Trout Fishing in Wisconsin: Angler Behavior, Program Assessment and Regulation and Season Preferences

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Thank you for the opportunity to express my opinion…I've put a lot of time and thought into this survey so I hope it helps…I really love trout fishing and only want to see it get better and better with time.

I've always loved getting out to fish Wisconsin's streams and ponds for trout…It's what I love to do and I'm teaching my kids that same love…You're doing a great job. Keep up the good work!

In my one-plus year as a Wisconsin resident, I have been extremely happy with the quality of the parks and fishing opportunities. I was only able to fish for trout a couple of days last season, but it was so much fun my friends and I plan to do it more regularly next summer. I think the DNR is doing a wonderful job.

Trout fishing is almost better than musky fishing – and sometimes it is! Trout fishing has changed my life! Keep up the good work!

I think trout fishing in Wisconsin is some of the best in the country. I like fishing in Wisconsin because the streams are managed well, but I think there should be more creel clerks to keep the violators down – I don't like violators!

I hunt and fish with friends I've known since I was a very young child. Sometimes these excursions may be the only time I see them during the year…We usually do fairly well as far as catching fish -- we may catch as many as 15-20 fish but most of these are small, especially wild brooks. If we catch a limit of five fish we are quite satisfied not just because of catching a limit, because the little ones are fun to catch too, but because of a day spent on the stream with old friends. Nothing is more relaxing.

-- Volunteered comments from survey respondents

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Introduction and Research Highlights

The research was conducted to inform the Wisconsin Department of Natural Resources' fisheries management program on trout angler behavior, preferences for seasons and regulations and angler assessment of various aspects of the trout management program. Results of the study fill the information gap created when statewide creel surveys were curtailed.

Nine broad areas of trout fishing in Wisconsin were explored:

1. Angler participation: years of trout fishing experience, trout pursued by anglers, change in time spent trout fishing and reasons for not fishing during 2011;
2. Angler initiation and commitment to trout fishing: when anglers began trout fishing, who introduced them to trout fishing and the importance of trout fishing relative to other outdoor pursuits;
3. Trout fishing on Wisconsin streams: frequency of fishing methods (live bait or artificials), resources anglers rely on to plan an outing, the type of trout kept for eating, how stream attributes have changed over time and satisfaction with various aspects of stream trout management;
4. Angler effort on streams: participation during the early and regular seasons, days fished per month, hours fished per outing, fish caught and kept per outing and by season and angler perceptions of quality-sized and trophy-sized trout;
5. Preference for stream seasons and stream attributes: support or opposition for numerous proposed stream seasons, preferences for numerous attributes (e.g., type of trout present, stream access and stream habitat) and the importance of stocking;
6. Assessment of and preferences for stream regulations: satisfaction with stream regulations, angler displacement from streams and support or opposition for numerous stream regulations including alternative bag and size limits, the use of artificials and live bait, consistent regulations across streams and regulations intended to promote quality brown trout and wild brook trout;
7. Familiarity and satisfaction with four trout stream programs: Beaver Damage Management, Stream Access, Stream Habitat Restoration and Wild Trout Stocking;
8. Trout fishing at inland lakes and ponds: frequency of fishing methods (live bait or artificials), frequency of keeping trout for eating, how inland lake and pond attributes have changed over time, support or opposition for several proposed inland lake and pond seasons and satisfaction with various aspects of inland lake and pond trout management;
9. Respondent background: demographic attributes to describe trout anglers in Wisconsin.

The results of this study are based on data generated from a questionnaire mailed to a random sample of 1,000 Wisconsin resident purchasers of the 2011 Wisconsin inland trout stamp. After a maximum of four contacts and accounting for undeliverable surveys and non-sample cases, usable questionnaires were returned by 534 anglers yielding a 56 percent response rate.

To anticipate the details within the results' section, key findings are presented here, organized by section headings.

Trout Fishing Experience

Two-thirds (68%) of the respondents went trout fishing in Wisconsin during 2011. For the one-third (32%) of the respondents that did not do any trout fishing, the most frequently cited reason was not finding the time -- three-fifths (62%) of the 2011 non-anglers said they just never found the time to go trout fishing. While our inland trout regulations were cited by some anglers as the reason for not participating in 2011, the trout regulations were significantly less important (less influential) than time constraints.

Overall, the average size ranges that trout must be for an angler to keep them for eating are:

larger than 8.8 inches long but not larger than 15.6 inches long for brook trout;
larger than 10.5 inches long but not larger than 18.5 inches long for brown trout;
larger than 10.9 inches long but not larger than 18.9 inches long for rainbow trout.

Initiation and Commitment to Trout Fishing

Most trout anglers were initiated to the sport at a young age. One-third (33%) started trout fishing before they were ten years old; nearly three-fifths (59%) were trout fishing by their thirteenth birthday. The mean age trout anglers started trout fishing was 16.

Development as a trout angler was most frequently attributed to the respondent's father. Nearly two-fifths (39%) of current trout anglers reported their father as being most influential in their trout fishing development.

More than twice as many anglers said trout fishing was more important than their other outdoor activities as said it was less important. More than one-third (36%) said trout fishing was more important than all (4%) or most (32%) other outdoor activities they participate in. Only 17 percent of the anglers said trout fishing was less important than all (2%) or most (15%) of their other outdoor activities. This finding possibly foreshadows continued participation in trout fishing.

In general, anglers today are spending less time trout fishing than in the past. More than two-fifths (45%) of the anglers said they spend less time trout fishing (45%); only 17 are spending more time trout fishing. Slightly less than two-fifths (38%) said they are trout fishing about the same amount today as in the past.

Time constraints is the primary reason for an angler's diminished participation. Of the anglers that said they now spend less time trout fishing, one-half (51%) attributed their decline to lack of available time. Additional primary reasons for spending less time trout fishing are all, to a certain extent, responsive to DNR management and policies. A notable minority of anglers reported spending less time trout fishing because: fishing quality has declined (46%), the trout regulations are too numerous, too difficult to understand or too restrictive (40% overall), public access is inadequate (23%) and because stream habitat has degraded and become difficult to fish (22%).

Trout Fishing on Wisconsin Streams

Overall, anglers fished an average of slightly more than four different streams during 2011. The majority of anglers (64%) fish one stream during a typical day of trout fishing.

Most stream trout anglers are not technique specialists as defined by a continuum of recreation specialization, meaning they are not exclusively fly anglers. Just more than one-half (55%) of the stream anglers "often" or "always" used live bait when trout fishing. In comparison, spinners or lures and artificial flies were used with the same frequency by 44 percent and 27 percent, respectively, of the stream anglers. When spinners, lures and artificial flies are combined, high frequency of use (reporting "often" or "always") is similar to that found for bait use (59% and 55%, respectively). In general, as years of fishing experience increases, anglers are more likely to rely on live bait. Anglers with at least 30 years of experience (65%) were significantly more likely than anglers with at most ten years of experience (34%) to report that they "often" or "always" use live bait when fishing for trout at a stream. A possible interpretation is that older anglers have a history of bait fishing whereas newer or younger anglers are drawn to the sport with an interest in fly fishing.

The trout fishing regulations and guide is the anglers' go-to source for information when planning a stream outing. Slightly more than three-fourths of the anglers said they consult the guide prior to fishing a stream (76%); a nearly equal percentage of anglers (78%) bring the guide with them when fishing a stream.

Anglers with fewer years of experience were more likely to utilize electronic media and devices. This finding likely foreshadows the future of trout fishing in Wisconsin, that being the reliance by new (i.e, younger) anglers on current technology to access information prior to and during a fishing outing. Further analysis reveals that anglers that consulted information sources prior to fishing a stream were more likely to experience satisfying outings. Anglers that consulted the on-line DNR web map sites ($p < .002$), a road atlas ($p < .049$), the trout fishing regulations and guide ($p < .019$) or Google maps ($p < .02$) were significantly more likely to have satisfying fishing experiences than anglers that did not consult the sources.

When fishing a new trout stream, anglers are seeking quality-size trout and specific types of trout. Nearly three-fifths of the anglers said that the presence of quality-size trout (59%) and the type of trout present (58%) were important considerations in deciding whether or not to fish a new stream. Stream condition and ready access were also important considerations; more than one-half of the anglers said that the condition of the stream and its banks (54%) as well as having easy access to the stream (53%) were important to them when deciding to fish a new stream.

Many trout anglers are consumptive anglers, that is, they fish to put trout on the plate. Over 60 percent of brook trout (65%) and brown trout (62%) anglers "sometimes" or more frequently keep trout for eating. About one-fifth of brook trout (22%) and brown trout (19%) anglers "always" keep trout for eating. The consumptive habits of rainbow trout anglers are slightly lower (the difference mostly attributed to a higher percentage of anglers reporting that they do not fish for rainbows). Not quite one-half (47%) of rainbow trout anglers "sometimes" or more frequently keep trout for eating; 16 percent "always" keep trout for eating. Regardless of fish type, anglers that most frequently pursue trout

with live bait were significantly more likely to "often" or "always" keep their catch ($p < .000$).

Stream anglers were given the opportunity to tell us if numerous attributes of stream fishing had improved, become worse or remained relatively unchanged during their years of trout fishing. Slightly more anglers said stream trout fishing opportunities had become worse (31%) than said those opportunities had become better (24%); considerably more anglers thought the size of trout in Wisconsin streams had become worse (interpreted as "smaller") (39%) than had become better (interpreted as "larger") (22%); nearly twice as many anglers said the number of trout had become worse (interpreted as "fewer") (44%) during their years of fishing than said the number of trout had become better (interpreted as "more") (23%); more than twice as many anglers said the number of quality-sized trout had become worse (47%) than said the number of trout had become better (21%); more than four times as many anglers said the number of trophy-sized trout had become worse (43%) than said the number of trout had become better (9%);

Approximately one-half (49%) of the stream anglers were satisfied with how streams are categorized for trout size and bag limit. A majority of anglers (62%) were satisfied with the current season structures. Angler assessment of quality experiences on Wisconsin trout streams was less encouraging. While a higher percentage of anglers was satisfied than dissatisfied with quality stream experiences, it was less than one-half (46%) that were satisfied. Put another way, more than one-half of the anglers are not satisfied with opportunities for quality stream fishing experiences. A majority of three-fifths of the anglers (60%) were satisfied with the trout fishing regulation booklet; about one-fifth of the anglers (19%) were dissatisfied.

Considerably more anglers were satisfied than dissatisfied with their trout fishing experiences on Wisconsin streams. Approximately three-fifths (59%) of the anglers rated their stream trout fishing experiences as satisfactory; nearly one-fifth (18%) reported that they were "very satisfied" with their experiences. In general, anglers that reported stream fishing attributes had improved were significantly more likely to be satisfied with their stream fishing experiences.

Trout Fishing Effort on Streams – When Anglers Fish and What they Catch

Of the anglers that fished a stream during 2011, nearly all (98%) fished the regular season from May 7 through September 30. May was the most popular month for fishing. Overall, anglers fished an average of 20.2 days during the regular trout season.

Effort per outing did not vary much throughout the season. Not including travel time, anglers spent an average of approximately four hours per outing each month of the season.

The majority of anglers catch trout during a typical day of stream fishing. A typical outing results in an average of slightly more than three brook trout (3.6) and/or brown trout (3.4) being caught. Overall, anglers caught an average of 7.3 trout for all trips combined during the regular season.

Satisfaction with trout fishing outings increased linearly as the number of trout caught increased ($p < .000$). Of the anglers that rated their trout fishing experiences as either "very" or "fairly" satisfying, one-third (32%) did not catch any trout, two-fifths (42%) caught one or two trout, three-fifths (61%) caught three to five trout and nearly three-fourths (73%) caught six or more trout.

Fishing method was not correlated to the likelihood of catching trout. Regardless of frequency of use, bait users and artificial users (flies, spinner or lures) were equally likely to catch or not catch trout.

When an angler catches a brook trout, there is a slightly greater likelihood that the angler will keep the fish than if the angler caught a brown or rainbow trout. In other words, brook trout are harvested with a slightly higher frequency than are brown or rainbow trout. Among brook trout that are caught, two-thirds of them (66%) go home with the angler. Slightly more than one-half (55%) of caught brown trout are harvested while slightly more than two-fifths (43%) of caught rainbow trout are harvested. *Among all stream anglers*, a typical outing results in a harvest of 1.6 brook trout, 0.9 brown trout and 0.3 rainbow trout being harvested. Despite the consumptive desires of trout anglers, few trout are actually harvested. Overall, anglers harvested an average of 2.3 trout during the regular trout season.

Of the anglers that fished a stream during 2011, only a minority of one-fourth (26%) fished the early season from March 5 through May 1. Anglers fished an average of almost twice as many days in April (7.3) than in March (4.3). Overall, stream anglers fished an average of 12.9 days during the early trout season.

Effort per outing did not vary much during the two-month season and overall was similar to effort per outing during the regular season. Not including travel time, anglers spent an average of approximately four hours per outing.

Anglers catch relatively more brown trout than brook or rainbow trout during the early season. During a typical early season outing, an angler catches and releases an average of just more than six brown trout (6.4) compared to four brook trout and just under one rainbow trout (0.8). Overall, anglers average a higher number of caught trout during the early season than during the regular season. Early season anglers caught and released an average of 11.1 trout; regular season anglers caught an average of 7.3 trout.

Overall, during the 2011 early season, stream anglers caught 243,265 trout (all species combined); during the 2011 regular season stream anglers caught 603,021 trout (all species combined) and harvested 189,993 trout (all species combined). The combined estimates from the early and regular seasons yield a total catch from streams of 846,286 trout and a total harvest of 189,993 trout. It must be noted that these are rough estimates of angler catch and harvest. The year-long recall period likely introduces some recall bias and the estimates are based solely on resident inland trout stamp purchasers. Non-resident anglers as well as resident purchasers of the Conservation Patron License were excluded from the sampling. Although the sales of non-resident inland trout stamps is known and prior survey research has documented Patron holders' participation in inland trout fishing, the behavior of both groups is unknown; do they pursue trout at streams and/or lakes or ponds and what are their propensities for keeping trout?

When anglers were asked to define quality-sized trout and trophy-sized trout little variation was found between brown trout and rainbow trout; quality-sized and trophy-sized brook trout were considerably smaller. Quality-sized brook trout were defined with an average length of 10.6 inches. Brown trout and rainbow trout, however, were defined by an average length of over one foot (13.1 inches and 13.0 inches, respectively). Trophy-sized brook trout were defined with an average length of 15.9 inches. Brown trout and rainbow trout, however, were defined by an average length of just over 20 inches (20.1 inches and 20.3 inches, respectively).

Regardless of trout type, the vast majority of anglers did not catch a trophy-sized trout. Less than one angler in ten caught a self-defined trophy brook trout (9%) or a trophy rainbow trout (6%). Slightly more anglers (15%) reported catching a trophy brown trout during 2011.

Anglers that did not catch a trophy trout were asked a hypothetical question: "Do you think you would keep a trophy [trout type] if you caught one?" Just under one-half indicated a likelihood of keeping a trophy brook trout (47%), a trophy brown trout (47%) or a trophy rainbow trout (48%). Though hypothetical, results indicate the consumptive nature (for a meal or a wall mount) for a relatively high percentage of anglers.

Anglers that had caught a trophy trout were asked how many they kept. Results indicate a slight disparity between hypothetical behavior of the majority and actual behavior of the minority for trophy brook trout and trophy brown trout. The greatest disparity was found for rainbow trout; the actual harvest of trophy rainbow trout surpassed the hypothetical estimate. Every angler (100%) that caught a trophy rainbow trout reported that they kept at least one. In comparison, just under one-half (48%) of the majority that did not catch a trophy speculated that they would keep a trophy rainbow trout.

Preference for Trout Stream Seasons and Stream Attributes

When stream anglers were asked their support or opposition to numerous season options only the current regular open season was supported by a majority of the anglers. No other season option generated a similar level of support.

More anglers opposed a year-round open stream season than any other season option. Just over one-half (53%) of the anglers "strongly" (38%) or "moderately" (15%) opposed a year-round open season. Other seasons that generated notable opposition include extending the catch and release season to open October first to allow year-round trout fishing (excluding deer season) (48% opposition), adding a catch and release season after the regular open season ends (44% opposition), and starting the catch and release season earlier (40% opposition).

Anglers were asked how numerous stream attributes might effect their decision to fish a particular stream. The chance to catch a rainbow trout was less important to anglers than the chance to catch either a brook or brown trout. Fishing a stream that provided the chance to catch a brook trout or brown trout was preferred by at least three-fifths (66% and 61%, respectively) of the anglers. More anglers would prefer to fish a stream that provided the chance to catch quality-size trout than the chance to catch a trophy trout. Further, the chance to catch a trophy trout influenced fewer anglers in their

stream choice than the chance to catch quality-size trout or the chance to catch many trout. Just more than three-fifths (62%) of the anglers said they would prefer to fish a stream that provided the opportunity to catch many fish. The chance to catch a trout for eating was the only stream attribute that was a necessity in an angler's stream selection for more than one angler in ten (15%). Additionally, one-half (50%) of the anglers would prefer to fish a stream that offered the chance of catching trout to keep and eat. The presence of wild trout is clearly more preferable to anglers in their steam choice than the presence of stocked trout. Three-fifths (61%) of the anglers would prefer to fish a stream where wild trout are present; considerably fewer anglers (18%) said they would prefer to fish a stream where stocked trout were present.

The importance which anglers place on the stocking program was asked from two perspectives; one perspective being general benevolence (i.e., the importance of stocking some streams to provide fishing opportunities) and the other perspective being personal importance (i.e., the importance of a stream being stocked for an angler to fish the stream). Nearly nine anglers in ten (89%) believe it is "very important" (62%) or "somewhat important" (27%) that some streams are stocked to provide fishing opportunities. Only one angler in 20 (5%) said that stream stocking was unimportant. The personal perspective provides a slightly different picture. A considerably higher percentage of anglers said stocking is important for them to fish a stream than said it is not important. A majority of anglers (62%) said that it is essential (4%) or "very important" (34%) or "fairly important" (24%) that a stream is stocked for them to fish that stream. The disparity between the two findings likely exemplifies the difference between benevolence and personal need.

Public access to a stream is not a requirement for the majority of anglers. Approximately one angler in seven (14%) said public access is essential to fish a stream. More than one-half of the anglers (57%) said they would prefer to fish a stream with public access and one-fourth of the anglers (25%) said public access did not matter to them. Landowner permission presents a different picture. A slight majority of anglers (52%) said they would prefer not to fish (42%) or would never fish (10%) a stream where accessibility was possible only with landowner permission.

Anglers were asked how numerous stream habitat attributes might affect their decision to fish a particular stream. There was little variance in the anglers' preference to fish a stream with mowed or overgrown banks. About one-half of the anglers said a mowed stream bank (47%) or a stream bank overgrown with brush or reed canary grass (49%) was a non-issue when deciding to fish a stream. Many anglers, however, expressed a preference to fish streams with forested banks. A forested stream bank was a necessity or preference for one-half of the anglers (51%). An equal percentage of anglers (51%) said they would never or would prefer not to fish a stream where the trees have been removed along the bank. More than one-half of the anglers (56%) indicated that they would only fish or would prefer to fish a stream with restored habitat. More telling, however, is that three-fourths of the anglers (74%) said they would never fish (17%) or would prefer not to fish (57%) a stream that has become degraded.

Angler Assessment of and Preference for Trout Stream Regulations

The majority of anglers reported that the stream regulations are easy to understand. Slightly more than two-thirds of the anglers (68%) said the regulations are "very" easy (19%) or "fairly" easy (49%) to understand. Although the percentage of anglers that find the regulations easy to understand is twice that of the anglers that have difficulty with the regulations, the minority should not be ignored. Correlations were not found between an angler's ability to understand the regulations and how many years the angler has been fishing for trout in Wisconsin or the number of streams annually fished.

Anglers are generally satisfied with the stream regulations. Results of angler satisfaction are quite similar to those for angler understanding of the regulations – more than twice as many anglers are satisfied with the regulations than are dissatisfied. Nearly three-fifths of the anglers (59%) said they are "very" satisfied (14%) or "fairly" satisfied (45%) with the trout stream regulations. About one-fourth of the anglers (23%) were dissatisfied with the regulations; one angler in 20 (5%) was "not at all satisfied."

Despite the relatively small percentages of anglers that indicated the regulations were difficult to understand (29%) and that were dissatisfied with the regulations (23%), a higher percentage of anglers said that regulations have kept them from fishing specific streams. Two-fifths (41%) of the anglers reported that regulations for a specific stream have prevented them from fishing that stream. Although a minority, the finding indicates that some anglers are being displaced from streams they would like to fish because of the regulations for that stream. Further, anglers that had difficulty understanding the regulations were significantly more likely to report that regulations for a stream prevented them from fishing that stream (71%) than were anglers who found the regulations easy to understand (28%) ($p < .000$).

Just over two-fifths of all stream anglers (45%) reported that they had stopped fishing a previously fished stream. Although a minority, the finding indicates that some anglers are being displaced from streams they had previously fished. Anglers that were dissatisfied with the regulations were significantly more likely to report that they stopped fishing a stream (70%) than were anglers who were satisfied with the regulations (40%) ($p < .000$).

When anglers were asked to identify their reason(s) for no longer fishing a steam, a decline in trout numbers was most frequently cited. Just over one-half (52%) of the anglers that reported they had stopped fishing a stream did so because they believed there were fewer trout. Smaller trout and difficulty accessing streams due to landowner posting were each cited by nearly two-fifths (38%) of the anglers as reasons they now avoid a previously fished stream. Overall, nearly two-fifths (38%) of the anglers that indicated they had stopped fishing a stream cited the stream regulations as their reason. The bigger picture tells us that 17 percent of all stream anglers no longer fish a stream because of the regulations for that stream.

A majority of stream anglers support a new regulation to promote quality brown trout fishing. Nearly two-thirds of the anglers (63%) either "definitely" (25%) or "probably" (38%) support the regulation. Nearly identical results are found when a new regulation intended to promote brook trout fishing is considered. Three-fifths of the anglers (60%) either "definitely" (24%) or "probably" (36%) support the regulation.

Questions on trout stream regulations concluded by asking anglers if they support or oppose numerous existing and hypothetical regulations. Anglers want the option of harvesting trout. Regulations that allow trout to be harvested were supported by three-fourths (76%) of all stream anglers; nearly one-half of the anglers (46%) "strongly" support regulations that allow harvest. The desire to harvest trout is further supported by noting that three-fifths of the anglers (61%) opposed catch-and-release only regulations on the streams they fished. Anglers also offered opinions in support of resource protection. Nearly two-thirds (64%) opposed regulations that would allow an angler to harvest six to ten trout; only one angler in six (17%) supported a high harvest regulation. Between the extremes of catch-and-release only and a high harvest of six to ten fish, a majority of anglers had a preference for regulations that allowed a harvest of three to five trout; more than one-half of the anglers (57%) supported such regulations while about one-fifth of the anglers were either indifferent (20%) or opposed (23%). A low bag limit of one to two trout was supported by significantly fewer anglers; two anglers in five (40%) supported low harvest regulations while a nearly equal percentage (38%) opposed low harvest regulations.

Considerably more anglers oppose regulations that prohibit the use of live bait as support the regulations. Approximately one-half of the anglers (49%) oppose regulations that only allow spinners, lures or flies while one-third of the anglers (34%) support such regulations. A considerable minority of anglers (42%) oppose regulations that allow the use of bait on catch-and-release streams only.

