 100% of the time

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### I. When I catch my limit while fishing for steelhead, I usually... (Check one)

- Quit fishing
- Keep fishing and replace smaller fish with larger fish (cull)
- Keep fishing and release all the fish I catch
- Not Applicable

### J. What type of gear do you typically use when you fish for steelhead? (Check all that apply)

- Spinning/Noodle Rod Gear
- Center Pin
- Fly Fishing Rod
- Other (Please specify) \_\_\_\_\_

### K. When thinking of steelhead fishing in Ohio, how satisfied or dissatisfied were you in the past 12 months with:

(Circle one for each item)

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied
Your steelhead fishing experience	-2	-1	0	1	2
The size of the fish you caught	-2	-1	0	1	2
The number of fish you caught	-2	-1	0	1	2
The behavior of other anglers	-2	-1	0	1	2
The behavior of non-anglers	-2	-1	0	1	2
Access at lakes	-2	-1	0	1	2
Access at rivers/streams	-2	-1	0	1	2

### L. Do you have preferred public access sites to fish for steelhead in Ohio? (If yes, please list your 3 most preferred sites in the lines provided below. If no, please leave these lines blank.)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

### M. Assuming the number of fish available for stocking is similar to recent years, I would:

(Circle one for each item)

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Support stocking <u>additional</u> streams, even if it means fewer fish are stocked in current streams	-2	-1	0	1	2
Support stocking the same sites at current levels	-2	-1	0	1	2
Support <u>limited closures</u> to stream reaches to establish an Ohio-based steelhead stocking program	-2	-1	0	1	2

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### VI. MOTIVATIONS FOR FISHING

A. Below is a list of possible experiences that might affect how satisfied you are with fishing.

*(For each one, tell us how important it is to your overall fishing satisfaction. Next tell us the degree to which it happened during the previous 12 months)*

	How important is it to you?							Did it happen?				
	Not at all						Very	Not at all				Very much
Developing your skills and abilities	0	1	2	3	4	5	6	0	1	2	3	4
Catching a lot of fish	0	1	2	3	4	5	6	0	1	2	3	4
Giving your mind a rest	0	1	2	3	4	5	6	0	1	2	3	4
A chance to compete with other anglers	0	1	2	3	4	5	6	0	1	2	3	4
Being in a quiet and peaceful place	0	1	2	3	4	5	6	0	1	2	3	4
Proving your skill as an angler	0	1	2	3	4	5	6	0	1	2	3	4
Relaxing	0	1	2	3	4	5	6	0	1	2	3	4
Catching big fish	0	1	2	3	4	5	6	0	1	2	3	4
Getting away from crowds of people	0	1	2	3	4	5	6	0	1	2	3	4
Being with friends	0	1	2	3	4	5	6	0	1	2	3	4
Being alone	0	1	2	3	4	5	6	0	1	2	3	4
Competing with friends who fish	0	1	2	3	4	5	6	0	1	2	3	4
Catching your limit	0	1	2	3	4	5	6	0	1	2	3	4
Being around other anglers	0	1	2	3	4	5	6	0	1	2	3	4
Getting away from family for awhile	0	1	2	3	4	5	6	0	1	2	3	4
Doing something with your family	0	1	2	3	4	5	6	0	1	2	3	4
Catching some fish to eat	0	1	2	3	4	5	6	0	1	2	3	4

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### VII. CONSTRAINTS TO YOUR FISHING ACTIVITY

**A. Please indicate the statement(s) that most accurately reflect any constraints to your fishing participation. (Check all that apply)**

- There are types of fishing that I would like to start, but can't.
- I have stopped fishing activities that I did in the past, although I would still like to do them.
- I cannot fish as often as I would like.
- I do not enjoy fishing as much as I might otherwise.
- I do not feel my fishing is limited much at all.

**B. How much do each of the following factors limit the amount and type of fishing that you do?**

(circle one for each)