Anglers want to protect trout from over-harvest but they also would like to have the option of keeping a large trout. Approximately seven anglers in ten (69%) opposed stream regulations that did not include a size limit for harvesting; two-fifths of the anglers (40%) "strongly" opposed an open size limit regulation. However, anglers want the option of harvesting a large trout if they catch one. Nearly three-fifths of the anglers (59%) opposed regulations that would prohibit keeping trout that are at least 12 inches; one-fifth (20%) of the anglers supported a 12-inch regulation.

Anglers prefer simplicity. There was strong and consistent support for uniform regulations on the same stream and across nearby streams. Having a single set of regulations for an entire stream was supported by two-thirds (66%) of the anglers; only one angler in ten (11%) opposed uniform stream regulations. Similarly but to a slighter extent, a majority of anglers (58%) supported having the same regulations for geographically nearby streams; nearly equal percentages of anglers opposed (19%) or were indifferent (23%) to geographically uniform regulations.

Familiarity and Satisfaction with Trout Stream Programs

Stream trout anglers were asked their familiarity and satisfaction with four trout stream programs. The programs included: Wisconsin's Beaver Damage Management Program, the Stream Access Program, the Stream Habitat Restoration Program, and Wisconsin's Wild Trout Stocking Program. A majority of anglers were at least aware of each program, however, at most only one-third of the anglers said they were "quite familiar" with a program. Anglers were most familiar with the Stream Habitat Restoration Program (81% aware); they were least familiar with the Beaver Damage Management Program (48% unaware). These findings point to the need for increased outreach efforts to inform

anglers of management efforts intended to improve the fishery and the fishing experience. In general, anglers that were familiar with a trout management program were more inclined to say their trout fishing experiences were satisfying than were anglers unaware of the program. In other words, familiarity with management efforts may bolster angler satisfaction.

Trout Fishing at Wisconsin Inland Lakes and Ponds

Lake and pond trout anglers practice techniques similar to stream trout anglers. Two-thirds (65%) of the anglers "often" or "always" used live bait when trout fishing at a lake or pond. In comparison, spinners or lures and artificial flies were used with the same frequency by 57 percent and 16 percent, respectively, of the trout anglers. When spinners, lures and artificial flies are combined, frequency of use (reporting "often" or "always") is similar to that found for bait use (60% and 65%, respectively).

Most trout anglers at inland lakes or ponds are consumptive anglers, that is, they fish to put trout on the plate. Overall, three-fourths (75%) of the anglers said they "sometimes" or more frequently keep trout for eating; nearly one-half (48%) "often" or "always" keep the trout they catch. Only one-fourth (26%) of the anglers said they "rarely" or "never" keep trout from lakes or ponds.

More anglers thought that water quality at inland lakes and ponds had become better (26%) during their years of trout fishing than had become worse (14%). Almost one-half (48%) of the anglers reported that water quality had remained unchanged. Slightly more anglers thought the size of trout in inland lakes and ponds had become worse (interpreted as "smaller") (25%) than had become better (interpreted as "larger") (18%). About two-fifths (42%) of the anglers reported that the size of trout in the waters had remained unchanged. Considerably more anglers said the number of trout had become worse (interpreted as "fewer") (35%) during their years of fishing than said the number of trout had become better (interpreted as "more") (20%). Three anglers in ten (31%) reported that the number of trout had remained unchanged.

When respondents were asked whether they support or oppose three different seasons for trout fishing at inland lakes and ponds a clear preference for one season over another was not found. A majority of anglers neither supported nor opposed a potential season structure. More anglers support (49%) the current season structure than oppose it (18%). One-third (33%) of the anglers were either indifferent to the season or were unsure of their support or opposition. Nearly identical results were found for a season that opened the first Saturday in May and closed on all waters the first Saturday of the following March. Results for a year-round season differed somewhat from the other two seasons. A smaller percentage of anglers (40%) supported a year-round season while a higher percentage of anglers opposed the season (34%). About one-fourth (26%) of the anglers were unsure of or indifferent towards the season.

More anglers were satisfied than dissatisfied with various attributes of satisfaction. How inland lakes and ponds are categorized for trout size and bag limit was met with approval be approximately three-fifths (59%) of the anglers; only one angler in ten (10%) was dissatisfied with how lakes and ponds are categorized. Similar results were found for angler satisfaction with trout fishing seasons at inland lakes and ponds: more than one-

half (56%) were satisfied with the current season structure; one angler in ten (10%) was dissatisfied; one-third (34%) was unsure or indifferent. Angler assessment of quality experiences at inland lakes and ponds was less encouraging. While a higher percentage of anglers was satisfied than dissatisfied with lakes and ponds providing quality experiences, it was less than one-half (45%) that were satisfied. Put another way, more than one-half of the anglers have not found quality fishing experiences at Wisconsin inland trout lakes and ponds. Overall, more anglers were satisfied than dissatisfied with their trout fishing experiences at Wisconsin inland lakes and ponds. Approximately three-fifths (58%) of the anglers rated their trout fishing experiences at inland lakes and ponds as satisfactory; less than one-fifth of the anglers (17%) rated their fishing experiences as unsatisfactory. In general, satisfied anglers were significantly more likely to report that fishing opportunities had become better for them, that they experienced improved trout size and trout numbers, and that they approved of the current season structure and how inland lakes were categorized.

Methods: Sampling and Data Collection

Sampling

In 2011, 137,731 resident inland trout stamps were sold (excluding Conservation Patron License holders because approximately 60% do not fish for inland trout[1]). A random selection of 1,000 Wisconsin resident purchasers of the 2011 Wisconsin inland trout stamp, that were at least 18 years old, was drawn from the Department of Natural Resources (DNR) database of 2011 inland trout stamp holders. Data presented in this report were obtained through administration of a mailed questionnaire developed in consultation with personnel from DNR Bureaus of Fisheries Management and Science Services. The questionnaire was pre-tested on 12 inland trout anglers varying in fishing experience; revisions were subsequently made resulting in an 18-page questionnaire.

Data Collection

Standard mailed questionnaire techniques were used in the conduct of this survey. A maximum of four contacts were made with each angler. These contacts included an initial questionnaire with a cover letter (signed by Michael Staggs, Director of Fisheries Management) and a first-class hand-stamped addressed return envelope (known as the full mailing); a follow-up letter which served as a "thank you" for returning the questionnaire or as a reminder to please complete and return it; a second full mailing sent to all non-respondents; and a final reminder letter sent to all non-respondents. Mailings were conducted in January/February 2012.

The response rate is based on a formula that divides the number of returned questionnaires by the total number mailed, minus the number of cases determined to be "non-sample." For this study a non-sample is defined as selected respondents who are deceased or mailings undelivered with no forwarding address given. From the sample of 1,000 anglers, 45 were eliminated as non-deliverable. Useable questionnaires were returned by 534 anglers for a response rate of 56 percent.

The Bureau of Science Services conducted all tasks associated with this survey. This included assembling the mailings, tracking the response rate, performing the necessary data entry and data cleaning and conducting all analyses using SPSS-PC version 19.0. All mailings originated from and were returned to the Bureau of Science Services. The margin of error for the study is +/- 4 percent.

Non-Response Check

A non-response bias check is typically conducted when returns fall below 60 percent. Non-response bias creates a threat to being able to generalize the summary of survey responses to the overall angling population if there is reason to suspect the outcomes would have been different if the behaviors of survey non-respondents had been included. Stated differently,

[1] In 2011, Wisconsin sold 44,952 resident Conservation Patron Licenses.

the presence of non-response bias means survey results present a misleading description of the study population. The lower the response rate to the survey is (generally less than 60%), the greater the likelihood that non-response bias can be present.

To check for non-response bias, results from respondents who completed the mail survey were compared against those who did not return the survey. A random selection of 30 non-respondents were interviewed by telephone and asked a subset of questions from the survey (see Appendix C for the non-response survey instrument). Test of means and chi-square analyses were used to assess any differences between mail survey respondents and non-respondents. Significant differences to key questions were not observed between respondents and non-respondents. The potential for non-response bias was, therefore, dismissed.

Respondent Quotes

Many respondents submitted comments with their questionnaires. Some comments were general in nature, stating the angler's pleasure received from trout fishing; other comments addressed specific issues of fish numbers, size and regulations. Throughout the report some of those comments appear in italic text. They are not intended to present balanced perspectives; rather they have been included to underscore survey findings.

Results and Discussion

I. Trout Fishing Experience

This section summarizes the trout fishing experience of the respondents. It answers how many purchasers of the 2011 trout stamp went trout fishing, how many years anglers have been fishing for trout in Wisconsin, the type of trout that anglers pursue, the minimum and maximum length a trout must be to be kept for eating along with how many anglers would never keep a trout for eating, and the types of waters where anglers pursue trout.

Two-thirds (68%) of the respondents went trout fishing in Wisconsin during 2011. For the one-third (32%) of the respondents that did not do any trout fishing, the most frequently cited reason was not finding the time -- three-fifths (62%) of the 2011 non-anglers said they just never found the time to go trout fishing (Table I-1). This reason for not participating in 2011 supports an important finding from the lapsed angler study; more anglers attributed their lapsed participation to time constraints than any other explanation (Petchenik, J., *Results of the 2011 Survey of Lapsed Wisconsin Inland Trout Anglers*, internal report to the Wisconsin Department of Natural Resources, 2012).

Another noteworthy finding that mirrors results from the lapsed angler study is that while our inland trout regulations were cited by some anglers as the reason for not participating in 2011, the trout regulations were significantly less important (less influential) than time constraints. At most 12 percent of the non-anglers cited "too many regulations" (12%) or "regulations were too difficult to understand" (8%) as the reason for not participating in 2011. (There was no additive effect by combining the two explanations; at most, 12% cited the trout fishing regulations.)

Table I-1: Reasons for not trout fishing in 2011

Reasons for not trout fishing in 2011	**Percent responding**
Never found the time	62%
Purchased stamp to fish with children but did not	21
Purchased stamp to support fish management, not to fish	15
Illness, poor health, injury	12
Too many regulations	12
Didn't know where to go	10
Couldn't find or gain access to stream	10
Regulations were too difficult to understand	8
Fishing companions decided not to fish	6
Came with Patrons license but no intention of fishing	1

NOTE: Total exceeds 100% due to multiple response option.

A significant minority of non-anglers purchased the trout stamp for reasons other than because they enjoy trout fishing; they purchased the stamp to spend time with their children and to support resource management. One-fifth (21%) of the non-anglers (7% of all stamp purchasers) reported that they bought the stamp to be prepared if their children or grandchildren wanted to go fishing. Additionally, 15 percent of the non-anglers (5% of all stamp purchasers) purchased the inland trout stamp to support fish

management, and had no intention to go fishing. This behavior may be on-going for some purchasers, as documented by unsolicited comments offered by respondents to the lapsed angler study:

> *We have bought trout stamps for the past few years knowing we would likely not fish but were willing to provide money to support habitat management for trout.*
>
> *I was never a trout angler but I supported the DNR by purchasing trout stamps.*

About one non-angler in ten cited illness, poor health or injury (12%), not knowing where to go trout fishing (10%) or not finding or gaining access to trout streams (10%) as reasons for not fishing during 2011. A final explanation for not fishing in 2011 by about one non-angler in 20 was loss of fishing companions (6%).

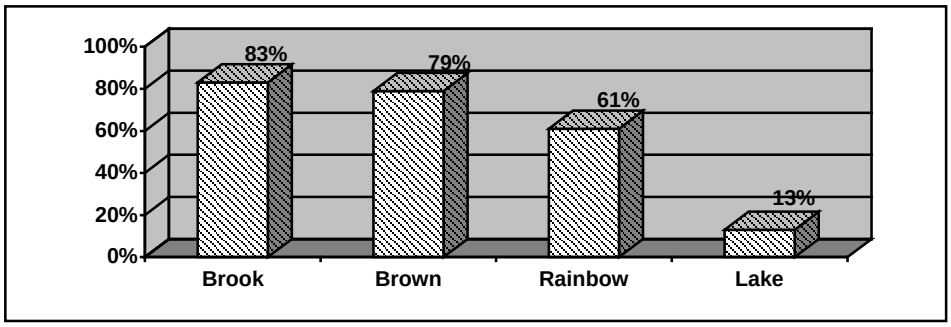
The vast majority of trout anglers are not newcomers to the sport; they are long-time anglers (Table I-2). Respondents have an average of 26 years of Wisconsin trout fishing experience. Three-fifths (61%) have at least 20 years of trout fishing experience; almost one-half (46%) have at least 30 years of trout fishing experience and just over one-fourth (27%) have been trout fishing for at least 40 years. Results from the lapsed angler study confirm what one might expect -- that lapsed anglers had fewer years of experience. Lapsed trout anglers had an average of 21 years of experience before lapsing; three lapsed anglers in ten (31%) had 30 or more years of experience.

Table I-2: Years of trout fishing

Years	**Percent responding**
< 6	20%
6 – 10	8
11 – 19	12
20 – 29	15
30 – 39	19
40+	27
Mean years of trout fishing	26 years

Figure I-1 indicates that trout anglers pursued multiple types of trout with brook trout being most popular. Just more than eight in ten (83%) of the trout anglers reported they fished for brook trout. Brown trout were pursued by a similar percentage of anglers (79%) while rainbow trout were pursued by three-fifths (61%) of the anglers. Approximately one angler in eight (13%) said s/he fish for inland lake trout.

Figure I-1: Types of trout pursued by anglers



NOTE: The lapsed trout study found that 23 percent of the lapsed anglers fished for lake trout. That finding was considerably higher than expected given the limited availability of lake trout found in inland waters. It was surmised that many of the lapsed anglers who reported fishing for lake trout confused the species "lake trout" with any trout they caught in an inland lake or pond. To address that possible confusion, the current angler survey defined lake trout as "the species, not stream trout found in lakes or ponds."

Table I-3 presents the minimum and maximum size a trout must be for an angler to keep it for eating. Because of the amount of information presented in the table, the conclusions may not be obvious. To help understand the findings, first consider the following question: what percentage of anglers fish for and will keep a particular type of trout for eating? Part of the enjoyment of fishing is the opportunity to have a meal of fresh fish. Considering both stream and inland lake or pond fishing, the percentage of anglers that reported they do not fish for or would not keep a trout for eating is quite small: 13 percent for brook trout, 13 percent for brown trout and 15 percent for rainbow trout.

To understand size range a trout must be for an angler to keep it for eating, it must be acknowledged that brook trout tend to be smaller than brown and rainbow trout. This means that an angler's assessment of fish size will in-part depend on the type of trout. (Angler perception of a "trophy" trout will be discussed in a future section.)

Overall, the average size ranges that trout must be for an angler to keep them for eating are:

larger than 8.8 inches long but not larger than 15.6 inches long for brook trout;

larger than 10.5 inches long but not larger than 18.5 inches long for brown trout;

larger than 10.9 inches long but not larger than 18.9 inches long for rainbow trout.

Table I-3: Minimum and maximum trout size that would be kept for eating

	Brook trout	**Brown trout**	**Rainbow trout**
Did not fish for or would never keep for eating	13%	13%	15%
Minimum size: would not keep smaller than this for eating			
< 8 inches	26%	11%	11%
8 – 10 inches	60	48	48
11+ inches	14		
11 – 12 inches		28	24
13+ inches		13	17
Mean minimum inches	8.8 inches	10.5 inches	10.9 inches
Maximum size: would not keep larger than this for eating			
< 13 inches	30%	13%	10%
13 – 15 inches	29	18	25
16 – 19 inches	25	30	22
20+ inches	16		
20 – 23 inches		22	22
24+ inches		18	22
Mean maximum inches	15.6 inches	18.5 inches	18.9 inches

Another way of looking at the average size ranges is from the perspective of released fish (i.e., fish not kept for eating). Brook trout that are shorter than 8.9 inches long or at least 15.6 inches long are likely to be released; brown trout that are shorter than 10.6 inches long or at least 18.5 inches long are likely to be released; and rainbow trout that are shorter than 11 inches long or at least 18.9 inches long are likely to be released.

Note that anglers offered similar responses for brown trout and rainbow trout. The smaller-size responses for brook trout is likely evident of brook trout generally being smaller than brown or rainbow trout. However, it's possible that brook trout may be more coveted than brown or rainbow trout. One-fourth (26%) of the anglers who fish for brook trout said they would not keep one if it was less than eight inches long; of those who fish for brown or rainbow trout, one angler in ten (11%) said s/he would not keep a brown or rainbow if it was less than eight inches long. Also, 30 percent of brook trout anglers would not keep a brook trout that was at most 13 inches long; in contrast, only 13 percent of brown trout anglers and 10 percent of rainbow trout anglers said they would not keep a brown or rainbow trout, respectively, that was at most 13 inches long.

Table I-4 indicates that stream fishing is considerably more popular than fishing at inland lakes or ponds. During 2011 nine in ten (90%) anglers fished a stream while just over two-fifths (43%) fished an inland lake or spring pond. Further, two-thirds of the anglers (64%) exclusively fished streams, meaning they did not fish an inland lake or spring pond. One-fourth of the anglers (24%) exclusively fished inland lakes or spring ponds. Just over one-third (36%) of the anglers fished both streams and inland lakes or spring ponds in 2011.

Table I-4: Percent of anglers that fished streams, inland lakes/ponds, or both

Water type	**Percent responding**
Streams	90%
Only streams	64
Inland lakes/ponds	43
Only inland lakes/ponds	24
Both stream and inland lakes/ponds	36

II: Initiation and Commitment to Trout Fishing

This section summarizes five questions from the survey: at what age the respondents began trout fishing, who was most influential in their development as a trout angler, the importance of trout fishing relative to other outdoor pursuits, change in time spent trout fishing and their affiliation with fishing / conservation organizations.

Most trout anglers were initiated to the sport at a young age. One-third (33%) began trout fishing before they were ten years old; nearly three-fifths (59%) were trout fishing by their thirteenth birthday (Table II-1). Initiation age was fairly evenly distributed beyond the age of 12: 15 percent of trout anglers were initiated during their teen years; just over one angler in ten (11%) started trout fishing between the ages of 20 and 29; one angler in seven (14%) did not start trout fishing until s/he was at least 30 years old. The mean age trout anglers started trout fishing was 16. This initiation age is slightly older than that typically found for similar outdoor pursuits such as general fishing (eight to ten years old) and hunting (12 years old). This older initiation age may not be surprising given the specialization (i.e., technique and setting) that is frequently associated with trout fishing.

Looking at the results of those who did not pursue trout in 2011 as well as results from the lapsed trout angler study help us understand the importance of early initiation to participating in trout fishing. In other words, early initiation may be correlated to recreation commitment. Mean initiation age was significantly higher for these non-anglers ($p < .05$). Non-2011 trout anglers and lapsed trout anglers had mean initiation ages of 20 and 21, respectively. Nearly one-fourth (23%) of the non-2011 trout anglers and exactly one-fourth (25%) of the lapsed trout anglers did not start trout fishing until they were at least 30 years old.

Table II-1: Age when current trout anglers began trout fishing

Age	**Current anglers**
< 10	33%
10 – 12	26
13 – 19	15
20 – 29	11
30+	14
Mean starting age	16 years old

Along with initiation age, how a person is socialized into a recreation is a factor likely to influence recreation commitment and long-term participation. Development as a trout angler was most frequently attributed to the respondent's father (Table II-2). Nearly two-fifths (39%) of current trout anglers reported their father as being most influential in their trout fishing development. A second commonly reported socializing agent was a friend (who was not a member of a fishing club); one-fifth (20%) of the trout anglers cited a friend as influencing their development. A nearly equal percentage of anglers (19%) reported that development was without influence from others, that is, they started trout fishing and progressed on their own. Male relatives were another influential force; five percent were influenced by their brother while another 13 percent were influenced by another male relative.

The lapsed trout angler report questioned if lapsed trout anglers would be more likely to begin trout fishing on their own, without the benefit of a mentor and fishing companion which might result in greater commitment to trout fishing. Results tell us that a significantly greater percentage of non-2011 anglers (34%) began trout fishing on their own ($p < .011$). Further, approximately one-fourth of the non-2011 anglers (23%) and of the lapsed anglers (27%) reported their father as being most influential in their trout fishing development (compared to 39% as reported by the current anglers). These results lead us to conclude that a socializing agent (particularly the angler's father) is important to an angler's development and long-term commitment.

Table II-2: Who was most influential in development as a trout angler?

Most influential person	**Current anglers**
No one, started on own	19%
Father	39
Friend (not fishing club member)	20
Other male relative	13
Brother	5
Female relative	1
Fishing club member	1
Someone else	2
Husband	(2%)

The importance of the socializing agent was further explored by considering what relationship, if any, exists between who was most influential in the trout angler's development and the age they started trout fishing as well as years of trout fishing experience? Results indicate that anglers whose trout fishing development was most influenced by their father had the most years of trout fishing experience. For those who reported their father as being most influential, the mean years of trout fishing experience was 31 years and the mean initiation age was nine years old. Those who developed their trout skills on their own had 22 mean years of experience with a mean initiation age of 23. Further, for those who reported their father as being most influential, nearly three-fifths (59%) reported at least 30 years of trout fishing experience; for those who developed their trout skills on their own, one-fourth (26%) reported at least 30 years of experience.

To gauge the importance of trout fishing relative to other outdoor pursuits, the trout anglers were presented with the following statement: "Considering all of the other outdoor recreations that you participate in, would you say that trout fishing in Wisconsin was…" Respondents then completed the statement by selecting one of five options. Table II-3 documents that more than twice as many anglers said trout fishing was more important than their other outdoor activities as said it was less important. More than one-third (36%) said trout fishing was more important than all (4%) or most (32%) other outdoor activities they participate in. Only 17 percent of the anglers said trout fishing was less important than all (2%) or most (15%) of their other outdoor activities. Slightly less than one-half (46%) reported that trout fishing was no more or less important than other outdoor activities. A higher percentage of trout anglers reporting that trout fishing is more important rather than less important than other outdoor pursuits foreshadows continued participation in trout fishing. These findings are also more encouraging (and as expected) than those of non-2011 anglers where results were heavily skewed towards less importance: two-fifths (41%) said trout fishing was less important than all (11%) or

most (30%) other outdoor activities they participate in; only 15 percent of the non-anglers said trout fishing was more important than all (2%) or most (13%) of their other outdoor activities.

Table II-3: Importance of inland trout fishing in Wisconsin compared to other outdoor recreations

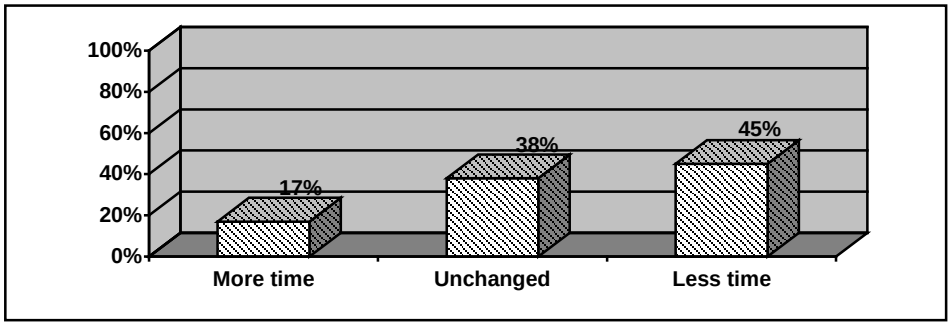
Importance	**Current anglers**	**Non-anglers (2011)**
Less important than all other outdoor recreations	2%	11%
Less important than most other outdoor recreations	15	30
No more or less important than other outdoor recreations	46	53
More important than most other outdoor recreations	32	5
More important than all other outdoor recreations	4	1

(Significant difference of $p < .000$.)
NOTE: No differences were found between non-2011 anglers and lapsed anglers.

Further analyses found that years of trout fishing experience and having a father as the socializing agent are predictors of relative importance. A greater percentage (51%) of anglers with at least 30 years of trout fishing experience reported that trout fishing was more important than their other outdoor recreations than did trout anglers with not more than ten years of experience (17%) ($p < .011$). Importance of trout fishing relative to other outdoor pursuits was found to be greater if the angler's development was influenced by his/her father than if the angler developed without a mentor. Of those who were most influenced by their father, one-third (32%) reported that trout fishing was more important than their other outdoor recreations while one-fifth (20%) said trout fishing was less important. In comparison, of the anglers who started trout fishing on their own, one-fourth (24%) reported that trout fishing was more important than their other outdoor recreations while almost one-third (31%) said trout fishing was less important.

In general, anglers today are spending less time trout fishing than in the past (Figure II-1). More than two-fifths (45%) of the anglers said they spend less time trout fishing (45%); only 17 percent said they spend more time trout fishing. Slightly less than two-fifths (38%) said they are trout fishing about the same amount today as in the past.

Figure II-1: Change in time spent trout fishing



What influence, if any, does the importance of trout fishing have on the amount of time an angler spends fishing? The logical hypothesis is that anglers who spend more time fishing today would be more likely to report that trout fishing is more important than their other recreations than those who report that trout fishing is less important than their other outdoor recreations. This hypothesis was supported. One-fourth (24%) of the anglers who said trout fishing is more important than their other outdoor recreations said they are spending more time trout fishing today than in the past; only one angler in ten (9%) who said trout fishing is less important than their other outdoor recreations said they are spending more time trout fishing today than in the past ($p < .006$). Regardless of importance, when crossed with time spent fishing, the modal response was "less time," although the percentage of anglers reporting less time was significantly greater for those who said trout fishing was less important to them (60%) than anglers who said trout fishing was more important to them (45%). Somewhat of a surprise was that a correlation was not found between time spent trout fishing and how anglers were initiated to trout fishing. Those who were initiated by their father were spending the same amount of time trout fishing today as were anglers who started trout fishing on their own.

For the anglers who reported spending less time today trout fishing, the questionnaire allowed them to identify reasons for their participation decline. Fifteen possible reasons were presented. Once again, time constraints is the primary reason for an angler's diminished participation. Of the anglers that said they now spend less time trout fishing (45%, Figure II-1), one-half (51%) attributed their decline to lack of available time (Table II-4). As was discussed in the lapsed trout angler report, time availability is based in-part on personal priorities. In other words, it's likely that many of these anglers elected to spend their time in other pursuits, thereby relegating trout fishing as a lower priority.

The lapsed trout angler report also discussed Department efforts which could improve the recreational value of trout fishing; these efforts would then increase the likelihood that anglers would allocate time for trout fishing. Results in Table II-4 support a similar model. After an angler's available time, the four primary reasons for spending less time trout fishing are all, to a certain extent, responsive to DNR management and policies. A notable minority of anglers reported spending less time trout fishing because:

fishing quality has declined (46%);

the trout regulations are too numerous, too difficult to understand or too restrictive (40% overall);

public access is inadequate (23%);

and because stream habitat has degraded and become difficult to fish (22%).

Management efforts to address these four influences on reduced participation would hopefully result in a greater recreational value (the experience would be worth the angler's time and expense) and time constraints as a reason for fishing less would diminish such that time would be allocated for trout fishing (i.e., trout fishing would become a recreation priority).

Table II-4: Reasons for spending less time trout fishing than in the past (results applicable to the 45% that reported spending less time)

Reasons for spending less time trout fishing	**Percent responding**
Not as much available time	51%
Quality of fishing has declined (number and size of trout)	46
Regulations	40
Too many regulations	28
Regulations were difficult to understand	25
Regulations prevent angler from fishing their preferred way	15
Not enough public access or lost access across private land	23
Degraded stream habitat or difficult to fish (overgrown banks)	22
Prefer to catch or eat other fish	18
Health issues or getting too old	15
Fishing companions moved or no longer participate	14
Other activities I enjoy more	14
Trout fishing became too expensive	8
Too many other expenses; cut back on trout fishing	8
Moved to area with fewer trout fishing opportunities	7
Better trout fishing in/spend more time in other states	3

> *There are now carp in Freemond Creek. I want to trout fish. Towards Shawano you can only get two or three trout and to chase 40-50 miles at the cost of gas now-a-days it just doesn't pay…Put it this way, trout fishing is no longer what it used to be. We now go to northern Michigan where trout fishing is out of this world. It's great up there! That's where we'll be going.*

Of the remaining eight possible reasons for spending less time trout fishing, no reason was cited by more than one angler in five. It is worth noting that for some anglers, trout fishing is a social activity and without a fishing companion, participation is scaled back. Although a minor reason for reduced participation, this finding raises the following question: can the Department facilitate a fishing companion network? If an angler wants to go fishing but requires assistance or prefers to share the experience with another angler, can the Department, with support from already-organized fishing groups, facilitate that opportunity? Lastly, trout fishing expenses was one of the least influential reasons for spending less time fishing. Less than one angler in ten (8%) cited trout fishing expenses as the reason s/he is fishing less today.

The majority of trout anglers are not affiliated with a trout fishing, outdoors or conservation club. Respondents were asked to indicate which, if any, of the following groups they belonged to: Trout Unlimited, Fly Fishing Federation, a rod or gun club, an environmental or conservation organization, or some other fishing group. Overall, approximately one-fourth (26%) reported that they belong to at least one group; the vast majority of respondents (current and non-2011 anglers) do not. Table II-5 indicates that seven in ten (71%) current anglers and eight in ten (79%) non-2011 anglers are not affiliated with any type of fishing, outdoors or conservation group.

Table II-5: Affiliation with fishing/conservation clubs

Affiliation	**Current anglers**	**Non-anglers (2011)**
None	71%	79%
1 club	24	20
2 or more	6	1

III: Trout Fishing on Wisconsin Streams

This section discusses trout fishing participation on Wisconsin streams during 2011. To anticipate the discussion that follows, this section addresses the percentage of trout anglers that pursue trout in streams, the techniques used by anglers, resources which anglers rely on when planning a fishing trip, angler frequency of keeping trout to eat, perceived changes in stream fishing over time, and angler satisfaction with their stream fishing experiences.

Trout fishing in Wisconsin means visiting streams. Overall, nine in ten anglers (90%) said they fished a Wisconsin stream for trout during 2011 (Table III-1). Of the 90 percent that are stream anglers, it's a majority (64%) that pursued trout exclusively on streams; slightly more than one-third of the anglers (36%) also pursued trout at inland lakes and ponds.

Table III-1: Percent of anglers that fished Wisconsin streams during 2011

Participation	**Percent responding**
Fished stream in 2011	
No	10%
Yes	90
Fished streams only	64%
Fished streams and inland lakes/ponds	36

Overall, anglers fished an average of slightly more than four different streams during 2011 (Table III-2). Two-fifths (41%) of the anglers fished one or two streams for trout; an equal percentage (41%) fished three to five streams per year; just under one-fifth of the anglers (18%) fished for trout at more than five streams per year.

The majority of anglers (64%) fish one stream during a typical day of trout fishing. One-fourth of the anglers (25%) typically fish two streams per outing while one angler in ten (11%) moves from stream to stream in search of trout.

Table III-2: Number of different Wisconsin streams fished during 2011 and per day of fishing

Number of streams fished per year and per day	
Streams per year	**Percent**
1 – 2 streams	41%
3 – 5 streams	41
6+ streams	18
Mean	4.2
Streams per outing	**Percent**
1 stream	64%
2 streams	25
3+ streams	11
Mean	1.5

Only a modest correlation was found between the number of different streams fished per year and the anglers' years of trout fishing experience. Anglers with at most ten years of trout fishing experience were slightly more likely than anglers with at least 20 years of experience to fish no more than two streams per year ($p < .056$). Likewise, a weak correlation ($p < .055$) was found between the number of different streams fished per year and anglers' satisfaction with their trout fishing experiences. Anglers who fish six or more streams per year were slightly more likely than anglers who fish at most two streams per year to be satisfied with their trout fishing experiences, (although regardless of the number of streams fished, a majority of anglers were satisfied with their experiences). Correlations were not found between the number of streams fished during a typical outing and the anglers' years of trout fishing experience nor anglers' assessment of satisfaction.

Most stream trout anglers are not technique specialists as defined by a continuum of recreation specialization, meaning they are not exclusively fly anglers. More anglers pursed trout with live bait than any other fishing technique (Table III-3). Just more than one-half (55%) of the stream anglers "often" or "always" used live bait when trout fishing. In comparison, spinners or lures and artificial flies were used with the same frequency by 44 percent and 27 percent, respectively, of the stream anglers. Though fly fishing is frequently associated with the pursuit of trout, more than one-half (58%) of the anglers said they "never" or "rarely" fished for trout using artificial flies. When spinners, lures and artificial flies are combined, high frequency of use (reporting "often" or "always") is similar to that found for bait use (59% and 55%, respectively).

Table III-3: Frequency of use of three fishing techniques

Frequency of use	**Live bait**	**Spinners or lures**	**Artificial flies**	**Combined spinners, lures, flies**
Never	22%	14%	39%	4%
Rarely	9	15	19	12
Sometimes	15	27	16	24
Often	32	28	14	33
Always	23	16	13	26

> *I am an avid trout angler – having caught 400+ inland trout in 2011. I believe in catching as many trout as I can and I guarantee live bait works best.*
>
> *I have quit fishing with live bait when the non-regulations a decade ago required a size limit that if I caught and fatally hooked an undersized fish I would have to release it to let die rather than keep it with the chance of being fined. This only makes honest people become unlawful in the eyes of the state which helps neither one.*

Significant differences were not observed between fishing techniques and angler satisfaction. A correlation, however, was found between the use of live bait and years of trout fishing experience. In general, as years of fishing experience increases, anglers are more likely to rely on live bait. Anglers with at least 30 years of experience (65%) were significantly more likely than anglers with at most ten years of experience (34%) to report that they "often" or "always" use live bait when fishing for trout at a stream. It's possible

that new anglers initially attempt to fulfill the popular image of trout fishing with flies but gravitate to live bait as they gain years of experience. A second possible explanation could be that older anglers began fishing with bait and never switched to flies or artificials.

Table III-4 indicates that the majority of anglers (86%) consult various information sources prior to fishing a stream. The trout fishing regulations and guide is the anglers' go-to source for information when planning a stream outing. Slightly more than three-fourths of the anglers said they consult the guide prior to fishing a stream (76%); a nearly equal percentage of anglers (78%) bring the guide with them when fishing a stream (see Table III-4 Note). A road atlas was the next most frequently cited resource when planning a stream trip (31%). Of the on-line maps available, the DNR web map site is consulted most frequently (20%); 15 percent consult Google maps and five percent consult MapQuest and very few (2%) consult Bing maps. A county plat map is consulted by about one-fifth (19%) of the anglers; county web map sites are not a common planning resource (4%). Other frequently cited sources of information included friends, other anglers, and reliance on past experiences (i.e., gained knowledge).

Table III-4: Resources consulted when planning to fish a stream and brought along when fishing a stream

Consult when planning stream fishing	**Percent responding**
Trout fishing regulations guide	76%
Road atlas	31
Online DNR web map sites	20
County plat map	19
Google maps	15
MapQuest	5
County web map site	4
Bing maps	2
Other source	12
None of above	14
Bring along when fishing a stream	**Percent responding**
Trout fishing regulations guide	78%
Mobile phone	52
Road atlas	31
Smart phone	19
County plat map	15
GPS	14
None of above	8

NOTE: An additional question asked how frequently anglers consult the trout fishing regulations and guide when planning to fish a stream. Five percent "never" or "rarely" consult the guide; 21 percent "sometimes" consult the guide; 73 percent "often" or "always" consult the guide.

Results also indicate that while most anglers have a mobile phone with them when stream fishing (52%), only one angler in five (19%) carries a Smart phone and even fewer anglers (14%) carry a GPS unit. These devises offer on-site sources for current stream fishing information and will likely see greater use by trout anglers as they become more user-friendly and more affordable.

A few interesting correlations were observed when the resources presented in Table III-4 are considered by years of trout fishing experience. In general, anglers with fewer years of experience were more likely to utilize electronic media and devices. Anglers with at most ten years of stream experience were significantly more likely than anglers with at least 30 years of experience to consult the on-line DNR web map sites ($p < .000$) or Google maps ($p < .006$) and to carry with them to a stream a Smart phone ($p < .002$) or a GPS unit ($p < .043$). These findings likely foreshadow the future of trout fishing in Wisconsin, that being the reliance by new (i.e, younger) anglers on current technology to access information prior to and during a fishing outing.

Further analysis reveals that anglers that consulted information sources prior to fishing a stream were more likely to experience satisfying outings. Anglers that consulted the on-line DNR web map sites ($p < .002$), a road atlas ($p < .049$), the trout fishing regulations and guide ($p < .019$) or Google maps ($p < .02$) were significantly more likely to have satisfying fishing experiences than anglers that did not consult the sources. Surprisingly, correlations were not observed between bringing along various resources to a stream and angler satisfaction.

Anglers were asked if nine stream attributes were important to them when deciding whether or not to fish a new trout stream. Results are presented in Table III-5. When fishing a new trout stream, anglers are seeking quality-size trout and specific types of trout. Nearly three-fifths of the anglers said that the presence of quality-size trout (59%) and the type of trout present (58%) were important considerations in deciding whether or not to fish a new stream. (See Section V, Table V-3 for a discussion on the relative importance of the presence of brook, brown and rainbow trout.) Stream condition and ready access were also important considerations; more than one-half of the anglers said that the condition of the stream and its banks (54%) as well as having easy access to the stream (53%) were important to them when deciding to fish a new stream. Other attributes that were important to at least one-half of the anglers included regulations that allowed anglers to keep trout (52%) and wild trout being present in the stream (50%).

Table III-5: Stream attributes that are important when deciding to fish a new trout stream

Stream attribute	**Percent responding important**
Presence of quality-size trout	59%
Type of trout present	58
Condition of stream and stream bank	54
Easy access to stream	53
Regulations that allow harvest of trout	52
Presence of wild trout	50
Regulations allow anglers to fish the way they want	38
Presence of trophy trout	24
Presence of stocked trout	21

Attributes that were not important to the majority of anglers were perhaps the most interesting. Only two-fifths (38%) of the anglers are drawn to new trout streams because the regulations allow them to fish the way they want (presumably with live bait or artificials). The presence of trophy trout is clearly less important to anglers than the presence of quality-size trout; only one-fourth of the anglers (24%) said that the presence

of trophy trout was important to them when deciding whether or not to fish a new stream. Likewise, the presence of stocked trout is important to considerably fewer anglers than the presence of wild trout; only one-fifth of the anglers (21%) said that the presence of stocked trout was important to them.

The importance of these new-stream attributes was further explored by anglers' years of trout fishing experience and by the number of streams fished in a typical year. Of the nine attributes, two resulted in significant correlations. Catching a wild trout is clearly a sought commodity and reason for fishing a new stream for experienced anglers and for anglers that fish numerous streams each year. The presence of wild trout in a new stream was more important to anglers with many years of experience than to anglers with at most ten years of experience ($p < .001$). Further, the presence of wild trout in a new stream was an attraction to more anglers that fish more than five streams per year than to anglers that fish only one or two streams per year ($p < .007$). Similarly, the presence of trophy trout in a new stream was an attraction to more anglers that fish more than five streams per year than to anglers that fish only one or two streams per year ($p < .006$). Perhaps the pursuit of wild trout and/or trophy trout partly explains why some anglers fish numerous streams each year.

Many trout anglers are consumptive anglers, that is, they fish to put trout on the plate (Table III-6). Over 60 percent of brook trout (65%) and brown trout (62%) anglers "sometimes" or more frequently keep trout for eating. About one-fifth of brook trout (22%) and brown trout (19%) anglers "always" keep trout for eating. The consumptive habits of rainbow trout anglers are slightly lower (the difference mostly attributed to a higher percentage of anglers reporting that they do not fish for rainbows). Not quite one-half (47%) of rainbow trout anglers "sometimes" or more frequently keep trout for eating; 16 percent "always" keep trout for eating.

Table III-6: Frequency of keeping trout for eating

Frequency	Brook trout	Brown trout	Rainbow trout
Do not fish for	4%	5%	16%
Never	16	14	18
Rarely	14	20	19
Sometimes	23	23	21
Often	20	20	10
Always	22	19	16

NOTE: Anglers at lakes and ponds are more likely to keep trout for eating. Three-fourths (75%) of the anglers said they "sometimes" or more frequently keep trout for eating; nearly one-half (48%) "often" or "always" keep the trout they catch. (See Table VIII-4.)

Statistical correlations were not found between the anglers' propensity to keep their catch and their satisfaction with their stream fishing experiences. In other words, anglers were just as likely to be satisfied or dissatisfied with their stream fishing experiences regardless of their frequency of keeping trout for eating.

A linear relationship was observed between the anglers' propensity to keep their catch and their years of trout fishing experience. Brook trout anglers with at most ten years of experience were significantly less likely to keep their catch for eating (35%) than were anglers with 20 to 29 years of experience (23%) and anglers with 30 or more years of experience (10%). As expected, brook trout anglers with 30 or more years of experience

were significantly more likely to "often" or "always" keep their catch for eating (59%) than were anglers with at most ten years of experience (18%) ($p < .000$). Nearly identical results were observed for brown trout anglers. Brown trout anglers with at most ten years of experience were significantly less likely to keep their catch for eating (33%) than were anglers with 20 to 29 years of experience (14%) and anglers with 30 or more years of experience (13%). Further, brown trout anglers with 30 or more years of experience were significantly more likely to "often" or "always" keep their catch for eating (47%) than were anglers with at most ten years of experience (20%) ($p < .003$). Commonly accepted angler development ("stages") suggests diminished emphasis on consumptive behavior and increased emphasis on technique and setting. These findings contradict the angler-stages progression and may warrant further exploration. A statistical correlation was not observed for rainbow trout anglers.

Statistical correlations were also observed between the anglers' propensity to keep their catch and their fishing method. Regardless of fish type, anglers that most frequently pursue trout with live bait were significantly more likely to "often" or "always" keep their catch ($p < .000$). A similar relationship was observed for anglers that most frequently use spinners or lures – they were significantly more likely to "often" or "always" keep brook trout ($p < .035$) and brown trout ($p < .01$). A correlation was not observed for rainbow trout anglers. Angler use of artificial flies resulted in a different picture. Brook trout anglers that most frequently pursue trout with artificial flies were significantly less likely to "often" or "always" keep their catch. As expected, brook trout anglers that "never" or "rarely" pursue trout with artificial flies were significantly more likely to "often" or "always" keep their catch ($p < .000$). Nearly identical results were observed for brown trout anglers. Brown trout anglers that most frequently pursue trout with artificial flies were significantly less likely to "often" or "always" keep their catch. Brown trout anglers that "never" or "rarely" pursue trout with artificial flies were significantly more likely to "often" or "always" keep their catch ($p < .005$). Overall, anglers that most frequently rely on live bait to catch trout are more likely to keep their trout than are anglers that use spinner, lures or artificial flies.

Stream anglers were given the opportunity to tell us if eight attributes of stream fishing had improved, become worse or remained relatively unchanged during their years of trout fishing. Results are encouraging for perceptions of water quality but less so for fishing opportunities, trout size and trout numbers. More anglers thought that the water quality of trout steams had become better (34%) during their years of trout fishing than had become worse (17%) (Table III-7). Two-fifths (40%) of the anglers reported that water quality had remained unchanged and one angler in ten (10%) was unsure of how water quality may have changed. Perceptions about stream access were fairly evenly distributed; three anglers in ten (30%) thought that stream accessibility had improved, one-fourth of the anglers (26%) thought that stream accessibility had become worse and just over one-third (35%) reported that accessibility had not changed during their years of steam fishing.

Table III-7: Angler perception of change over time of eight stream fishing attributes

Attribute	Much or somewhat better	Unchanged	Much or somewhat worse	Unsure
Stream water quality	34%	40	17	10
Stream access	30%	35	26	10
Fishing opportunities	24%	32	31	12
Size of trout	22%	31	39	8
Number of trout	23%	26	44	7
Number of quality-sized trout	21%	24	47	9
Number of trophy-sized trout	9%	27	43	21
Landowner attitudes towards streams anglers	11%	32	34	23

NOTE 1: Results should be read across rows.
NOTE 2: Expected correlations were observed between perceived change and years of trout fishing experience. Regardless of the stream attribute, anglers with more years of trout fishing experience were likely to say that the attribute had worsened over time than said the attribute had improved ($p < .000$).

> *I read Wisconsin Outdoor News in my house. Every year I read about two or three, maybe more, trout streams that are damaged by manure runoff. There are regulations for the farmers to follow, but they don't seem to care. Can't we stiffen the penalties or enforce the laws any better? I am sick of being within 15 or 20 miles of trout streams poisoned.*
>
> *Please continue to regulate to control runoff and pollution of our streams. It's essential for fishing as well as the health and well-being of all animal and human populations.*

Results of the remaining six attributes were less encouraging; more anglers thought each attribute had worsened over time than improved. Slightly more anglers said stream trout fishing opportunities had become worse (31%) than said those opportunities had become better (24%); one-third (32%) of the anglers reported that trout fishing opportunities had remained unchanged. It should be noted that opportunities to fish trout streams may be a measure of angler behavior rather than perception. Opportunity to pursue trout is to a great extent, dependent on an angler's willingness to make time for the activity (refer to the lapsed trout angler report).

Considerably more anglers thought the size of trout in Wisconsin streams had become worse (interpreted as "smaller") (39%) than had become better (interpreted as "larger") (22%). Three anglers in ten (31%) reported that the size of trout in streams had remained unchanged. Anglers' perception of how the number of trout in Wisconsin streams had changed was also discouraging. Nearly twice as many anglers said the number of trout had become worse (interpreted as "fewer") (44%) during their years of fishing than said

the number of trout had become better (interpreted as "more") (23%). One-fourth of the anglers (26%) reported that the number of trout had remained unchanged.

Angler perceptions about the change in quality-sized trout and trophy-sized trout were most disturbing and resulted in the largest measurement disparity. More than twice as many anglers said the number of quality-sized trout had become worse (47%) than said the number of trout had become better (21%). One-fourth of the anglers (24%) reported that the number of quality-sized trout had remained unchanged. Further, more than four times as many anglers said the number of trophy-sized trout had become worse (43%) than said the number of trout had become better (9%); one-fourth of the anglers (27%) reported that the number of trophy-sized trout had remained unchanged and a relatively high percentage of one-fifth of the anglers (21%) were unsure how the number trophy-sized trout had changed (perhaps indicating their lack of experience with trophy stream trout).

Lastly, considerably more anglers thought that landowner attitudes towards stream anglers had worsened (34%) than thought attitudes had improved (11%). Approximately one-third of the anglers (32%) reported that landowner attitudes had remained unchanged and a relatively high percentage (23%) was unsure how landowner attitudes may have changed (a likely indication that they do not fish streams accessed by landowner permission).

Trout anglers were given the opportunity to evaluate their satisfaction with four attributes of stream trout fishing. The attributes included how streams are categorized for trout size and bag limit; trout fishing seasons for streams; quality trout fishing experiences on streams; and the trout fishing regulations and guide booklet. In general, results are encouraging with considerably more anglers satisfied than dissatisfied with the attributes.

Approximately one-half (49%) of the stream anglers were satisfied with how streams are categorized for trout size and bag limit (Table III-8). One angler in five (20%) was dissatisfied with how streams are categorized; three anglers in ten (31%) were unsure or indifferent towards stream categorization.