	Not at all limiting		←————→				Very limiting	
	0	1	2	3	4	5	6	
Family commitments	0	1	2	3	4	5	6	
Work commitments	0	1	2	3	4	5	6	
Crowding at fishing areas	0	1	2	3	4	5	6	
Cost of equipment	0	1	2	3	4	5	6	
Cost of licenses	0	1	2	3	4	5	6	
Travel costs	0	1	2	3	4	5	6	
Fishing regulations	0	1	2	3	4	5	6	
Availability of people to fish with	0	1	2	3	4	5	6	
Physical ability to go fishing	0	1	2	3	4	5	6	
Inadequate fishing skills	0	1	2	3	4	5	6	
Interest in other activities	0	1	2	3	4	5	6	
Safety concerns	0	1	2	3	4	5	6	
Fish populations too low	0	1	2	3	4	5	6	
No desire to catch fish for food	0	1	2	3	4	5	6	
No need to catch fish for food	0	1	2	3	4	5	6	
Weather conditions	0	1	2	3	4	5	6	
Interest in spending my free time at home	0	1	2	3	4	5	6	
The type of people that go fishing	0	1	2	3	4	5	6	
Amount of planning required to go	0	1	2	3	4	5	6	
Age	0	1	2	3	4	5	6	
Amount of effort required to go	0	1	2	3	4	5	6	
Lack of fishing opportunities near my home	0	1	2	3	4	5	6	
Concern about contaminants/pollutants in fish	0	1	2	3	4	5	6	
Poor health	0	1	2	3	4	5	6	
Poor access to the type of fishing I enjoy	0	1	2	3	4	5	6	
Lack of equipment	0	1	2	3	4	5	6	
Lack of knowledge	0	1	2	3	4	5	6	

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### VIII. FISHERIES MANAGEMENT

#### A. I feel that the Ohio Division of Wildlife...

(circle one for each)	Strongly disagree		Neutral			Strongly agree	
Shares similar values as me.	-3	-2	-1	0	1	2	3
Shares similar opinions as me.	-3	-2	-1	0	1	2	3
Thinks in a similar way as me.	-3	-2	-1	0	1	2	3
Takes similar actions as I would.	-3	-2	-1	0	1	2	3
Shares similar goals as me.	-3	-2	-1	0	1	2	3

#### B. I am confident that the Ohio Division of Wildlife knows how to...

(circle one for each)	Strongly disagree		Neutral			Strongly agree	
Effectively manage Ohio's fisheries.	-3	-2	-1	0	1	2	3
Use appropriate fisheries management techniques.	-3	-2	-1	0	1	2	3

#### C. Below are some future management options Division of Wildlife is considering. Please indicate how much you agree or disagree with each statement.

(circle one for each)	Strongly disagree		Neutral			Strongly agree	
I support restoring <u>native lake trout</u> to Ohio waters of Lake Erie	-3	-2	-1	0	1	2	3
I support <u>chemical control</u> of sea lamprey in Ohio waters	-3	-2	-1	0	1	2	3
I support <u>physical barriers</u> for sea lamprey control in Ohio waters	-3	-2	-1	0	1	2	3
I would support restoring <u>additional native brook trout</u> to Ohio waters, even if harvesting brook trout was prohibited	-3	-2	-1	0	1	2	3

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### IX. ABOUT YOU

The following demographic information will be used to help make general conclusions about the residents of this community. Your responses will remain completely confidential.

A. Are you...?       Male     Female      B. What is your age?      \_\_\_\_\_ Years

C. How many people are currently living in your household?      \_\_\_\_\_ Person(s)

D. How many of the people living in your household are under the age of 18?      \_\_\_\_\_ Person(s)

E. How much formal education have you completed? (Check one)

- |  |  |
|--|--|
| <input type="checkbox"/> Less than 9 <sup>th</sup> grade                             | <input type="checkbox"/> Associate's degree              |
| <input type="checkbox"/> 9 <sup>th</sup> grade to 12 <sup>th</sup> grade, no diploma | <input type="checkbox"/> Bachelor's degree               |
| <input type="checkbox"/> High school diploma or equivalent (for example, GED)        | <input type="checkbox"/> Graduate or professional degree |
| <input type="checkbox"/> Some college, no degree                                     |  |

F. In which Ohio county do you live? (If you do not live in Ohio, please leave this question blank.)

\_\_\_\_\_ County

G. How many years have you lived in Ohio? \_\_\_\_\_ Years

H. Are you...? (Check one)

- White/Caucasian
- Black/ African American
- Native American
- Asian
- Other \_\_\_\_\_

I. Do you consider yourself to be Hispanic/Latino?

- Yes
- No

J. What is your approximate annual household income from all sources before taxes? (Check one)

- |  |  |
|--|--|
| <input type="checkbox"/> Less than \$10,000  | <input type="checkbox"/> \$50,000 - \$74,999   |
| <input type="checkbox"/> \$10,000 - \$14,999 | <input type="checkbox"/> \$75,000 - \$99,999   |
| <input type="checkbox"/> \$15,000 - \$24,999 | <input type="checkbox"/> \$100,000 - \$149,999 |
| <input type="checkbox"/> \$25,000 - \$34,999 | <input type="checkbox"/> \$150,000 - \$199,999 |
| <input type="checkbox"/> \$35,000 - \$49,999 | <input type="checkbox"/> \$200,000 or more     |