Table III-8: Angler satisfaction with four attributes of stream fishing

Attribute	**Very/ Fairly satisfied**	**Unsure/ Neutral**	**Fairly/ Very dissatisfied**
How streams are categorized for trout size and bag limit	49%	31	20
Trout fishing seasons for streams	62%	21	17
Quality trout fishing experiences on streams	46%	29	24
Trout fishing regulation booklet	60%	21	19

NOTE 1: Results should be read across rows.
NOTE 2: Statistical differences were not found when analyzed by anglers' years of experience, meaning satisfaction ratings were similar regardless of how many years an angler had been trout fishing Wisconsin streams.

A majority of anglers (62%) were satisfied with the current season structures; about one-fifth of the anglers (17%) were dissatisfied; another one-fifth (21%) was unsure or indifferent. Angler assessment of quality experiences on Wisconsin trout streams was less encouraging. While more anglers were satisfied than dissatisfied with quality stream experiences, it was less than one-half (46%) that were satisfied. Put another way, more than one-half of the anglers are not satisfied with opportunities for quality stream fishing experiences. Lastly, a majority of three-fifths of the anglers (60%) were satisfied with the trout fishing regulation booklet; about one-fifth of the anglers (19%) were dissatisfied; another one-fifth (21%) was unsure or indifferent. These findings are quite similar to overall angler satisfaction with trout regulations (see Section VI Figure VI-2).

> *Your reg's book was somewhat hard to understand – where the hell am I? Am I breaking the law w/this fish in this spot? Confusing!*
>
> *The regulation's book is not simple Simon. You have to think about what it says and you need to bring it with you to the water especially if it's your first time at the stream. But if you think about what it's telling you the book is complete and will tell you everything you need to know.*
>
> *It would help to put some roads on the trout map in the reg booklet to clarify things.*
>
> *Too many fishing zones on too many rivers. If unfamiliar with the river, you don't always know your location to be sure you're in the right zone. In other words, rivers with more than one zone should be clearly marked. The color coding of the streams is difficult to understand sometimes. For example, Sucher [spelling?] Creek east of Highway F is color coded. The stream west is not. Does lack of color indicate the stream cannot be fished for trout?*

Stream anglers were asked to provide an overall satisfaction rating of their fishing experiences on Wisconsin streams. Considerably more anglers were satisfied than dissatisfied with their trout fishing experiences on Wisconsin streams (Table III-9). Approximately three-fifths (59%) of the anglers rated their stream trout fishing experiences as satisfactory; nearly one-fifth (18%) reported that they were "very satisfied" with their experiences. One-fourth (25%) rated their stream fishing experiences as unsatisfactory; only four percent reported they were "not at all satisfied" with their stream fishing experiences. Approximately one angler in six (16%) was indifferent, meaning the angler was neither satisfied nor dissatisfied with the trout fishing experiences on Wisconsin streams.

Table III-9: Overall satisfaction with trout fishing experiences at Wisconsin streams

Satisfaction rating	**Percent responding**
Very satisfied	18%
Somewhat satisfied	41
Neither satisfied nor dissatisfied	16
Not too satisfied	21
Not at all satisfied	4

Numerous variables were looked at to help understand how angler satisfaction and dissatisfaction might be explained. Years of stream fishing experience were not correlated with satisfaction. Anglers with at most ten years of experience were just as likely to be satisfied or dissatisfied as anglers with considerably more years of experience. A correlation was observed between angler satisfaction and the number of steams fished per year. Anglers that fished more than five streams per year were significantly more likely (70%) to be satisfied with stream fishing in Wisconsin than anglers who fished at most two streams (57%) ($p < .05$).

Further analysis reveals how angler satisfaction improves when various stream attributes change for the better. In general, anglers that reported stream fishing attributes had improved were significantly more likely to be satisfied with their stream fishing experiences. Anglers that reported:

improved accessibility to streams were significantly more likely to say that they were satisfied with their overall stream fishing experiences than anglers that reported that stream accessibility had become worse (78% compared to 33%, respectively) ($p < .000$);

improved landowner attitudes towards stream anglers were significantly more likely to say that they were satisfied with their overall stream fishing experiences than anglers that reported that landowner attitudes had become worse (90% compared to 39%, respectively) ($p < .000$);

improved stream fishing opportunities were significantly more likely to say that they were satisfied with their overall stream fishing experiences than anglers that reported that stream opportunities had become worse (96% compared to 30%, respectively) ($p < .000$);

improved size of stream trout were significantly more likely to say that they were satisfied with their overall stream fishing experiences than anglers that reported that trout size had become worse (87% compared to 36%, respectively) ($p < .000$);

improved number of trout in streams were significantly more likely to say that they were satisfied with their overall stream fishing experiences than anglers that reported that trout numbers had become worse (96% compared to 33%, respectively) ($p < .000$);

improved number of quality-sized trout in streams were significantly more likely to say that they were satisfied with their overall stream fishing experiences than anglers that reported that quality-sized trout had become worse (90% compared to 37%, respectively) ($p < .000$);

improved number of trophy-sized trout in streams were significantly more likely to say that they were satisfied with their overall stream fishing experiences than anglers that reported that trophy sized trout had become worse (93% compared to 42%, respectively) ($p < .000$);

improved water quality of trout streams were significantly more likely to say that they were satisfied with their overall stream fishing experiences than anglers that reported that stream water quality had become worse (77% compared to 38%, respectively) ($p < .000$).

IV: Trout Fishing Effort on Streams – When Anglers Fish and What they Catch

This section documents angler effort and harvest on streams. It reports when anglers fish, how many days they fish during the early and regular seasons and what they typically catch. It's likely that some questions were difficult for respondents to accurately answer because they asked respondents to recall their efforts from the previous year; thus some recall bias should be expected. The questions, however, were included because creel surveys are no longer conducted and they were typically not representative of statewide angling. This survey was an opportunity to provide statewide inferences on angling effort, catch, and harvest.

Regular trout season effort and harvest

Of the anglers that fished a stream during 2011, nearly all (98%) fished the regular season from May 7 through September 30. Table IV-1 indicates little variation in the average number of days fished per month. May was the most popular month for fishing. Anglers fished an average of just over five days; one angler in ten (10%) did not fish during May. Fewer days were spent pursuing trout during the late summer. Anglers fished an average of just over three days during August and slightly less than four days during September. However, approximately two-fifths of the anglers did not pursue stream trout during August (42%) or September (39%). Overall, anglers fished an average of 20.2 days during the regular trout season.

Table IV-1: Number of days fished per month of the regular trout season

Number of days fished	May	June	July	August	September
0 days	10%	12%	31%	42%	39%
1 – 2	28	37	32	27	20
3 – 5	30	25	18	16	21
6 – 10	23	16	12	7	12
> 10	10	10	7	9	8
Mean days	5.1	4.3	3.2	3.1	3.6

Effort per outing did not vary much throughout the season. Not including travel time, anglers spent an average of approximately four hours per outing each month of the season (Table IV-2). Anglers spent the most time per outing during May, averaging four and one-half hours per outing. Anglers spent the fewest hours per outing during July. Time on the stream was typically one hour less than that during May and more than one-third (37%) fished at most two hours per outing. It's likely that the reduced time on the stream is explained by warmer air temperatures during July and depressed fish activity.

Table IV-2: Number of hours fished per typical outing by each month of the regular trout season

Number of hours fished	May	June	July	August	September
1 – 2	18%	26%	37%	31%	27%
3 – 4	49	47	41	43	44
5 – 6	18	19	15	17	15
> 6	15	9	7	10	14
Mean hours	4.5	4.0	3.6	3.9	4.2

The majority of anglers catch trout during a typical day of stream fishing (Table IV-3). Brook and brown trout are caught with similar frequency; approximately seven anglers in ten catch at least one brook trout or brown trout. A typical outing results in an average of slightly more than three brook trout (3.6) and/or brown trout (3.4) being caught. Rainbow trout were caught with much less frequency. During a typical outing, two-thirds (67%) of steam anglers reported that they did not catch a rainbow trout; the average catch was slightly under one fish (0.8). The lower catch frequency is likely explained by the significantly fewer number of steams where rainbow trout are found. Overall, anglers caught an average of 7.3 trout for all trips combined during the regular season. This estimate yields at total catch (all species combined) of 606,021 trout during the regular season.[2]

Table IV-3: Number of trout caught on typical outing during regular trout season

Number of trout caught	**Brook trout**	**Brown trout**	**Rainbow trout**
0	31%	31%	67%
1 – 2	22	32	24
3 – 5	28	18	7
> 5	19	19	2
Mean trout caught	3.6	3.4	.8

The literature on recreation satisfaction documents a positive correlation between catching fish and angler satisfaction. This study found a linear relationship between catching trout and angler satisfaction; as the number of trout caught during 2011 increased, the percentage of anglers that were satisfied with their trout fishing experiences also increased ($p < .000$). Of the anglers that rated their trout fishing experiences as either "very" or "fairly" satisfying, one-third (32%) did not catch any trout, two-fifths (42%) caught one or two trout, three-fifths (61%) caught three to five trout and nearly three-fourths (73%) caught six or more trout.

Additional analysis revealed that fishing method was not correlated to the likelihood of catching trout. Regardless of frequency of use, bait users and artificial users (flies, spinner or lures) were equally likely to catch or not catch trout. Surprisingly, years of trout fishing experience was not statistically correlated to catching trout; a substantive difference was found. A greater percentage of anglers with at most ten years of trout fishing experience did not catch any trout (26%) compared to anglers with at least 30 years of experience (5%). Conversely, a smaller percentage of anglers with at most ten years of trout fishing experience caught more than five trout (30%) compared to anglers with at least 30 years of experience (45%).

Table IV-4 presents the frequencies for keeping trout after being caught. To provide an overall picture of trout harvest, the table also presents the frequencies that trout are kept among all stream anglers (including those who did not catch a trout). When an angler catches a brook trout, there is a slightly greater likelihood that the angler will keep the fish than if the angler caught a brown or rainbow trout. In other words, brook trout are harvested with a slightly higher frequency than are brown or rainbow trout. Among brook trout that are caught, two-thirds of them (66%) go home with the angler. Slightly

[2] An estimate of total catch was calculated as follows: 137,731 (sales of inland resident trout stamps) x .68 (trout stamp holders that pursued trout) x .90 (anglers that pursued trout on streams) x .98 (anglers that pursued trout on streams during regular season) x 7.3 (average number of trout caught during entire regular season).

more than one-half (55%) of caught brown trout are harvested while slightly more than two-fifths (43%) of caught rainbow trout are harvested. *Among all stream anglers*, a typical outing results in a harvest of 1.6 brook trout, 0.9 brown trout and 0.3 rainbow trout being harvested. Despite the consumptive desires of trout anglers, few trout are actually harvested. Overall, anglers harvested an average of 2.3 trout during the regular trout season. This estimate yields at total harvest (all species combined) of 189,993 trout during the regular season.[3]

Table IV-4: Number of trout kept from those being caught on a typical outing during the regular trout season (results of all stream anglers reported in parentheses)

Number of trout kept	**Brook trout**	**Brown trout**	**Rainbow trout**
0	33% (54%)	45% (62%)	57% (85%)
1 – 2	32 (22)	40 (27)	30 (11)
3 – 5	31 (22)	11 (8)	12 (4)
> 5	3 (2)	4 (3)	1 (0)
Mean trout kept	2.3 (1.6)	1.3 (.9)	.9 (.3)

Early trout season effort and harvest

Of the anglers that fished a stream during 2011, only a minority of one-fourth (26%) fished the early season from March 5 through May 1. (Fourteen counties did not have an early trout season in 2011: Florence, Forest, Langlade, Lincoln, Marathon, Marinette, Marquette, Oconto, Oneida, Portage, Shawano, Vilas, Waupaca and Waushara.) Table IV-5 indicates considerable differences in angler participation between March and April. Anglers fished an average of almost twice as many days in April (7.3) than in March (4.3). Further, while just more than one in ten (12%) of early season anglers did not fish during April, one-third (32%) of the anglers did not fish during March. These disparities are likely explained in-part by air and water temperatures beginning to rise in April resulting in an increase in trout activity. Overall, anglers fished an average of 12.9 days during the early trout season.

Table IV-5: Number of days fished per month of the early trout season

Number of days fished	**March**	**April**
0 days	32%	12%
1 – 2	13	18
3 – 5	24	28
6 – 10	22	24
> 10	8	18
Mean days	4.3	7.3

Effort per outing did not vary much during the two-month season and overall was similar to effort per outing during the regular season. Not including travel time, anglers spent an average of approximately four hours per outing (Table IV-6). The notable difference between the months is that a higher percentage of anglers spent one to two hours per outing during March than in April.

[3] An estimate of total harvest was calculated as follows: 137,731 (sales of inland resident trout stamps) x .68 (trout stamp holders that pursued trout) x .90 (anglers that pursued trout on streams) x .98 (anglers that pursued trout on streams during regular season) x 2.3 (average number of trout harvested during entire regular season).

Table IV-6: Number of hours fished per month of a typical outing during the early trout season

Number of hours fished	March outings	April outings
1 – 2	28%	18%
3 – 4	41	54
5 – 6	19	17
> 6	12	11
Mean hours	4.0	4.1

Anglers catch relatively more brown trout than brook or rainbow trout during the early season (Table IV-7). During a typical early season outing, an angler catches and releases an average of just more than six brown trout (6.4) compared to four brook trout and just under one rainbow trout (0.8). As expected from the mean catch rate, the majority of anglers (61%) catch at least one brown trout during a typical outing; it's a minority of anglers that catch a brook trout (46%) and catch a rainbow trout (32%). Overall, anglers average a higher number of caught trout during the early season (11.1 trout) than during the regular season (7.3 trout). This estimate of trout caught and released yields at total estimate (all species combined) of 243,265 trout caught and released during the early season.[4] When combined with the catch estimate from the regular season, a total of 846,286 trout were caught from Wisconsin streams in 2011.

Table IV-7: Number of trout caught and released on typical outing during early trout season

Number of trout	Brook trout	Brown trout	Rainbow trout
0	54%	39%	68%
1 – 2	24	11	22
3 – 5	12	18	7
> 5	10	32	3
Mean trout caught	4.0	6.4	0.8

Fishing during the early season did not support the trout caught – angler satisfaction hypothesis. Although catching trout was not statistically correlated to angler satisfaction ($p < .098$), a linear substantive difference was found. As the frequency of catching trout increased, higher percentages of anglers were satisfied with their early season trout fishing experiences.

Additional analysis revealed that fishing method was not correlated to the likelihood of catching trout. As noted above, regardless of frequency of use, bait users and artificial users (flies, spinner or lures) were equally likely to catch or not catch trout. Somewhat of a surprise, neither a statistical nor a substantive correlation was found for years of trout fishing experience and catching trout.

[4] An estimate of total trout caught and released during the early season was calculated as follows: 137,731 (sales of inland resident trout stamps) x .68 (trout stamp holders that pursued trout) x .90 (anglers that pursued trout on streams) x .26 (anglers that pursued trout on streams during early season) x 11.1 (average number of trout caught and released during entire early season).

Angler defined quality and trophy trout

Anglers were asked to define (to the nearest inch) what they considered to be quality-sized trout and trophy-sized trout. Little variation was found between brown trout and rainbow trout; quality-sized and trophy-sized brook trout were considerably smaller. If fish length is an indicator of value then brook trout are clearly prized by Wisconsin steam anglers. Table IV-8 indicates that quality-sized brook trout were defined with an average length of 10.6 inches. Brown trout and rainbow trout, however, were defined by an average length of over one foot (13.1 inches and 13.0 inches, respectively). Further, brook trout shorter than ten inches were considered quality fish by three anglers in ten (30%); brown trout and rainbow trout under ten inches were defined as quality fish by at most one angler in ten (10%). Nearly one angler in five (18%) defined a brown trout and rainbow trout longer than 15 inches as a quality fish; very few anglers (2%) defined a brook trout of similar length to be a quality fish (at that length a brook trout is considered a trophy by many anglers).

Table IV-8: Length which anglers consider a quality stream trout

Length	Brook trout	Brown trout	Rainbow trout
< 10”	30%	8%	10%
10” – 12”	57	46	47
13” – 15”	11	28	25
> 15”	2	18	18
Mean	10.6”	13.1”	13.0”
Minimum	5.0”	6.0”	6.0”
Maximum	20.0”	20.0”	28.0”

Similar perceptions are found when trophy length is considered. Trophy-sized brook trout were defined with an average length of 15.9 inches (Table IV-9). Brown trout and rainbow trout, however, were defined by an average length of just over 20 inches (20.1 inches and 20.3 inches, respectively). As further indication of brook trout being prized by anglers, nearly one-half (47%) of the anglers considered a trophy brook trout to be less than 16 inches; brown trout and rainbow trout shorter than 16 inches were defined as trophy fish by approximately one angler in ten (8% and 9%, respectively). Very few anglers (3%) defined a trophy brook trout as longer than 20 inches (indicating low angler expectation that brook trout will reach such sizes) while one-third of the anglers defined a trophy brown trout (33%) and a trophy rainbow trout (34%) as being over 20 inches.

Table IV-9: Length which anglers consider a trophy stream trout

Length	Brook trout	Brown trout	Rainbow trout
< 16”	47%	8%	9%
16” – 20”	50	59	57
> 20” (Brook trout)	3		
21 – 24”		25	20
> 24” (Brown and Rainbow trout)		8	14
Mean	15.9”	20.1”	20.3”
Minimum	11.0”	12.0”	12.0”
Maximum	25.0”	32.0”	32.0”

How anglers defined quality-size and trophy-size trout was further explored by years of trout fishing experience and fishing methods. Do anglers with more experience have different definitions of quality and trophy trout than do less experienced anglers? Also, do bait users define quality and trophy trout differently than do users of artificials? Cross-tab analysis indicates the answer to both questions is no. Quality-size trout were defined similarly regardless of years of fishing experience or fishing method. Likewise, trophy-size trout were defined similarly regardless of years of fishing experience or fishing method.

Anglers were next asked how many trophy-sized trout they caught and kept during their 2011 stream fishing outings. Regardless of trout type, the vast majority of anglers did not catch a trophy-sized trout (Table IV-10). Less than one angler in ten caught a self-defined trophy brook trout (9%) or a trophy rainbow trout (6%). Slightly more anglers (15%) reported catching a trophy brown trout during 2011. Anglers that did not catch a trophy trout were asked a hypothetical question: "Do you think you would keep a trophy [trout type] if you caught one?" Just under one-half indicated a likelihood of keeping a trophy brook trout (47%), a trophy brown trout (47%) or a trophy rainbow trout (48%). Though hypothetical, results indicate the consumptive nature (for a meal or a wall mount) for a relatively high percentage of anglers. Lastly, anglers that had caught a trophy trout were asked how many they kept. Results should be viewed with a cautious eye due to the small percentage of anglers that caught trophy-sized trout. With that in mind, results indicate a slight disparity between the hypothetical behavior of the majority and actual behavior of the minority. Slightly more than one-half (52%) of the anglers that caught trophy brook trout kept at least one; a nearly equal 47 percent of those who did not catch a trophy brook trout speculated that they would keep the trophy. Two fifths (41%) of the anglers that caught trophy brown trout kept at least one; a slightly higher percentage of 47 percent of those who did not catch a trophy brown trout speculated that they would keep at least one trophy. The greatest disparity was found for rainbow trout; the actual harvest of trophy rainbow trout surpassed the hypothetical estimate. Every angler (100%) that caught a trophy rainbow trout reported that they kept at least one. In comparison, just under one-half (48%) of the majority that did not catch a trophy speculated that they would keep a trophy rainbow trout.

Results from this study found that more anglers place importance on catching quality-size trout over catching trophy trout (see Table V-3). But is catching trophy trout correlated to angler satisfaction? Results indicate a positive correlation. Satisfying fishing experiences were reported by 55 percent of anglers that did not catch a trophy trout and 85 percent by those who caught at least one trophy trout ($p < .043$).

Table IV-10: Number of trophy trout caught from streams in 2011

Brook trout – number caught	**Percent**
0	91%
1	4
2 – 3	2
4+	3
***If caught (91% responding 0)*, likelihood of keeping**	
Yes	47%
Unsure	23
No	30
Number actually kept (9% responding caught)	
0	48%
1 – 2	37
3+	15
Brown trout – number caught	**Percent**
0	85%
1	5
2 – 3	6
4+	3
***If caught (85% responding 0)*, likelihood of keeping**	
Yes	47%
Unsure	22
No	31
Number actually kept (15% responding caught)	
0	60%
1 – 2	31
3+	10
Rainbow trout – number caught	**Percent**
0	94%
1	2
2 – 3	2
4+	2
***If caught (94% responding 0)*, likelihood of keeping**	
Yes	48%
Unsure	19
No	33
Number actually kept (6% responding caught)	
0	0%
1 – 2	67
3+	33

V: Preference for Trout Stream Seasons and Stream Attributes

This section considers two topics: angler preference for various season options for trout fishing on Wisconsin streams and their preference for trout stream attributes. Numerous attributes were considered, but they broadly include the type of trout in the stream, stream size, stream accessibility, stream habitat, and the importance of stocking streams with trout.

Stream anglers were asked their support or opposition to eight season options. Table V-1 indicates that only the current regular open season (opening the first Saturday in May and closing September 30) was supported by a majority of the anglers; three-fourths (75%) "strongly" or "moderately" supported the current season. Nearly one-half (47%) "strongly" supported the current regular open season. No other season option generated a similar level of support. Ending the regular open season later in the year was supported by two anglers in ten (40%) while a nearly equal percentage (37%) supported an earlier start to the regular open season. Approximately one-third (34%) of the anglers supported the current early catch and release season. All other season options were supported by at most one-fourth of the anglers.

More anglers opposed a year-round open stream season than any other season option. Just over one-half (53%) of the anglers "strongly" (38%) or "moderately" (15%) opposed a year-round open season. Other seasons that generated notable opposition include extending the catch and release season to open October first to allow year-round trout fishing (excluding deer season) (48% opposition), adding a catch and release season after the regular open season ends (44% opposition), and starting the catch and release season earlier (40% opposition).

Table V-1: Support or opposition to various trout stream season options

Season option	Percent Support	Neutral or Unsure	Percent Oppose
Current regular open season (1st Saturday in May through Sept. 30)	75%	16	9
End regular open season later	40%	29	32
Start regular open season earlier	37%	28	34
Current early catch and release season (opens 1st Saturday in March)	34%	37	30
Year-round open stream season	26%	21	53
Extend catch and release season to open Oct. 1 to allow year-round trout fishing (excluding deer season)	26%	27	48
Add catch and release season after regular open season ends	24%	32	44
Start catch and release season earlier	18%	42	40

NOTE: Results should be read across rows.

Support or opposition to stream season options was further explored by fishing methods. Because seasons and regulations do not differentiate spinners or lures from artificial flies, the two fishing methods were combined to create a new "artificials" method. Regardless of fishing method (live bait and artificials), significant differences in support or opposition were found for four of the season options – all dealing with catch and release fishing.

Anglers who "never" or "rarely" use live bait were more likely than anglers who "often" or "always" use live bait to support the following season options:

current early catch and release season (opens 1st Saturday in March) ($p < .000$);

start the catch and release season earlier ($p < .002$);

add a catch and release season after regular open season ends ($p < .003$);

and extend the catch and release season to open Oct. 1 to allow year-round trout fishing (excluding deer season) ($p < .003$).

Season support varied when the use of artificials is considered:

Anglers who "never" or "rarely" use artificials were less likely than anglers who "often" or "always" use artificials to support the current early catch and release season (opens 1st Saturday in March) ($p < .027$).

Regardless of how frequently anglers use artificials, more anglers opposed than supported:

an earlier start to the catch and release season ($p < .009$);

adding a catch and release season after regular open season ends ($p < .009$);

extending the catch and release season to open Oct. 1 to allow year-round trout fishing (excluding deer season) ($p < .001$).

Significant differences were not found for any other season option, regardless of fishing method. In other words, support or opposition to a season option was independent of an angler's preference for the use of live bait or artificials.

As expected, the opinions of anglers who fished the 2011 early season differed from anglers who did not fish the early season. Early season anglers were more likely than non-early season anglers to support the current early catch and release season as well as the three season options that provided additional early season fishing opportunities. Anglers who fished the 2011 early season were more likely than non-early season anglers to support the following season options:

current early catch and release season (opens 1st Saturday in March) ($p < .000$);

start the catch and release season earlier ($p < .000$);

add a catch and release season after regular open season ends ($p < .000$);

and extend the catch and release season to open Oct. 1 to allow year-round trout fishing (excluding deer season) ($p < .000$).

Significant differences were not found for any other season option, regardless of participation in the early season. Support or opposition to season options was not considered based on an angler's participation in the 2011 regular trout season because nearly all stream anglers (98%) participated in the regular season.

While the results in Table V-1 are compelling, they do not explain relative preference. Anglers were asked, "Of the possible seasons in the above question, which two do you prefer?" Respondents were instructed to write a 1 next to their first choice and a 2 next to their second choice. The current regular open season was preferred by more than two-to-one over the next preferred season (Table V-2). More than one-third (35%) of the anglers said the current regular open season was either their first (30%) or second (5%) preference. No other season option came close to this level of support; and more telling is that no other season option exceeded ten percent as a first choice. The season options that generated the next highest levels of preference include ending the regular open season later in the year (5% first choice, 18% first or second choice) and starting the regular open season earlier (7% first choice, 17% first or second choice).

Table V-2: Angler preference for various trout stream season options

Season option	**Percent 1st choice**	**Percent 1st and 2nd choice**
Current regular open season (1st Saturday in May through Sept. 30)	30%	35%
End regular open season later	5	18
Start regular open season earlier	7	17
Year-round open stream season	8	14
Extend catch and release season to open Oct. 1 to allow year-round trout fishing (excluding deer season)	3	8
Current early catch and release season (opens 1st Saturday in March)	1	7
Add catch and release season after regular open season ends	2	7
Start catch and release season earlier	1	4

NOTE: Results do not total 100% due to multiple responses.

As expected, anglers who fished the 2011 early season differed from non-early season anglers in the season options they most preferred. Early season anglers were more likely than non-early season anglers to prefer three season options that provided additional fishing opportunities:

start the catch and release season earlier ($p < .01$);

add a catch and release season after regular open season ends ($p < .000$);

and extend the catch and release season to open October 1 to allow year-round trout fishing (excluding deer season) ($p < .002$).

Lastly, because early season anglers were more likely to prefer a season option that added additional fishing days to the early season, they were less likely than non-early season anglers to select as a first or second preference the current regular open season ($p < .000$). However, regardless of angler participation in the early trout season, more anglers selected the current regular open season as their first or second preference for a season option.

Anglers were asked how 12 stream attributes might effect their decision to fish a particular stream. Results are presented in Table V-3. The "stories" within the table may not be obvious. To help understand the findings, five notable conclusions are offered. First, the chance to catch a rainbow trout was less important to anglers than the chance to catch either a brook or brown trout. Less than one-half (46%) of the anglers said they prefer to fish a stream if there is a chance to catch a rainbow trout and an equal percentage (46%) said the presence of rainbow trout had no influence on their decision to fish a steam. Fishing a stream that provided the chance to catch a brook trout or brown trout was preferred by at least three-fifths (66% and 61%, respectively) of the anglers; about three anglers in ten said the presence of brook trout (28%) or brown trout (32%) had no influence on their decision to fish a steam.

Second, more anglers would prefer to fish a stream that provided the chance to catch quality-size trout than the chance to catch a trophy trout. While a slight majority (55%) of anglers said they would prefer to fish a stream that provides the chance to catch a trophy trout, considerably more anglers (77%) indicated they would prefer to fish a stream where quality-size trout were present. Further, the chance to catch a trophy trout influenced fewer anglers in their stream choice than the chance to catch quality-size trout or the chance to catch many trout. Just more than three-fifths (62%) of the anglers said they would prefer to fish a stream that provided the opportunity to catch many fish.

Third, the chance to catch a trout for eating was the only stream attribute that was a necessity in an angler's stream selection for more than one angler in ten (15%). Additionally, one-half (50%) of the anglers would prefer to fish a stream that offered the chance of catching trout to keep and eat.

Stream size was a fourth attribute but resulted in little variance. Slightly more than one-half to three-fifths of the anglers said that no consideration was given to fishing a stream that was less than ten feet wide (59%), ten to 30 feet wide (56%), or more than 30 feet wide (55%). It's worth noting, however, that streams greater than 30 feet wide were preferably (26%) or always (6%) avoided by nearly one-third (32%) of the anglers.

Lastly, the presence of wild trout is more preferable to anglers in their stream choice than the presence of stocked trout. Three-fifths (61%) of the anglers would prefer to fish a stream where wild trout are present; considerably fewer anglers (18%) said they would prefer to fish a stream where stocked trout were present. Further, the presence of stocked trout had no influence on stream selection for two-thirds (65%) of the anglers while 15 percent of the anglers said they would prefer not to fish (14%) or would never fish (1%) a stream that was stocked with trout.

Table V-3: Preference for various trout stream attributes

Stream attribute	Will only fish	Prefer to fish	No matter	Prefer not to fish	Will never fish
Chance of brook trout	5%	66	28	1	0
Chance of brown trout	4%	61	32	2	0
Chance of rainbow trout	2%	46	46	2	2
Chance of quality-size trout	8%	77	12	1	0
Chance of trophy trout	4%	55	37	2	1
Chance to catch many	7%	62	27	2	0
Chance to catch trout to eat	15%	50	25	4	5
Stream < 10' wide	3%	29	59	7	1
Stream 10-30' wide	1%	32	56	8	1
Stream > 30' wide	0%	10	55	26	6
Wild trout present	7%	61	30	1	0
Stocked trout present	1%	18	65	14	1

NOTE 1: The response option of "Unsure" did not exceed two percent for any item. It was omitted from the table for spacing.
NOTE 2: Results should be read across rows.
NOTE 3: In hindsight, it would have been informative if the questionnaire assessed an angler's perceived ability to distinguish a wild trout from a stocked trout.

Preferences for stream attributes were further analyzed by anglers' years of trout fishing experience. Of the 12 attributes, three were correlated to years of fishing experience: preference to fish a stream where wild trout were present, preference to fish a stream that provided the chance to catch a trophy fish, and preference to fish a stream that provided the chance to catch many trout. Anglers with the fewest years of experience (less than 11 years) were significantly less likely (48%) than anglers with more than ten years experience (71%) to say they would "only" fish or "prefer" to fish a stream where wild trout were present. Further, these less experienced anglers were significantly more likely (47%) than anglers with the most experience (20%) to say that the presence of wild trout was not a consideration when deciding to fish a particular stream ($p < .012$).

The chance to catch a trophy trout was modestly less important to anglers with the most years of fishing experience. Anglers with at least 30 years of experience were significantly more likely (45%) than anglers with at most ten years experience (35%) to say the chance to catch a trophy trout did not matter to them or that they would prefer not to fish or would never fish a stream in pursuit of a trophy ($p < .049$). It must be noted, however, that a majority of anglers said they would "prefer" to fish a stream that held the chance to catch a trophy trout. Similarly, the chance to catch many trout was less important to anglers with the most years of fishing experience. Anglers with at least 30 years of experience were significantly more likely (41%) than all anglers with less than 30 years of experience (21%) to say the chance to catch many trout did not matter to them or that they would prefer not to fish or would never fish a stream specifically to catch many trout ($p < .006$).

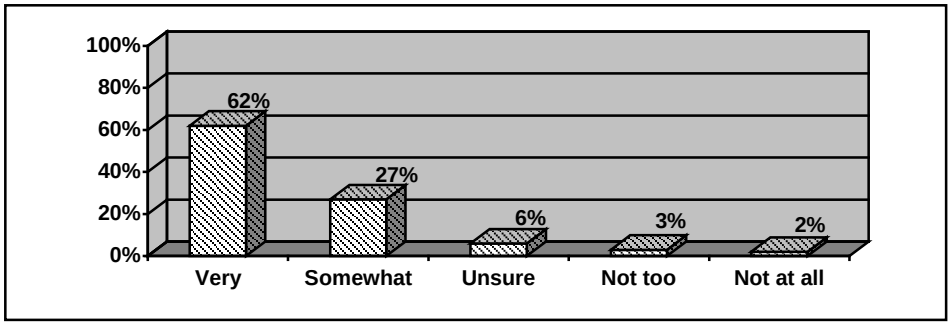
An additional finding is worth noting. Anglers with 20 to 29 years of trout fishing experience exhibited the greatest desire to fish streams that provided the chance to catch a trophy trout (67%, $p < .049$) or to catch many trout (80%, $p < .006$). Further, these

anglers were the most likely to say that stocking a stream with trout was essential or important for them to fish that stream (68%, $p < .053$). It's possible that anglers with 20-some years of experience are more likely than other anglers to be in the "limiting out" and "trophy" stages of trout angler development, whereas anglers with at least 30 years of experience may have progressed into the "technique – setting" stage of trout fishing. Further research would be required to validate or refute this possible explanation.

It was also found that the methods used to catch trout were correlated to anglers' preferences for catching trout for eating. Anglers that "often" or "always" use live bait were significantly more likely (83%) than anglers that "never" or "rarely" use live bait (39%) to only fish or prefer to fish streams where there is the chance of catching fish to keep and eat ($p < .000$). As expected, the reverse was found when artificial flies were examined. Anglers that "often" or "always" use artificial flies were significantly less likely (37%) than anglers that "never" or "rarely" use artificial flies (76%) to only fish or prefer to fish streams where there is the chance of catching fish to keep and eat ($p < .000$). Results for the use of spinners and lures more closely approximated the live bait correlation, and although significant, the difference between "often/always" and "never/rarely" was less pronounced.

Wisconsin's trout stocking program receives considerable attention from both anglers and media. Maintaining the program is also a considerable expenditure to the Fisheries Management program. The importance which anglers place on the stocking program was asked from two perspectives; one perspective being general benevolence (i.e., the importance of stocking some streams to provide fishing opportunities) and the other perspective being personal importance (i.e., the importance of a stream being stocked for an angler to fish the stream).

Figure V-1: How important is it that some streams are stocked to provide trout fishing opportunities?



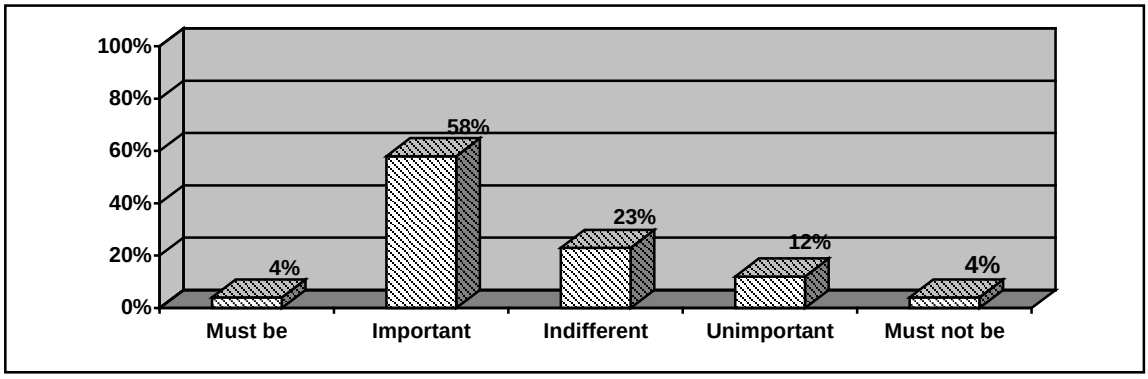
Anglers were unequivocal in their opinion of the stocking program. Figure V-1 illustrates that nearly nine anglers in ten (89%) believe it is "very important" (62%) or "somewhat important" (27%) that some streams are stocked to provide fishing opportunities. Only one angler in 20 (5%) said that stream stocking was unimportant.

The personal perspective provides a slightly different picture. A considerably higher percentage of anglers said stocking is important for them to fish a stream than said it is not important. A majority of anglers (62%) said that it is essential (4%) or "very important" (34%) or "fairly important" (24%) that a stream is stocked for them to fish that stream (Figure V-2). This finding is considerably less than the 89 percent of anglers that

said stream stocking is important to provide fishing opportunities (Figure V-1). The disparity likely exemplifies the difference between benevolence and personal need. Nearly all anglers support a stocking program to provide fishing opportunities for their fellow anglers, yet a smaller percentage of anglers actually rely on stream stocking for their fishing opportunities. The finding may be analogous to the deer donation program; nearly all deer hunters believe the state should maintain a deer donation program yet only a small percentage of deer hunters actually donate a deer to the program.

> *I would like to see more involvement in stocking Robinson Creek which flows into Black River by Black River Falls. It is one of the nicest streams in the state. I would mention that I am very pleased with the nice job of stream preservation and stocking of brook trout on Pigeon Creek between York and Northfield in Jackson County.*

Figure V-2: Importance that a stream is stocked for an angler to fish that stream



About one-fourth (23%) of the anglers said that stocking a stream was neither important nor unimportant for them to fish that stream. Approximately one angler in six (16%) said that it is essential (4%) or "not at all important" (5%) or "not too important" (7%) that a stream is not stocked for them to fish that stream.

It must also be mentioned that these findings are notably different than the findings presented in Table V-3 where only one-fifth of the anglers (19%) said they would only fish or prefer to fish a stream where stocked trout were present. Further research (e.g., personal interviews with anglers) is needed to clarify the disparity between these two seemingly similar measures.

A second set of attributes considered stream accessibility. Two accessibility issues were measured: the availability of public access to a stream and required landowner permission to access a stream. Results are presented in Table V-4. Surprisingly, public access to a stream is not a requirement for the majority of anglers. Approximately one angler in seven (14%) said public access is essential to fish a stream. More than one-half of the anglers (57%) said they would prefer to fish a stream with public access and one-fourth of the anglers (25%) said public access did not matter to them. One possible interpretation is that these anglers have multiple options for trout fishing which do not require public access. Further analysis, however, refutes this hypothesis. The necessity of or preference for public access was unchanged regardless of how many streams an angler fished in a year.

Table V-4: Preference for two stream accessibility attributes

Stream attribute	Will only fish	Prefer to fish	No matter	Prefer not to fish	Will never fish
Public access to stream is available	14%	57	25	2	0
Landowner permission is required to access a stream	0%	13	31	42	10

NOTE 1: The response option of "Unsure" did not exceed three percent for any item. It was omitted from the table for spacing.
NOTE 2: Results should be read across rows.
NOTE 3: In hindsight, it would have been informative if the questionnaire measured the frequency which anglers fish streams that provide public access and streams that are accessed by landowner permission.

Landowner permission presents a different picture. A slight majority of anglers (52%) said they would prefer not to fish (42%) or would never fish (10%) a stream where accessibility was possible only with landowner permission. About three anglers in ten (31%) said landowner permission was not an issue when deciding to fish a particular stream; 13 percent said they would prefer to fish a stream that required landowner permission. As noted above, angler preference for fishing a stream or avoiding a stream that required landowner permission to gain access was unchanged regardless of how many streams an angler fished in a year.

It was thought that anglers with many years of fishing experience would have over the years, developed multiple options for where to trout fish, including streams that require access across private land. The hypothesis was that anglers with more years of fishing experience would be more likely than less experienced anglers to have a stronger affinity to fish streams which required landowner permission. The hypothesis was not supported. Angler preference to fish a stream or to avoid a stream that required landowner permission to gain access was unchanged regardless of how many years of trout fishing experience the angler possessed.

A final set of attributes considered stream habitat. Anglers were asked how eight stream habitat attributes might effect their decision to fish a particular stream. Results are presented in Table V-5. As with Table V-3, the "stories" within the table may not be obvious. To help understand the findings, four notable conclusions are offered. First, there was little variance in the anglers' preference to fish a stream with mowed or overgrown banks. About one-half of the anglers said a mowed stream bank (47%) or a stream bank overgrown with brush or reed canary grass (49%) was a non-issue when deciding to fish a stream. Approximately three anglers in ten said they would never or would prefer not to fish a stream that was pastured or mowed (29%) or to fish a stream with an overgrown bank (30%).

Second, many anglers prefer to fish streams with forested banks. Presumably the cooling effect and forage opportunities provided by a forested stream bank was a necessity or preference for one-half of the anglers (51%). No surprise, an equal percentage of anglers (51%) said they would never or would prefer not to fish a stream where trees have been removed along the bank. A considerable minority of anglers indicated that their decision

to fish a stream was not influenced by the presence (41%) or absence (36%) of trees along the bank.

Stream health, meaning a stream that has become degraded or a stream that has been restored, produced the strongest measures. More than one-half of the anglers (56%) indicated that they would only fish or would prefer to fish a stream with restored habitat. More telling, however, is that three-fourths of the anglers (74%) said they would never fish (17%) or would prefer not to fish (57%) a stream that has become degraded. The imbalance between these two measures may be one of perception: anglers are more likely able to perceive poor stream habitat but may have more difficulty perceiving stream restoration, particularly if it is an angler's first experience at a stream.

Table V-5: Preference for various trout stream habitat attributes

Stream attribute	**Will only fish**	**Prefer to fish**	**No matter**	**Prefer not to fish**	**Will never fish**
Pastured or mowed stream banks	0%	23	47	24	5
Stream banks overgrown with brush or reed canary grass	1%	19	49	29	1
Forested stream banks	2%	49	41	6	0
Trees removed along stream banks	0%	12	36	43	8
Stream habitat has been restored	1%	55	34	7	1
Stream has become degraded (eroded banks, wide shallow channel)	1%	2	22	57	17
Beaver dams are present	0%	13	47	28	9
Beaver dams are not present	2%	30	55	7	1

NOTE 1: The response option of "Unsure" did not exceed three percent for any item. It was omitted from the table for spacing.
NOTE 2: Results should be read across rows.

Lastly, the impact of beaver dams on stream fishing was explored with two opposing attributes: beaver dams are present and beaver dams are not present. Results of both attributes tend to validate each other. For all of the discourse directed at beaver dams and their impact on the trout fishery, surprisingly about one-half of the anglers said that the presence (47%) or absence (55%) of beaver dams had little influence on their decision to fish a stream. Further, slightly more than one-third of the anglers (37%) reported that they would never fish or would prefer not to fish a stream where beaver dams were present; a nearly equal percentage (32%) reported that they would only fish or would prefer to fish a stream where beaver dams were not present.

To hopefully gain increased understanding of anglers' preferences for stream habitat attributes, the eight issues were analyzed by four angler attributes: years of angler experience, the number of streams fished in a year, fishing methods and overall stream fishing satisfaction. Only a few correlations were found. Anglers who "never" or "rarely" fished with live bait were significantly more likely than anglers who "always" or "often" used live bait to only fish or prefer to fish a stream where trees have been removed from its banks (20% and 6%, respectively, $p < .001$). Conversely, anglers who "always" or "often" fished with artificial flies were significantly more likely than anglers who "never" or "rarely" used flies to only fish or prefer to fish a stream where trees have been removed from its banks (19% and 10%, respectively, $p < .027$).

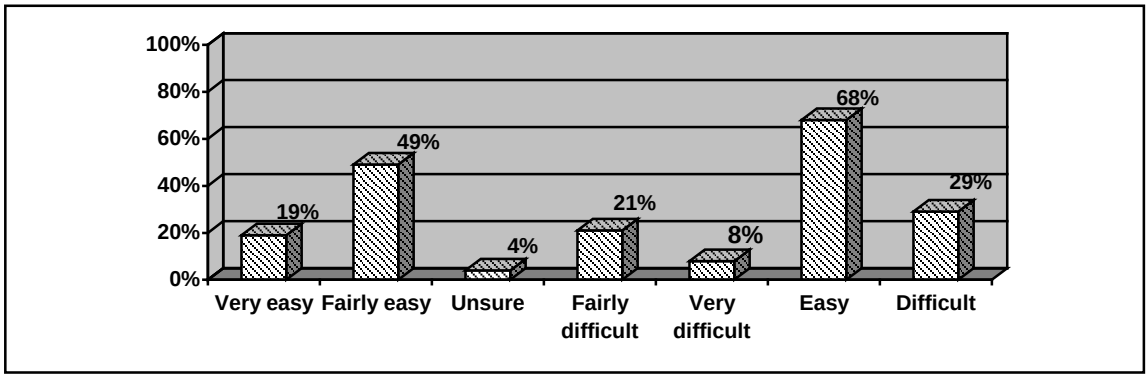
A third correlation was found between an angler's years of fishing experience and the angler's preference to fish a stream where beaver dams are present. Experienced anglers prefer to avoid streams where beaver dams are present. Anglers with at least 30 years of trout fishing experience (48%) were significantly more likely than all other anglers (18% to 27%) with less experience to never fish or prefer not to fish a stream where beaver dams are present ($p < .022$). These experienced anglers were also more likely than all other less experienced anglers to say that the presence of beaver dams mattered to them – they preferred to avoid such streams. No surprise, anglers with at least 30 years of trout fishing experience (41%) were more likely than all other anglers (15% to 24%) with less experience to only fish or prefer to fish a stream where beaver dams are not present (though the overall differences were not statistically significant).

Section VI: Angler Assessment of and Preference for Trout Stream Regulations

The Wisconsin trout fishing regulations, particularly those pertaining to stream fishing, have been a point of contention between stream anglers and resource professionals. Anglers have been telling the Department that there are too many regulations for stream trout fishing; the regulations are complex, confusing, and for some situations, illogical. Results of this section address the trout stream regulations. In particular, the section addresses angler satisfaction with the regulations, if regulations for a specific stream have ever prevented an angler from fishing that stream, and support or opposition to various existing as well as suggested stream regulations. To anticipate the detailed findings, the results do not support the anecdotal information received by the Department. The majority of anglers do not find the stream regulations difficult to understand and overall, they are satisfied with the regulations. *This should not be interpreted as all stream anglers are content.* For a notable minority, regulations have been problematic and they have prevented some anglers from fishing specific streams.

The majority of anglers reported that the stream regulations are easy to understand. This contradicts the conclusion one might draw if anecdotal information was the sole source of information. It also reinforces the message that resource management decisions should not be based solely on anecdotal input. Figure VI-1 illustrates that just more than two-thirds of the anglers (68%) said the regulations are "very" easy (19%) or "fairly" easy (49%) to understand. Although the percentage of anglers that find the regulations easy to understand is twice that of the anglers that have difficulty with the regulations, the minority should not be ignored. Approximately three anglers in ten (29%) said the stream regulations were "fairly" difficult (21%) or "very" difficult (8%) to understand. Further research could be conducted to uncover where anglers are having difficulty with the regulations. Results of new research could then be applied and measured against the baseline findings from this study to determine if angler understanding has improved.

Figure VI-1: Ease or difficulty of understanding trout stream regulations



Your regulations – I've never seen anything like it. Am I legal or not? Can I keep this fish or am I required to toss it back? If the stream isn't color-coded am I allowed to fish it for trout? Very confusing!

People don't read the book. If you read the regulation book you know what to do, where to fish, what you can keep. Trout fishing can be complicated if you don't know but if you read the book everything's right there.

An angler's ability to understand the trout stream regulations was further explored by years of trout fishing experience, the number of streams annually fished, the angler's overall assessment of stream fishing satisfaction and the angler's age. Somewhat of a surprise, correlations were not found between an angler's ability to understand the regulations and how many years the angler has been fishing for trout in Wisconsin or the number of streams annually fished. In other words, novice anglers were just as likely as experienced anglers, and anglers that fish one or two streams were just as likely as anglers that fish more than five streams to understand the regulations or to have some difficulty with the regulations. A correlation was found between an angler's ability to understand the regulations and the angler's assessment of steam fishing satisfaction. Of the anglers who found the regulations easy to understand, two-thirds (68%) were satisfied with their stream fishing experiences; 19 percent were dissatisfied with their experiences ($p < .000$). No difference in overall satisfaction was found for anglers who said the regulations were difficult to understand. A second correlation was observed between an angler's ability to understand the regulations and an angler's age. Younger anglers were more likely than older anglers to find the regulations easy to understand. Anglers under 30 years old (90%) and those between 30 and 39 years old (82%) were significantly more likely than anglers at least 60 years old (56%) to say the regulations are easy to understand ($p < .001$). As expected, anglers at least 60 years old (38%) were significantly more likely than anglers under 40 years old (12%) to have a difficult time understanding the regulations. This finding may foreshadow increased difficulty with the regulations as the baby-boomer population continues to age.

Based on the findings in Figure VI-1 it is not surprising to learn that anglers are generally satisfied with the stream regulations. Results of angler satisfaction are quite similar to those for angler understanding of the regulations – more than twice as many anglers are satisfied with the regulations than are dissatisfied.

Figure VI-2: Satisfaction with trout stream regulations

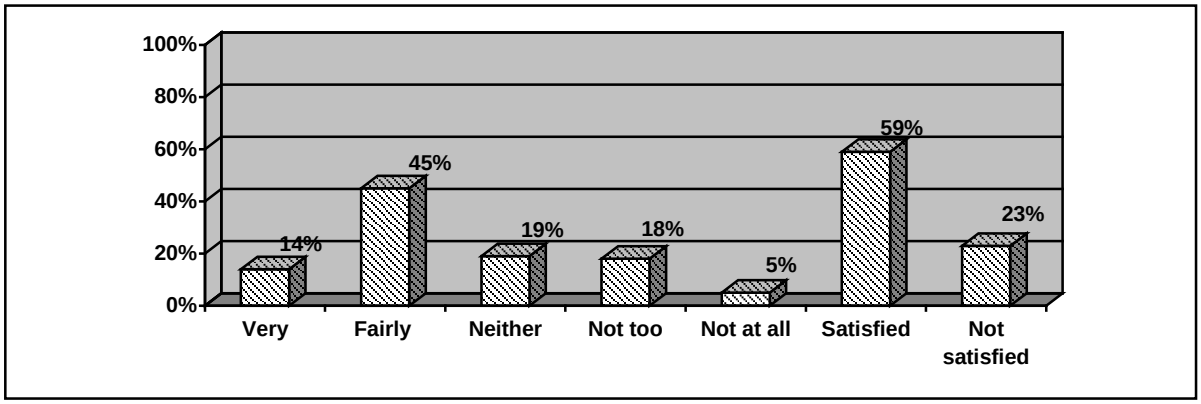


Figure VI-2 illustrates that nearly three-fifths of the anglers (59%) said they are "very" satisfied (14%) or "fairly" satisfied (45%) with the trout stream regulations. About one-fourth of the anglers (23%) were dissatisfied with the regulations; one angler in 20 (5%) was "not at all satisfied." About one angler in five (19%) was neither satisfied nor dissatisfied, indicating that they were indifferent or as one angler stated, "*The regulations are what they are.*"

Angler satisfaction with trout stream regulations was further explored by years of trout fishing experience, the number of streams annually fished, the angler's overall assessment of stream fishing satisfaction and the angler's age. Correlations were not found between regulation satisfaction and the angler's age or the number of streams annually fished; anglers that fish one or two streams were just as likely as anglers that fish more than five streams to be satisfied or dissatisfied with the regulations. A correlation was observed between regulation satisfaction and years of trout fishing experience. In general, anglers with more than ten years of trout fishing experience were more likely than anglers with at most ten years of experience to be satisfied with the trout stream regulations. However, anglers with the most experience (30 or more years), were significantly more likely (32%) than all other anglers (16%) to be dissatisfied with the regulations ($p < .007$). Is it possible that these more experienced anglers recall decades long past when trout streams were not as heavily regulated?

A second correlation was observed between regulation satisfaction and overall stream fishing satisfaction. Of the anglers who were satisfied with the regulations, approximately three-fourths (73%) were satisfied with their stream fishing experiences; 17 percent were dissatisfied with their experiences. Of the anglers who were dissatisfied with the regulations, nearly one-half (48%) were dissatisfied with their stream fishing experiences; 26 percent were satisfied with their experiences ($p < .000$).

The questionnaire asked anglers if the "regulations for a specific stream ever prevented you from fishing that stream?" Despite the relatively small percentages of anglers that indicated the regulations were difficult to understand (29%) and that were dissatisfied with the regulations (23%), a higher percentage of anglers said that regulations have kept them from fishing specific streams. *Two-fifths (41%) of the anglers reported that regulations for a specific stream have prevented them from fishing that stream.* Although a minority, the finding indicates that *some anglers are being displaced from streams they would like to fish because of the regulations for that stream.*

What effect, if any, does an angler's understanding of the regulations and satisfaction with the regulations have on whether or not an angler fishes a stream? Table VI-1 indicates a strong effect. Anglers that had difficulty understanding the regulations were significantly more likely to report that regulations for a stream prevented them from fishing that stream (71%) than were anglers who found the regulations easy to understand (28%) ($p < .000$). Similarly, anglers that were dissatisfied with the regulations were significantly more likely to report that regulations for a stream prevented them from fishing that stream (80%) than were anglers who were satisfied with the regulations (27%) ($p < .000$). Further, as one might expect, the more streams an angler fishes in a year, the more likely it is that the angler will experience regulations that prevent him/her from fishing a stream. Almost one-half of the anglers who fish more than five streams annually (46%) reported that regulations for a specific stream prevented them from fishing that stream; in comparison, one-third (32%) of the anglers who fish one or two streams said they avoided a stream because of its regulations.

Table VI-1: Have regulations for a stream ever prevented angler from fishing that stream

	Easy or difficult to understand stream regulations		
	Easy	**Unsure**	**Difficult**
Yes, prevented	28%	55%	71%
No, have not prevented	72	45	29
	Satisfaction or dissatisfaction with stream regulations		
	Satisfied	**Neutral**	**Dissatisfied**
Yes, prevented	27%	39%	80%
No, have not prevented	73	61	20

The questionnaire also asked anglers if they had stopped fishing a Wisconsin trout stream that they had fished in the past. *Just over two-fifths of all stream anglers (45%) reported that they had stopped fishing a previously fished stream.* Although a minority, the finding indicates that *some anglers are being displaced from streams they had previously fished.*

Numerous angler traits were found to influence whether or not a stream angler stopped fishing a stream. As expected, anglers that had difficulty understanding the regulations were significantly more likely to report that they stopped fishing a previously fished stream (60%) than were anglers who found the regulations easy to understand (39%) ($p < .000$). Similarly, anglers that were dissatisfied with the regulations were significantly more likely to report that they stopped fishing a stream (70%) than were anglers who were satisfied with the regulations (40%) ($p < .000$). Further, anglers that were dissatisfied with their overall stream fishing experiences were significantly more likely to report that they stopped fishing a previously fished stream (60%) than were anglers who were satisfied with their fishing experiences (38%) ($p < .01$).

Other correlations that were observed include:

Older anglers (at least 60 years old) were significantly more likely to report that they stopped fishing a previously fished stream (65%) than were younger anglers (under 30 years old) (26%) ($p < .007$). A nearly identical correlation was found for years of trout fishing experience: anglers with at least 20 years of experience were significantly more likely to report that they stopped fishing a previously fished stream (58%) than were anglers with at most ten years of experience (22%) ($p < .000$).

Anglers that "always" or "often" fish with live bait were significantly more likely to report that they stopped fishing a previously fished stream (53%) than were anglers who "never" or "rarely" fished with live bait (36%) ($p < .05$).

Anglers were asked to identify their reason(s) for no longer fishing a steam. Eight possible reasons were identified along with an open-ended "Another reason" option. A decline in trout numbers was the most frequently cited reason for no longer fishing a stream (Table VI-2). Just over one-half (52%) of the anglers that reported they had stopped fishing a stream did so because they believed there were fewer trout. Also noteworthy is that *nearly one-fourth (23%) of all stream anglers* said they no longer fish a stream because the number of trout in the stream had declined. Smaller trout and difficulty accessing streams due to landowner posting were each cited by nearly two-fifths (38%) of the anglers as reasons they now avoid a previously fished stream.

> *I used to fish much more often – back when the daily bag limit and possession limit was more liberal. I could take two trout fishing trips and have enough fresh trout for a family meal. Now, the possession limit is rarely enough for a good meal for one or two people, depending on fish size. It makes it much harder to justify the time and expense.*

The impact of stream regulations on permanent angler displacement was measured with three variables. Anglers' general dislike of regulations for a stream, regulations that prevent anglers from keeping trout, and angler difficulty with understanding the regulations were each cited by about one angler in five (20%) as reasons why they no longer fish a stream. Overall, nearly two-fifths (38%) of the anglers that indicated they had stopped fishing a stream cited the stream regulations as their reason. The bigger picture tells us that *17 percent of all stream anglers no longer fish a stream because of the regulations for that stream.*

Table VI-2: Reasons for not fishing a stream that angler previously fished

Reason	**% no longer fish a stream**	**% all stream anglers**
Trout numbers have decreased	52%	23%
Trout size has decreased	38	17
Access has become difficult (landowner posted)	38	17
Regulations	38	17
Dislike regulations for the stream	22	10
Regulations no longer allow me to keep trout	18	8
Regulations are difficult to understand	18	8
Difficult access due to overgrown stream banks	25	11
Poor health prevents angler from reaching fishing spot	5	2
Other reasons	30	13

A notable minority of anglers (25%) cited access difficulty from overgrown stream banks as a reason they no longer fish a stream. Overall, one stream angler in ten (11%) has stopped fishing a stream due to its overgrown banks. Only one angler in 20 (5%) explained that s/he no longer fished a stream because of poor health. Lastly, other reasons for no longer fishing a stream were offered by 30 percent of the anglers. A review of the comments, however, indicated few new reasons. Most comments were elaborations of the offered reasons (e.g., "just artificial baits allowed," "no trout in stream are legal size"). New themes (more than a single mention) which emerged, in no particular order, include:

Moved further away/ cost of travel / gasoline prices;

Lack of time;

Increase in fishing pressure from too many other anglers;

Decline in water quality / habitat degradation;

Increase in undesirable fish or wildlife (e.g., suckers, carp, otter, beaver);

Found better fishing elsewhere.

To increase our understanding of why anglers stopped fishing a particular stream, the eight possible reasons were further explored by considering numerous angler attributes. However, resulting analysis frequently produced cell sizes that were too small to offer valid application. Nevertheless, a few explanatory correlations were observed.

Anglers that cited a decline in trout numbers were significantly more likely to annually fish more streams: 81 percent fished at least three streams while only 19 percent fished one or two streams ($p < .039$).

Anglers that no longer fish a stream because the trout had become smaller were significantly less likely to be satisfied with their overall stream fishing experiences: 36 percent said they were satisfied with their stream fishing experiences while nearly one-half (48%) reported that they were dissatisfied ($p < .020$).

Anglers that cited any of the three regulation reasons for no longer fishing a stream were significantly less likely to be satisfied with their overall stream fishing experiences: 28 percent said they were satisfied with their stream fishing experiences while one-half (52%) reported that they were dissatisfied ($p < .034$).

NOTE: Correlations were not observed for accessibility difficulties due to landowner posting or overgrown stream banks or angler health.

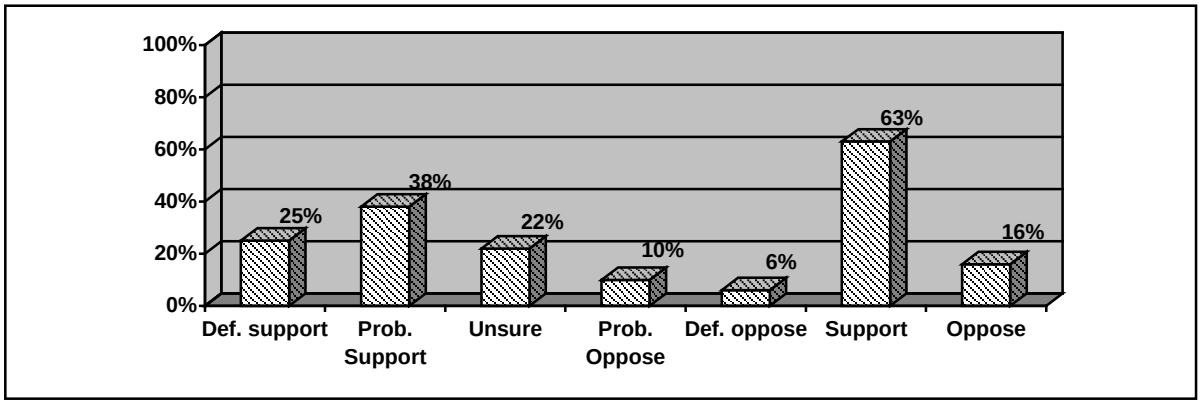
After assessing angler satisfaction with trout stream regulations and any impact the regulations may have on their participation, anglers were asked if they support or oppose numerous regulations, some hypothetical and others existing. Figures VI-3 and VI-4 present the results of the first two suggested regulations.

A majority of stream anglers support a new regulation to promote quality brown trout fishing. Respondents were presented with the following information:

> Some trout anglers have been asking for more **quality brown trout** fishing experiences (12 inches or greater) on Wisconsin streams. This would likely mean a variety of special regulations tailored to individual streams. Would you support or oppose new regulations which would promote quality brown trout fishing on more Wisconsin streams?

Nearly two-thirds of the anglers (63%) either “definitely” (25%) or “probably” (38%) support the regulation (Figure VI-3). Only 16 percent of the anglers oppose the regulation; about one angler in five (22%) is undecided.

Figure VI-3: Support or opposition for regulations to promote quality brown trout



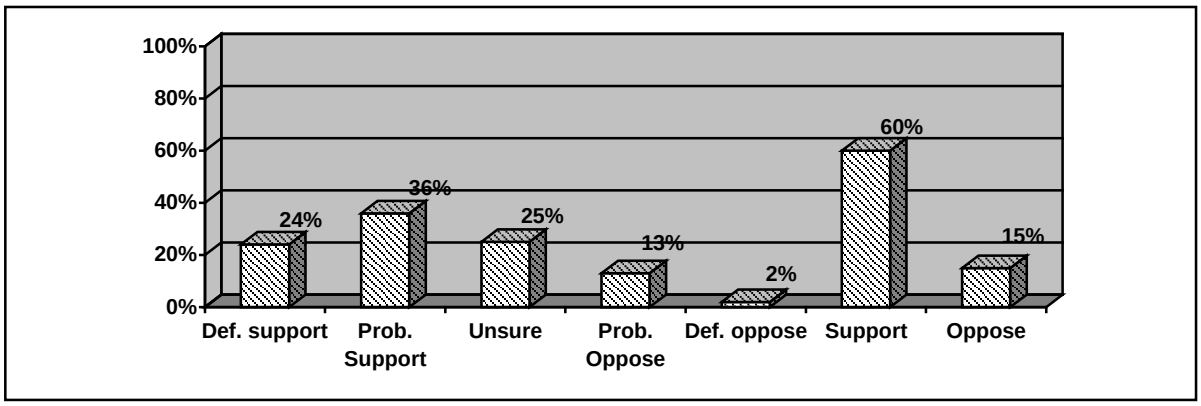
NOTE: Only four percent of the anglers indicated that they do not fish streams for brown trout. As a consequence, measuring support or opposition to the regulation by angler pursuit of brown trout was insignificant.

Nearly identical results are found when a new regulation intended to promote brook trout fishing is considered. Respondents were presented with the following information:

> Some anglers have also been asking for regulations that promote **wild brook trout**. One way to protect wild brook trout is to allow the liberal harvest of other trout. Would you support or oppose a liberal harvest of rainbow and brown trout on designated wild brook trout streams in order to promote brook trout?

Three-fifths of the anglers (60%) either "definitely" (24%) or "probably" (36%) support the regulation (Figure VI-4). Only 15 percent of the anglers oppose the regulation; one-fourth of the anglers (25%) are undecided.

Figure VI-4: Support or opposition for regulations to promote wild brook trout



NOTE: Only four percent of the anglers indicated that they do not fish streams for brook trout. As a consequence, measuring support or opposition to the regulation by angler pursuit of brook trout was insignificant.

> *I was particularly interested in the notion of allowing the harvesting of brown and rainbow trout as a management tool in streams where brook trout are being re-established as a wild fishery. My one suggestion would be to create a special designation for these sorts of streams (or perhaps some other means of identification)*

so that the fishing public will understand why there is an enhanced bag limit for a particular stream, and perhaps deliberately fish there to further the goal! Maybe explanatory signage at access points on those streams, or highlighting this management program in the annual trout regulations booklet. There likely also needs to be further education of the fishing public about why rainbows and browns would need to be reduced or eliminated in order for brookies to prosper in a stream.

Further analysis possibly indicates that anglers who are satisfied with and understand the current regulations are likely to support new regulations. Cross-tab analyses revealed that anglers who find the current regulations difficult to understand and who are dissatisfied with the current regulations are less likely to support new regulations intended to promote quality brown trout fishing and brook trout fishing. Of the anglers who have difficulty understanding the current regulations, less than one-half (47%) support a new brown trout regulation while nearly seven anglers in ten (69%) that find the regulations easy to understand support the new regulation ($p < .009$). Similarly, of the anglers who are dissatisfied with the current regulations, 38 percent support a new brown trout regulation; nearly three-fourths (73%) of the anglers that are satisfied with the regulations support the new regulation ($p < .000$). Similar results were found when a new brook trout regulation was considered. Of the anglers who have difficulty understanding the current regulations, just over one-half (54%) support a new brook trout regulation while nearly two-thirds of the anglers (64%) that find the regulations easy to understand support the new regulation ($p < .010$). Lastly, of the anglers who are dissatisfied with the current regulations, just over one-half (56%) support a new brook trout regulation whereas two-thirds of the anglers (66%) that are satisfied with the regulations support the new regulation ($p < .001$).

Questions on trout stream regulations concluded by asking anglers if they support or oppose 11 existing and hypothetical regulations. The regulations were organized under four themes: bag limits, artificial and live bait, size limits and regulation uniformity. The conclusions drawn from the data in Table VI-3 will be discussed by theme.

First, anglers want the option of harvesting trout. Regulations that allow trout to be harvested were supported by three-fourths (76%) of all stream anglers; nearly one-half of the anglers (46%) "strongly" support regulations that allow harvest. Less than one angler in ten (6%) opposed harvest regulations. This conclusion is further supported by noting that three-fifths of the anglers (61%) opposed catch-and-release only regulations on the streams they fished. Anglers also offered opinions in support of resource protection. Nearly two-thirds (64%) opposed regulations that would allow an angler to harvest six to ten trout; more than two-fifths (43%) of the anglers "strongly" opposed high harvest regulations. Only one angler in six (17%) supported a high harvest regulation. Between the extremes of catch-and-release only and a high harvest of six to ten fish, a majority of anglers had a preference for regulations that allowed a harvest of three to five trout; more than one-half of the anglers (57%) supported such regulations while about one-fifth of the anglers were either indifferent (20%) or opposed (23%). A low bag limit of one to two trout was supported by significantly fewer anglers; two anglers in five (40%) supported low harvest regulations while a nearly equal percentage (38%) opposed low harvest regulations.

For me a big part of the fun of fishing is bringing home a meal. The trout laws are too tight, like they're anti fishing for food. Loosen up the laws so we can keep more fish.

I first learned to fish when I was six year's old on the Prairie River near Dudley in Lincoln County. I learned from my father and grandfather "you eat what you catch" -- fish are for eating. Fish are low in the food chain. Deer are much higher in the food chain. Did you ever hear of catch and release with deer? Hunting and fishing is to provide food. It should not be just for fun.

I fish trout only for joy it has afforded me over the past 50 years. I very seldom take any trout except when my wife likes an occasional meal of no more than three fish.

Support or opposition to the five bag limit regulations were further explored by looking at anglers' fishing methods and by years of trout fishing experience. Crosstab analysis revealed:

Regardless of fishing method, anglers want the option of harvesting fish, that is, they oppose a zero bag limit on the streams they fish. Anglers that "often" or "always" use live bait were significantly more likely to oppose the regulation than to support it ($p < .000$). Likewise, anglers that "often" or "always" use artificials were significantly more likely to oppose the regulation ($p < .000$). A correlation was not found between years of trout fishing experience and support or opposition to the regulation.

Anglers that "often" or "always" use live bait were significantly more likely to support than oppose a regulation allowing the harvest of trout on the streams they fish ($p < .000$). A correlation was not found between users of artificials and support or opposition to the regulation. This disparity is likely explained by bait anglers having a stronger desire than users of artificials to keep fish for eating (see discussion following Table III-6). Regardless of years of trout fishing experience, anglers support a harvest regulation. Anglers with the fewest years of experience as well as those with the most years of experience were significantly more likely to support than oppose a regulation allowing them to harvest trout ($p < .014$).

Anglers displayed mixed results for a low bag limit of one to two trout. Anglers that "often" or "always" use live bait were significantly more likely to oppose the regulation than to support it ($p < .001$). In contrast, anglers that "often" or "always" use artificials were significantly more likely to support the regulation ($p < .003$). As discussed above, this disparity is likely explained by bait users having a stronger desire than artificial users to keep fish for eating; a limit of one to two trout is likely judged to be insufficient for a meal. An additional disparity was found when the regulation was explored by anglers' years of trout fishing experience. Anglers with the fewest years of experience were significantly more likely to support the regulation while anglers with the most years of experience were significantly more likely to oppose the regulation ($p < .004$). Given that the most experienced anglers had previously shown strong support for a harvest regulation, it's unclear why they would be more likely to oppose than support a harvest regulation of one or two trout. Perhaps the opposition stems from the limit being too low; it's insufficient for a meal?

Regardless of fishing method, the desire to harvest trout is further demonstrated by angler support for a bag limit of three to five trout. Anglers that "often" or "always" use live bait were significantly more likely to support the regulation than oppose it ($p < .000$). Likewise, anglers that "often" or "always" use artificials were significantly

more likely to support the regulation ($p < .020$). A correlation was not found between years of trout fishing experience and support or opposition to the regulation.

Regardless of fishing method, anglers displayed an ethic of conserving the resource; they want to protect stream trout from being over-harvested via a bag limit of six to ten trout. Anglers that "often" or "always" use live bait were significantly more likely to oppose the regulation than support it ($p < .018$). Likewise, anglers that "often" or "always" use artificials were significantly more likely to oppose the regulation ($p < .018$). A correlation was not found between years of trout fishing experience and support or opposition to the regulation.

As previously noted, the vast majority of stream anglers pursue trout with live bait. It should come as little surprise that considerably more anglers oppose regulations that prohibit the use of live bait as support the regulations. Approximately one-half of the anglers (49%) oppose regulations that only allow spinners, lures or flies while one-third of the anglers (34%) support such regulations. A considerable minority of anglers (42%) oppose regulations that allow the use of bait on catch-and-release streams only. A possible interpretation is that anglers were again displaying opinions in favor of resource protection since trout caught on live bait are less likely to survive after being released than trout caught on artificials (flies, in particular).

> *Too many streams are becoming live bait restricted. I am all for catch and release only – in some cases it's needed – but let us use live bait in the process.*

When the use of artificials or live bait is considered by fishing method, the results are as one might expect. Anglers who "never" or "rarely" use artificials were significantly less likely to support a regulation prohibiting the use of live bait than were anglers who "often" or always" use artificials ($p < .000$). Further, anglers who "never" or "rarely" use live bait were significantly less likely to support a regulation allowing live bait on catch-and-release streams than were anglers who "often" or always" use live bait ($p < .007$).

Years of fishing experience was also correlated to support or opposition to the proposed regulations. Anglers with the most years of trout fishing experience (at least 30 years) were significantly more likely than anglers with the least years of experience (not more than ten years) to oppose a regulation prohibiting the use of live bait ($p < .05$) as well as a regulation allowing live bait on catch-and-release streams ($p < .005$).

Results of size limit regulations mirror those of the harvest options; anglers want to protect trout from over-harvest but they also would like to have the option of keeping a large trout. Approximately seven anglers in ten (69%) opposed stream regulations that did not include a size limit for harvesting; two-fifths of the anglers (40%) "strongly" opposed an open size limit regulation. However, anglers want the option of harvesting a large trout if they catch one. Nearly three-fifths of the anglers (59%) opposed regulations that would prohibit keeping trout that are at least 12 inches; one-fifth (20%) of the anglers supported a 12-inch regulation.

I think to increase quality size trout on streams we should remove size limits and lower bag limits on those streams. Most fisherman don't like lower bag limits and they will take home badly hooked fish. The size limit increases trout mortality because more fish are handled to get a "limit" than need be.

Table VI-3: Support or opposition to various trout stream regulations

Regulation "For the streams you fish..."	**Percent Support**	**Neutral or Unsure**	**Percent Oppose**
Bag limits			
Regulations allow harvest of trout	76%	17	6
Fishing restricted to catch & release (0 bag limit)	11%	11	61
Regulations allow low bag limit of 1-2 trout	40%	21	38
Regulations allow bag limit of 3-5 trout	57%	20	23
Regulations allow higher bag limit of 6-10 trout	17%	19	64
Artificials and live bait			
Only artificials allowed (spinners, lures, flies)	34%	18	49
Regulations allow live bait on catch & release streams	29%	29	42
Size limits			
There is no size limit	19%	13	69
Only trout under 12" may be harvested	20%	21	59
Uniform regulations			
Regulations are the same for entire stream	66%	23	11
Nearby streams have the same regulations (uniform regulations in a geographic area)	58%	23	19

NOTE: Results should be read across rows.

Further analysis revealed little to help explain angler support or opposition to the two size limit regulations. No statistical difference was found when anglers' years of experience were considered. Looking at fishing methods, a statistical difference was found for users of live bait. Anglers that "often" or "always" use live bait were significantly more likely than those who "rarely" or "never" use live bait to oppose a regulation prohibiting the harvest of trout 12 inches or greater ($p < .000$). Two interpretations are possible. First, anglers know that trout caught on live bait are less likely to survive after being released than trout caught with flies or other artificials, so rather than "wasting the resource" harvesting the trout (regardless of size) should be permitted. Second, presumably live bait users are hoping to bring home an occasional meal of trout so harvesting a few larger fish (of 12 inches or greater) would assist with that goal.

Lastly, anglers prefer simplicity. There was strong and consistent support for uniform regulations on the same stream and across nearby streams. Having a single set of regulations for an entire stream was supported by two-thirds (66%) of the anglers; only one angler in ten (11%) opposed uniform stream regulations. Similarly but to a slighter extent, a majority of anglers (58%) supported having the same regulations for geographically nearby streams; nearly equal percentages of anglers opposed (19%) or were indifferent to (23%) geographically uniform regulations.

No statistical differences were found for uniform regulations based on an angler's' years of experience. Statistical differences were found for uniform regulation based on an angler's understanding of and satisfaction with trout fishing regulations. Anglers that had difficulty understanding the current regulations and those who were dissatisfied with the regulations were significantly more likely to support uniform stream regulations than were anglers that had no difficulty understanding the regulations and were satisfied with the regulations.

A uniform set of regulations for an entire stream received significantly more support from anglers that said the current regulations were difficult to understand (87%) than anglers who found the regulations easy to understand (56%) ($p < .000$).

A uniform set of regulations for an entire stream received significantly more support from anglers that were dissatisfied with the current regulations (87%) than anglers who were satisfied with the regulations (48%) ($p < .000$).

Similar correlations were observed for uniform regulations across geographically nearby streams. A uniform set of regulations across a geographic area received significantly more support from anglers that said the current regulations were difficult to understand (84%) than anglers who found the regulations easy to understand (48%) ($p < .000$).

A uniform set of regulations across a geographic area received significantly more support from anglers that were dissatisfied with the current regulations (74%) than anglers who were satisfied with the regulations (48%) ($p < .000$).

Section VII: Familiarity and Satisfaction with Trout Stream Programs

Anglers were asked their familiarity and satisfaction with four statewide programs designed to protect and enhance Wisconsin's stream trout fishery. These programs include: Wisconsin's Beaver Damage Management Program, the Stream Access Program, the Stream Habitat Restoration Program, and Wisconsin's Wild Trout Stocking Program. Questions were asked only of anglers with stream fishing experience; anglers that exclusively fished inland lakes and ponds were instructed to skip the questions.

To anticipate the findings, a majority of anglers were *at least aware* of each program, however, at most only one-third of the anglers said they were *quite familiar* with a program. Anglers were most familiar with the Stream Habitat Restoration Program (81% aware); they were least familiar with the Beaver Damage Management Program (48% unaware). These findings point to the need for increased outreach efforts to inform anglers of management efforts intended to improve the fishery and the fishing experience. This suggestion is offered in response to findings from the lapsed trout angler study. That study found that the quality of the trout fishery at the angler's favorite water as well as poor stream access and conditions explained lapsed participation for about one angler in ten. *Anglers should be aware that management efforts are being directed to address their concerns and desires.* As one respondent commented:

> *I don't understand where all the trout money is going from the licenses and stamps…trout fishing isn't what it was when I started…too many stunted fish and not wild trout. Where did all the wild trout go?...And the creeks and rivers are worse – carp and suckers! Sometimes the water is so cloudy it's pointless. Seems like waters were clearer when I was a kid.*

Anglers also need an understanding that events beyond management control such as drought and climate change may influence perceptions of quality and angler satisfaction. These findings also provide benchmarks for measured improvement. In other words, can renewed outreach efforts increase angler awareness of management programs and perhaps most important, can program awareness and understanding lead to angler support measured by continued participation?

The questionnaire described the Stream Habitat Restoration Program as being "developed to improve and restore trout carrying capacity by reversing the loss of trout habitat in streams. The program is funded by revenue generated from the sales of the inland trout stamp." Anglers were most familiar with this program. Table VII-1 tells us that eight anglers in ten (81%) had at least heard of the program; one-third (33%) of the anglers said they were quite familiar with the program but nearly one-half (48%) said they knew little about it. One angler in five (20%) was unaware of the program.

Of those who were familiar with the program, the vast majority reported they were satisfied with it. One-third (33%) said they were very satisfied and 46 percent said they were fairly satisfied. Only one angler in ten (9%) said s/he was not satisfied with the program. Although satisfaction was undefined (it was left to the respondents' interpretation), any displeasure with the program would have been reflected in the dissatisfaction measure.

Table VII-1: Familiarity and satisfaction with the Stream Habitat Restoration Program

Familiarity and satisfaction with program (quite familiar)	**Percent responding (stream anglers)**
Unaware of program	20%
Heard of program but know little about it	48
Quite familiar with program (n = 95)	33
Satisfied	79%
Neither satisfied nor dissatisfied	12
Dissatisfied	9

As far as the Stream Restoration Program I feel that it narrows the stream down too much and after a few years, the brush and grass overhang the stream and fishing becomes very difficult. The cutting of brush and tying it alongside the stream is a bad idea. It's very difficult to walk through.

The streams in Wisconsin are great! … Seems like a good balance between needed habitat for the trout and good access, easy to walk the banks for the fisher guy. You gotta have a balance between habitat and access otherwise no one will fish and there may be no fish!

I think more should be done with habitat improvement, such as farm runoff and nonpoint pollution. We need much stricter regulations to stop invasive species and we should consider dam removal and get back to wild rivers.

I feel that on some streams the aggressive cutting of trees is a mistake. Brown trout thrive in low strewn areas on a stream. In many areas I feel you are catering to fly fisherman who don't want obstructions on their backcast. I realize that speeding up the flow on streams keeps oxygen content higher and the water lower but leave some of the good holes with logs and undercuts alone. All good trout habitat does not have to be created by backhoes and boulders. Leave more up to Mother Nature.

Wisconsin's Wild Trout Stocking Program was "developed to better maintain the characteristics of wild trout as well as the genetic diversity found in wild trout populations. Eggs are collected and fertilized from wild trout and raised in hatcheries at reduced densities with little human contact. These trout have better survival rates and live longer than do trout developed in hatcheries that are many generations removed from the wild." Although seven in ten (71%) had at least heard of the program, only one-fifth (22%) said they were quite familiar with it (Table VII-2). One-half (49%) of the anglers said they knew little about the program and three anglers in ten (30%) were unaware of it.

Satisfaction ratings were similar to those found for the Stream Habitat Restoration Program. Of those who were familiar with the Wild Trout Stocking Program, just over three-fourths (77%) reported they were satisfied with it. One-fifth (22%) said they were very satisfied and more than one-half (55%) said they were fairly satisfied. Less than one angler in ten (8%) said s/he was not satisfied with the program.

Table VII-2: Familiarity and satisfaction with Wisconsin's Wild Trout Stocking Program

Familiarity and satisfaction with program (quite familiar)	**Percent responding (stream anglers)**
Unaware of program	30%
Heard of program but know little about it	49
Quite familiar with program (n = 64)	22
Satisfied	77%
Neither satisfied nor dissatisfied	14
Dissatisfied	8

The questionnaire explained that the Stream Access Program was "developed to protect streams from harmful land management practices by purchasing and leasing lands along trout streams. Lands that are purchased or leased through this program allow trout anglers an opportunity to fish without fear of trespass." More anglers are unaware of this program than the two previously discussed programs. Although three-fifths (62%) of the anglers had at least heard of the program, only one angler in five (20%) said s/he was quite familiar with it and nearly two-fifths (38%) said they were unaware of it (Table VII-3). Given that the Department frequently hears from recreationists that access to land and water resources is an impediment to participation, this program likely warrants renewed outreach efforts.

Satisfaction ratings were similar to those found for the two previously discussed programs. Of those who were familiar with the program, eight anglers in ten (82%) reported they were satisfied with it. Thirty percent said they were very satisfied and slightly more than one-half (52%) said they were fairly satisfied. Approximately one angler in ten (9%) said s/he was not satisfied with the program.

Table VII-3: Familiarity and satisfaction with the Stream Access Program

Familiarity and satisfaction with program (quite familiar)	**Percent responding (stream anglers)**
Unaware of program	38%
Heard of program but know little about it	42
Quite familiar with program (n = 60)	20
Satisfied	82%
Neither satisfied nor dissatisfied	10
Dissatisfied	9

Anglers were least aware of Wisconsin's Beaver Damage Management Program. The program was described in the questionnaire as being developed "to remove beaver and beaver dams from designated streams in order to restore and maintain them as free flowing coldwater systems." Nearly one-half (48%) of the anglers indicated that they did not know the program existed. Two-fifths (41%) of the anglers had heard of the program but knew little about it and only one angler in ten (11%) said s/he was quite familiar with the program (Table VII-4).

Satisfaction ratings should be viewed with a skeptical eye given the small number of anglers familiar with the program (n = 32). Results, however, may be suggestive of wider opinions; they also differ from those found for the previous programs. A higher percentage of anglers were dissatisfied with this program and a smaller percentage of

anglers were satisfied with it. Of those who were familiar with the program, more than one-third (36%) said they were dissatisfied with it; one-fourth (24%) indicated strong dissatisfaction. Less than one-half (42%) said they were satisfied with the program; only 12 percent indicated strong satisfaction. Further research would help explain the relatively low levels of satisfaction, though I speculate the ratings reflect the Department's inability to respond to all beaver damage problems.

Table VII-4: Familiarity and satisfaction with Wisconsin's Beaver Damage Management Program

Familiarity and satisfaction with program (quite familiar)	**Percent responding (stream anglers)**
Unaware of program	48%
Heard of program but know little about it	41
Quite familiar with program (n = 32)	11
Satisfied	42%
Neither satisfied nor dissatisfied	21
Dissatisfied	36

> *In the past ten years I've seen a steady decline in the quality of the streams I used to fish because of low water conditions…All these creeks at one time or another had beaver dams and provided plenty of water and excellent trout fishing. I realize that the Wisconsin Beaver Damage Management Program has tried to eliminate the beaver through trapping and other measures. I feel the beaver is an important part of nature just as other animals are and should be treated accordingly.*

As expected, years of trout fishing experience is correlated with familiarity of trout management programs. Although a linear relationship was not found, meaning anglers' familiarity did not correspondingly increase with years of fishing experience, significant differences in familiarity were found for anglers with the fewest years of experience. Anglers with at most ten years of trout fishing experience were significantly less likely to be familiar with a management program and more likely to be unaware of the program. For these less-experienced anglers, only seven percent were familiar with the Beaver Damage Management Program, while two-thirds (65%) were unaware of the program ($p < .000$); 16 percent were familiar with the Stream Access Program, while just more than one-half (53%) were unaware of the program ($p < .013$); one-fourth (24%) were familiar with the Stream Habitat Restoration Program, while one-third (32%) were unaware of it ($p < .028$); and although not statistically significant, 15 percent were familiar with the Wild Trout Stocking Program while more than twice as many (38%) were unaware of the program.

Looking at additional questions further underscores the impact of anglers' familiarity with a management program on their assessment of their trout fishing experiences. In general, anglers that were familiar with a trout management program were more inclined to say their trout fishing experiences were satisfying than were anglers unaware of the program. In other words, *familiarity with management efforts may bolster angler satisfaction.* More than two-thirds (68%) of anglers that were familiar with the Stream Habitat Restoration Program rated their stream fishing experiences as satisfying while one-half (49%) of anglers that were unaware of the program rated their experiences as satisfying ($p < .02$); nearly two-thirds (64%) of anglers that were familiar with the Stream

Access Program rated their fishing experiences as satisfying while one-half (50%) of anglers that were unaware of the program rated their experiences as satisfying ($p < .06$). A substantive but non-statistical difference was found with the Wild Trout Stocking Program: three-fifths (62%) of anglers that were familiar with the program rated their fishing experiences as satisfying while more than one-half (57%) of anglers that were unaware of the program rated their experiences as satisfying. (A correlation was not found between fishing satisfaction and familiarity with the Beaver Damage Management Program probably due to the small number of respondents that were familiar with the program.)

Lastly, an angler was more likely to say that stream access as well as stream fishing opportunities had improved over time if the angler was familiar with the Stream Access Program. Of the anglers that were familiar with the Stream Access Program one-half (49%) said that stream access had become much better over time while about one angler in ten (12%) said access had worsened ($p < .000$). Also, of the anglers that were familiar with the program, nearly one-half (48%) said that stream fishing opportunities had become much better over time while 16 percent of the anglers said opportunities had worsened ($p < .000$). (**NOTE:** surprisingly, correlations were not found between the importance an angler placed on stream stocking and familiarity with the Wild Trout Stocking Program.)

Section VIII: Trout Fishing at Wisconsin Inland Lakes and Ponds

This section discusses trout fishing participation at Wisconsin inland lakes and ponds during 2011. The questionnaire did not explore lake and pond fishing to the same extent as that explored for stream trout fishing. Nevertheless, it provides a synopsis of lake/pond trout fishing in Wisconsin – a recreation that has not been adequately reported until now. To anticipate the discussion that follows, this section addresses how many trout anglers pursue trout in waters other than streams, the techniques used by anglers, perceived changes in lake/pond fishing over time, potential season frameworks, and angler satisfaction with their lake/pond trout fishing experiences.

Trout fishing at an inland lake or pond is not as widely practiced as stream trout fishing. Overall, just over two-fifths (43%) of the anglers said they fished a Wisconsin inland lake or pond for trout during 2011 (Table VIII-1). (Recall that 90 percent of the anglers reported fishing for trout on a Wisconsin stream during 2011.) Of the 43 percent that are lake/pond trout anglers, it's a minority (24%) that pursued trout exclusively at these waters; the vast majority also pursued trout at streams (76%).

Table VIII-1: Percent of anglers that fished Wisconsin inland lakes and ponds during 2011

Participation	**Percent responding**
Fished inland lake/pond in 2011	
No	57%
Yes	43
Fished lakes/ponds only	24%
Fished lakes/ponds and streams	76

Overall, anglers fished an average of slightly more than two inland lakes or ponds during 2011 (Table VIII-2). Three-fourths (76%) of the anglers visited one or two lakes or ponds to fish for trout. Anglers that pursue trout at both streams and lakes/ponds were more likely to visit a greater number of different lakes/ponds (1.85) than anglers who pursue trout exclusively at lakes/ponds (1.45) ($p < .019$). Approximately three in ten (31%) anglers who pursue trout exclusively at lakes/ponds visited more than one waterbody; nearly two-thirds (59%) of anglers who pursue trout at both streams and lakes/ponds visited more than one waterbody.

Table VIII-2: Number of different Wisconsin lakes/ponds fished during 2011

Number of lakes/ponds	**Lakes/ponds only**	**Lakes/ponds and streams**	**Total**
1 lake/pond	69%	41%	48%
2 lakes/ponds	17	32	28
3+ lakes/ponds	14	27	24
Mean	1.45	1.85	2.26

Correlations were not found between the number of different lakes/ponds fished and the anglers' years of trout fishing experience or with their satisfaction with their experiences at trout lakes or ponds. Those who fish one lake/pond or three lakes/ponds were just as likely to have a few years or many years of trout fishing experience; and those who fish one lake/pond or three lakes/ponds were just as likely to be satisfied of dissatisfied with

their fishing experiences. A correlation was found between the number of different lakes/ponds fished and an angler's age. Anglers who fished only one pond were significantly more likely to be older (at least 50 years old); those who fished two or more ponds were more likely to be younger (under 40 years old) ($p < .03$).

Lake and pond trout anglers practice techniques similar to stream trout anglers. More anglers pursued trout with live bait than any other fishing technique (Table VIII-3). Two-thirds (65%) of the anglers "often" or "always" used live bait when trout fishing at a lake or pond. In comparison, spinners or lures and artificial flies were used with the same frequency by 57 percent and 16 percent, respectively, of the trout anglers. Though fly fishing is frequently associated with the pursuit of trout, it was not commonly practiced by lake/pond anglers. Two-thirds (65%) of the anglers said they "never" or "rarely" fished for trout at lakes/ponds using artificial flies. When spinners, lures and artificial flies are combined, frequency of use (reporting "often" or "always") is similar to that found for bait use (60% and 65%, respectively).

Table VIII-3: Frequency of use of three fishing techniques

Frequency of use	**Live bait**	**Spinners or lures**	**Artificial flies**	**Combined spinners, lures, flies**
Never	8%	9%	43%	5%
Rarely	10	9	22	9
Sometimes	17	25	19	28
Often	38	45	8	45
Always	27	12	8	15

One might hypothesize that the pursuit of trout with artificial flies might be a more common practice for anglers who also fished at streams than for non-stream anglers. This was not found; neither a substantive nor a statistical difference in the use of artificial flies was found between anglers who exclusively fished lakes or ponds and those who also fished streams. This non-difference was also found for bait use. A correlation, however, was found between the use of spinners or lures and waterbodies fished. Anglers that exclusively fished lakes or ponds were significantly more likely than anglers who also fished streams to "always" use spinners or lures when fishing for trout at a lake or pond ($p < .031$).

Most trout anglers at inland lakes or ponds are consumptive anglers, that is, they fish to put trout on the plate. Overall, three-fourths (75%) of the anglers said they "sometimes" or more frequently keep trout for eating; nearly one-half (48%) "often" or "always" keep the trout they catch (Table VIII-4). Only one-fourth (26%) of the anglers said they "rarely" or "never" keep trout from lakes or ponds. Anglers that pursued trout exclusively at lakes/ponds were more likely to keep the trout they catch than were anglers who also fished streams. Approximately seven in ten (71%) anglers who pursued trout exclusively at lakes/ponds said they "often" or "always" kept their catch; approximately two-fifths (41%) of anglers who pursued trout at both streams and lakes/ponds said they "often" or "always" kept their catch ($p < .024$).

Table VIII-4: Frequency of keeping trout from lakes/ponds for eating

Frequency of trout kept for eating	Lakes/ponds only	Lakes/ponds and streams	Total
Never	3%	14%	11%
Rarely	11	15	15
Sometimes	14	31	27
Often	37	21	25
Always	34	20	23

A statistical correlation was not found between the anglers' propensity to keep their catch and their satisfaction with their experiences at lakes and ponds. A substantive difference was found. A greater percentage of anglers that "always" or "often" kept their catch were more likely to be satisfied (63%) with their trout fishing experiences than were anglers that "rarely" or "never" kept their catch (41%).

Respondents were given the opportunity to tell us if four attributes of inland trout lakes and ponds had improved, become worse or remained relatively unchanged during their years of trout fishing. The attributes included fishing opportunities at inland lakes/ponds; the size of the trout in the waters; the number of trout in the waters; and the water quality at inland lakes/ponds. Results are encouraging for perceptions of water quality but less so for fishing opportunities, trout size and trout numbers.

Table VIII-5: Angler perception of change over time of four trout lake/pond attributes

Perceived change	Quality of water	Size of trout in waters	Number of trout in waters	Fishing opportunities
Much/Somewhat better	26%	18%	20%	24%
Unchanged	48	42	31	36
Somewhat/Much worse	14	25	35	26
Unsure	12	15	13	15

NOTE 1: Statistical differences were not found when analyzed by anglers' experience with stream fishing, meaning perceptions of change were similar for anglers that fished both streams and inland lakes/ponds and anglers that fished exclusively inland lakes/ponds.
NOTE 2: Statistical differences were not found when analyzed by anglers' years of experience, meaning perceptions of change were similar regardless of how many years an angler had been trout fishing at inland lakes/ponds.

More anglers thought that water quality at inland lakes and ponds had become better (26%) during their years of trout fishing than had become worse (14%) (Table VIII-5). Almost one-half (48%) of the anglers reported that water quality had remained unchanged and about one angler in ten (12%) was unsure of how water quality may have changed.

Slightly more anglers thought the size of trout in inland lakes and ponds had become worse (interpreted as "smaller") (25%) than had become better (interpreted as "larger") (18%). About two-fifths (42%) of the anglers reported that the size of trout in the waters had remained unchanged; about one angler in seven (15%) was unsure of how trout size may have changed.

Anglers' perception of how the number of trout in inland lakes and ponds had changed was most disturbing. Considerably more anglers said the number of trout had become worse (interpreted as "fewer") (35%) during their years of fishing than said the number of trout had become better (interpreted as "more") (20%). Three anglers in ten (31%) reported that the number of trout had remained unchanged; about one angler in eight (13%) was unsure of how trout numbers may have changed.

Opportunities to fish for trout in inland lakes and ponds are more evenly distributed. Nearly equal percentages of anglers said trout fishing opportunities had become better (24%) as said those opportunities had become worse (26%). Slightly more than one-third (36%) of the anglers reported that trout fishing opportunities had remained unchanged; about one angler in seven (15%) was unsure of how trout size may have changed. It should be noted that opportunities to fish at inland lakes and ponds may be a measure of angler behavior rather than perception since opportunities to pursue trout are to a great extent, dependent on an angler's willingness to make time for the activity (refer to the lapsed trout angler report). It's also worth noting that results are similar to those found for stream anglers; regardless of waterbody, anglers had similar perceptions of fishing opportunities (see Table III-7).

Respondents were asked whether they support or oppose three different seasons for trout fishing at inland lakes and ponds. The seasons included:

the current inland lake season (opening the first Saturday in May with a closing date that varies by lake);

an inland lake season that opens the first Saturday in May and closes on all waters the first Saturday of the following March;

a year-round open inland lake season.

Results do not provide a clear preference for one season over another. A majority of anglers neither supported nor opposed a potential season structure. Given that one-half of the anglers did not outright support the current season structure indicates that a more preferable season may exist. The results, however, indicate that any alternative to the current season may not meet with majority support.

Table VIII-6 indicates that more anglers support (49%) the current season structure than oppose it (18%). One-third (33%) of the anglers were either indifferent to the season or were unsure of their support or opposition. Nearly identical results were found for a season that opened the first Saturday in May and closed on all waters the first Saturday of the following March. One-half (50%) of the anglers supported the proposed season, about one-fifth (18%) opposed the season and one-third (32%) were unsure or indifferent. Results for the year-round season differed somewhat from the other two seasons. Compared to the other two seasons, a smaller percentage of anglers (40%) supported a

year-round season while a higher percentage of anglers opposed the season (34%). About one-fourth (26%) of the anglers were unsure of or indifferent towards the season.

Table VIII-6: Angler support or opposition to three inland lake seasons

Potential season	Stongly/ Moderately Support	Unsure/ Neutral	Moderately/ Stongly oppose
Current season structure	49%	33	18
First Saturday in May and closes on all waters the first Saturday of the following March	50%	32	18
Year-round inland lake season	40%	26	34

NOTE 1: Results should be read across rows.
NOTE 2: Statistical differences were not found when analyzed by anglers' experience with stream fishing, meaning season preference was similar for anglers that fished both streams and inland lakes/ponds and anglers that fished exclusively inland lakes/ponds.
NOTE 3: With one exception, statistical differences were not found when analyzed by anglers' years of experience, meaning season preference was similar regardless of how many years an angler had been trout fishing at inland lakes/ponds. Anglers with the most years of trout fishing experience were more likely to support a year-round season than were anglers with the fewest years of experience ($p < .011$).

Respondents also had the opportunity to evaluate their satisfaction with three attributes of inland trout lakes and ponds. The attributes included how inland lakes and ponds are categorized for trout size and bag limit; trout fishing seasons for inland lakes and ponds; and quality trout fishing experiences at inland lakes and ponds. In general, results are encouraging with considerably more anglers satisfied than dissatisfied with the attributes.

How inland lakes and ponds are categorized for trout size and bag limit was met with approval by approximately three-fifths (59%) of the anglers (Table VIII-7). Only one angler in ten (10%) was dissatisfied with how lakes and ponds are categorized; one-third of the anglers were unsure or indifferent towards how waters were categorized.

Similar results were found for angler satisfaction with trout fishing seasons at inland lakes and ponds: more than one-half (56%) were satisfied with the current season structure; one angler in ten (10%) was dissatisfied; one-third (34%) was unsure or indifferent. Angler assessment of quality experiences at inland lakes and ponds was less encouraging. While a higher percentage of anglers was satisfied than dissatisfied with lakes and ponds providing quality experiences, it was less than one-half (45%) that were satisfied. Put another way, more than one-half of the anglers have not found quality fishing experiences at Wisconsin inland trout lakes and ponds.

Table VIII-7: Angler satisfaction with three attributes of trout lakes/ponds

Attribute	Very/ Fairly Satisfied	Unsure/ Neutral	Fairly/ Very dissatisfied
How inland lakes/ponds are categorized for trout size and bag limit	59%	32	10
Trout fishing seasons for inland lakes and ponds	56%	34	10
Quality trout fishing experiences at inland lakes and ponds	45%	37	18

NOTE 1: Results should be read across rows.
NOTE 2: Statistical differences were not found when analyzed by anglers' experience with stream fishing, meaning satisfaction ratings were similar for anglers that fished both streams and inland lakes/ponds and anglers that fished exclusively inland lakes/ponds.
NOTE 3: Statistical differences were not found when analyzed by anglers' years of experience, meaning satisfaction ratings were similar regardless of how many years an angler had been trout fishing at inland lakes/ponds.
NOTE 4: Anglers that were satisfied with the seasons for inland lakes and ponds were: significantly more likely to support than oppose the current season structure (Table VIII6, $p < .000$); were significantly more likely to support than oppose a season that closed on the first Saturday of the following March (Table VIII6, $p < .045$); and were significantly more likely to oppose than support a year-round season (Table VIII6, $p < .001$).

Lastly, respondents were asked to provide an overall satisfaction rating of their fishing experiences at Wisconsin inland lakes ad ponds. Considerably more anglers were satisfied than dissatisfied with their trout fishing experiences at Wisconsin inland lakes and ponds (Table VIII-8). Approximately three-fifths (58%) of the anglers rated their trout fishing experiences at inland lakes and ponds as satisfactory, however, only 11 percent of the anglers reported that they were "very satisfied" with their experiences. Less than one-fifth of the anglers (17%) rated their fishing experiences as unsatisfactory; only one percent reported s/he was "not at all satisfied" with the trout fishing experiences. One-fourth (25%) of the anglers were indifferent, meaning they were neither satisfied nor dissatisfied with the trout fishing experiences at Wisconsin inland lakes and ponds.

Table VIII-8: Overall satisfaction with trout fishing experiences at Wisconsin inland lakes and ponds

Satisfaction rating	Percent responding
Very satisfied	11%
Somewhat satisfied	47
Neither satisfied nor dissatisfied	25
Not too satisfied	16
Not at all satisfied	1

Numerous variables were looked at to help understand how angler satisfaction and dissatisfaction might be explained. In general, satisfied anglers were significantly more likely to report that fishing opportunities had become better for them, that they experienced improved trout size and trout numbers, and that they approved of the current season structure and how inland lakes were categorized. Specifically, anglers that have been satisfied with their trout fishing experiences at inland lakes and ponds were:

more likely (38%) than dissatisfied anglers (0%) to report that trout fishing opportunities had become better and less likely to report that fishing opportunities had become worse (64% compared to 15%, respectively) ($p < .000$);

more likely (28%) than dissatisfied anglers (4%) to report that the size of trout had become better and less likely to report that trout size had become worse (48% compared to 17%, respectively) ($p < .001$);

more likely (59%) than dissatisfied anglers (38%) to support the current inland lake season and less likely to oppose the current season (33% compared to 13%, respectively) ($p < .029$);

more likely (68%) than dissatisfied anglers (48%) to be satisfied with the current inland lake seasons and less likely to be dissatisfied with the current seasons (24% compared to 4%, respectively) ($p < .002$);

more likely (70%) than dissatisfied anglers (48%) to be satisfied with how inland lakes and ponds are categorized for trout size and number and less likely to be dissatisfied with how the waters are categorized (20% compared to 6%, respectively) ($p < .026$);

more likely (68%) than dissatisfied anglers (4%) to be satisfied with quality fishing opportunities at inland lakes and ponds and less likely to be dissatisfied with quality opportunities (72% compared to 5%, respectively) ($p < .000$).

It's also important to note where statistical correlations were not found. Two are most notable: angler satisfaction was not correlated to the frequency of trout kept for the table; nor was a correlation found between angler satisfaction and the number of inland lakes or ponds fished. Other variables that were not correlated to angler satisfaction include perceptions of water quality, and support for a longer inland season (ending the following March) or a year-round season.

Section IX: Respondent Background

This final section is intended to help understand who responded to the survey. It summarizes six socio-demographic characteristics of the respondents.

In general terms, Wisconsin trout anglers can be described as men near 50 years old, residing primarily in urban/suburban areas (self-defined), residing in their county for nearly 30 years, and having household incomes under $75,000. Table IX-1 indicates that a higher percentage of women comprised the 2011 non-angler respondents (22%) than comprised the current anglers (8%). Another striking difference is that current anglers are slightly younger than the 2011 non-anglers; the average age of the current anglers is 49 while 2011 non-anglers had an average age of 55; one-half (50%) of the current anglers are 50 years old or younger while approximately one-third (34%) of the 2011 non-anglers are 50 or younger.

No differences were found between the current anglers and the 2011 non-anglers for several demographic measures. A slight majority of respondents reside in self-defined urban/suburban areas (53%) as opposed to rural areas (47%) and they've been living in their counties for an average of approximately 30 years. About one-quarter (24%) of the respondents have children between the ages of eight and 18 and nearly all of these children (94%) go fishing in Wisconsin. Lastly, household income is skewed slightly towards the lower categories. Two respondents in five (41%) reside in households with annual incomes of less than $50,000. In contrast, one respondent in five (19%) resides in a household with an annual income of at least $100,000.

Where, if at all, might the current anglers differ from those who have prolonged lapsed participation? Gender is one difference. Women are more likely to be found among lapsed trout anglers (20%) than among current trout anglers (8%). Lapsed trout anglers are also slightly older with an average age of 53 compared to 49 for current anglers. Lastly, a majority of lapsed trout anglers (58%) reside in self-defined rural areas while nearly the opposite is found for current trout anglers – a slight majority of 53 percent resides in urban/suburban areas. It's possible that urban residency enhances the likelihood of continued participation through urban angling programs, including urban trout ponds. Another possible explanation is that results from the lapsed trout angler study indicated that rural residents (54%) were more likely than those from urban areas (44%) to say that their participation lapsed due in-part to having other activities they enjoy more than trout fishing. Perhaps the easy access to a variety of outdoor activities available to rural residents along with family farm-related activities has hindered the likelihood of prolonged participation in trout fishing.

Table IX-1: Socio-demographic characteristics of current and non-2011 anglers

Attribute	Current anglers	Non-anglers (2011)	Total
Gender			
Male	91%	78%	87%
Female	8	22	13
Age			
< 30	12%	5%	10%
30 – 39	17	12	15
40 – 49	21	17	20
50 – 59	21	27	23
60 – 69	21	26	22
70+	8	14	10
Mean age	49 years old	55 years old	51 years old
Residence			
Urban/Suburban	53%	54%	53%
Rural	47	46	47
Years residing in county			
< 6	11%	12%	11%
6 – 10	10	8	10
11 – 19	13	12	12
20 – 29	18	16	17
30 – 39	18	16	18
40 – 49	10	12	11
50+	19	25	21
Mean years	29 years	32 years	30 years
Children 8 – 18 years old			
Yes	25%	22%	24%
Children that fish	96%	91%	94%
Household income			
< $10,000	3%	3%	3%
$10,000 - $24,999	12	17	14
$25,000 - $49,999	25	22	24
$50,000 - $74,999	27	22	26
$75,000 - $99,999	15	13	14
$100,000 - $124,999	9	10	10
$125,000 - $149,999	3	4	3
$150,000 +	5	10	6

NOTE: It was hypothesized that older respondents would be more likely than younger respondents to fish lakes and ponds and that respondents with higher incomes would be more likely than respondents with lower incomes to fish streams. Neither hypothesis was supported. Respondent age or income had no bearing on the type of water fished.
Statistical correlations were not found between respondent age and income and the type of water fished.

Appendices

Appendix A: Tables and Figures of Regional Results

This Appendix provides a statistical summary of the data by three geographic regions; north counties, the Driftless region and east/southeast counties (E/SE). Regions were defined by the DNR trout team. The intent of the analysis was to assist trout managers with their development of the new trout management plan by providing angler behavior and preferences at geographic levels more detailed than that provided by a statewide perspective. Data interpretation is not provided and therefore, questions should be directed to the author. Key differences in the tables are bold-faced; statistical differences are noted.

Regions Defined

East/southeast counties	**Driftless**	**North**	
Brown	Barron	Adams	Taylor
Calumet	Buffalo	Ashland	Vilas
Columbia	Chippewa	Bayfield	Washburn
Dane	Clark	Burnett	Waupaca
Dodge	Crawford	Douglas	Waushara
Door	Dunn	Florence	Wood
Fond du Lac	Eau Claire	Forest	
Green Lake	Grant	Iron	
Jefferson	Green	Langlade	
Kenosha	Iowa	Lincoln	
Kewaunee	Jackson	Marathon	
Manitowoc	Juneau	Marinette	
Milwaukee	La Crosse	Marquette	
Outagamie	Lafayette	Menominee	
Ozaukee	Monroe	Oconto	
Racine	Pepin	Oneida	
Rock	Pierce	Polk	
Sheboygan	Richland	Portage	
Walworth	Sauk	Price	
Washington	St. Croix	Rusk	
Waukesha	Trempealeau	Sawyer	
Winnebago	Vernon	Shawano	

Figure A-1: County of angler residency

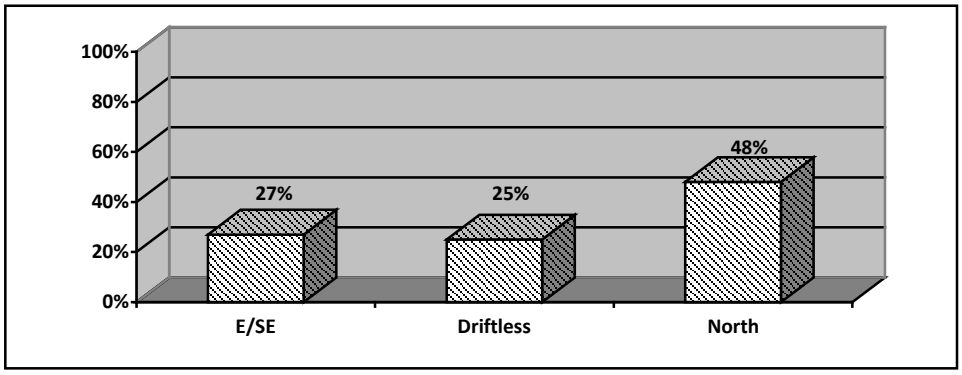


Figure A-2: County most frequented for stream fishing

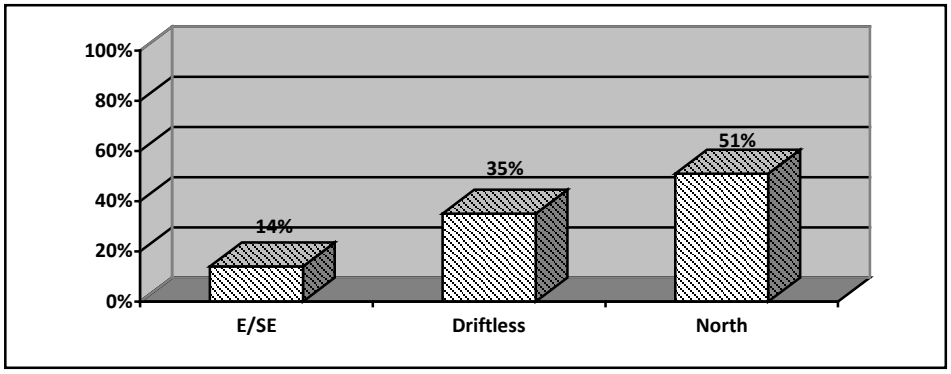


Table A-1: Resident county and county most frequented for stream fishing

Counties fished	**E/SE**	**Driftless**	**North**
East/southeast	42%	1%	3%
Driftless	32	**93**	5
North	27	6	**92**

(p < .000.)

Early Trout Season Effort and Harvest

Figure A-3: Participation in the early trout season

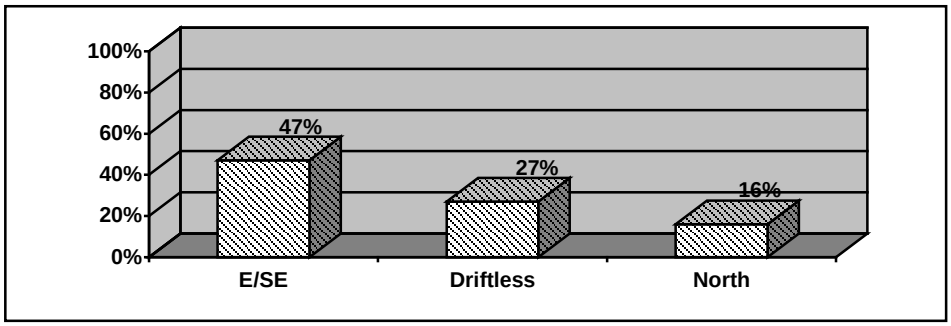


Table A-2: Number of days fished during the early trout season

Number of days fished	E/SE	Driftless	North
March			
0 days	22%	22%	**52%**
1 – 2	17	11	12
3 – 5	17	33	16
6 – 10	28	30	12
> 10	**17**	4	8
Mean days	**6.0**	4.5	3.1
April (p < .036)			
0 days	0%	10%	**22%**
1 – 2	28	17	15
3 – 5	6	31	33
6 – 10	**50**	17	15
> 10	17	24	15
Mean days	7.8	8.0	8.1

Table A-3: Number of hours fished of a typical outing during the early trout season

Number of hours fished	E/SE	Driftless	North
March			
1 – 2	19%	38%	24%
3 – 4	25	38	59
5 – 6	38	13	12
> 6	19	13	6
Mean hours	**5.1**	3.7	3.5
April			
1 – 2	5%	27%	19%
3 – 4	45	49	63
5 – 6	35	12	11
> 6	15	12	7
Mean hours	**4.8**	4.0	3.8

Table A-4: Number of trout caught and released on typical outing during early trout season

Number of trout	E/SE	Driftless	North
Brook trout			
0	50%	42%	**71%**
1 – 2	44	23	14
3 – 5	6	19	5
> 5	0	**15**	10
Mean trout caught	0.8	1.7	1.1
Brown trout			
0	39%	**19%**	63%
1 – 2	6	15	8
3 – 5	17	30	8
> 5	39	37	21
Mean trout caught	3.3	3.3	**1.8**
Rainbow trout			
0	**47%**	68%	83%
1 – 2	35	20	17
3 – 5	12	8	0
> 5	6	4	0
Mean trout caught	**1.7**	0.7	0.2

NOTE: Observations of 30 or greater skewed the results and were, therefore, discounted as outliers.

Regular Trout Season Effort and Harvest

Figure A-4: Participation in the regular trout season

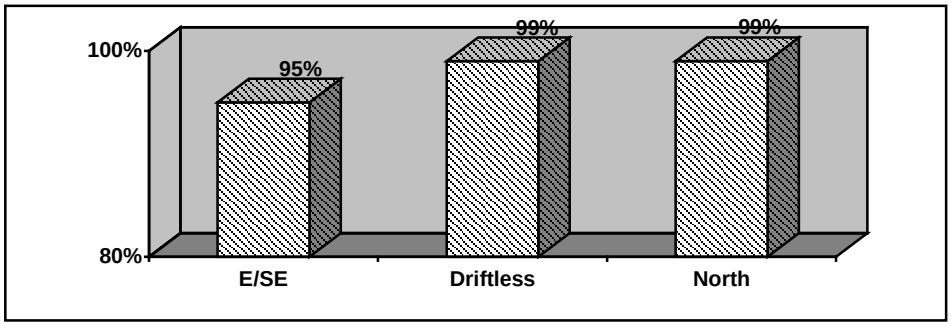


Table A-5: Number of days fished per month of the regular trout season

Number of days fished	E/SE	Driftless	North
May			
0 days	**18%**	9%	7%
1 – 2	21	22	35
3 – 5	24	35	27
6 – 10	21	27	20
> 10	15	7	11
Mean days	5.5	5.1	4.9
June			
0 days	19%	9%	14%
1 – 2	34	40	36
3 – 5	16	23	29
6 – 10	25	10	11
> 10	6	10	10
Mean days	4.4	4.4	4.2
July			
0 days	34%	33%	28%
1 – 2	31	31	33
3 – 5	16	18	20
6 – 10	13	13	11
> 10	6	5	8
Mean days	2.8	2.9	3.6
August			
0 days	29%	47%	40%
1 – 2	39	26	25
3 – 5	13	14	19
6 – 10	7	7	7
> 10	13	6	10
Mean days	3.9	**2.5**	3.4
September			
0 days	45%	41%	35%
1 – 2	13	21	22
3 – 5	19	19	23
6 – 10	7	14	12
> 10	16	5	9
Mean days	**4.6**	3.0	3.7

Table A-6: Number of hours fished per month of a typical outing during the regular trout season

Number of hrs fished	**E/SE**	**Driftless**	**North**
May			
1 – 2	14%	19%	17%
3 – 4	45	52	49
5 – 6	28	15	19
> 6	14	15	15
Mean hours	4.3	4.5	4.7
June			
1 – 2	36%	25%	22%
3 – 4	36	47	51
5 – 6	18	19	19
> 6	11	9	8
Mean hours	3.7	4.0	4.1
July			
1 – 2	50%	44%	**29%**
3 – 4	25	31	52
5 – 6	15	20	12
> 6	10	5	6
Mean hours	3.2	3.5	3.8
August			
1 – 2	**44%**	33%	25%
3 – 4	30	35	51
5 – 6	17	20	15
> 6	9	12	9
Mean hours	**3.2**	4.0	4.1
September			
1 – 2	29%	20%	31%
3 – 4	47	53	37
5 – 6	12	13	16
> 6	12	13	16
Mean hours	3.9	3.9	**4.5**

Table A-7: Number of trout caught on typical outing during regular trout season

Number of trout caught	E/SE	Driftless	North
Brook trout (p < .000)			
0	**64%**	32%	22%
1 – 2	21	24	20
3 – 5	9	27	34
> 5	6	17	24
Mean trout caught	**1.3**	3.6	3.9
Brown trout (p < .000)			
0	32%	**15%**	43%
1 – 2	24	30	34
3 – 5	21	24	13
> 5	24	31	10
Mean trout caught	3.0	4.6	**2.1**
Rainbow trout			
0	63%	57%	75%
1 – 2	28	33	16
3 – 5	6	7	7
> 5	3	2	2
Mean trout caught	1.0	0.9	0.6

NOTE: Due to skewed results in the east/southeast, an observation of 50 was discarded from the brook trout results and an observation of 100 was discarded from the brown trout results.

Table A-8: Number of trout kept on typical outing during regular trout season (% of those who caught a trout)

Number of trout kept	E/SE	Driftless	North
Brook trout (p < .002)			
0	50%	46%	**22%**
1 – 2	33	36	31
3 – 5	17	13	44
> 5	0	5	3
Mean trout kept	0.5	1.3	**2.2**
Brown trout			
0	**64%**	45%	41%
1 – 2	27	38	43
3 – 5	9	11	13
> 5	0	7	3
Mean trout kept	0.4	1.2	0.8
Rainbow trout			
0	50%	**68%**	48%
1 – 2	25	27	35
3 – 5	25	6	14
> 5	0	0	3
Mean trout kept	0.4	0.3	0.3

Angler Definition of Quality Trout, Trophy Trout and Frequency of Catching and Keeping Trophy Trout

Table A-9: Length which anglers consider a quality stream trout

Quality length trout	E/SE	Driftless	North
Brook trout (p < .026)			
< 10”	26%	23%	35%
10” – 12”	57	55	58
13” – 15”	17	19	5
> 15”	0	4	2
Mean	10.8	11.2	**10.2**
Minimum	6.0	5.0	6.0
Maximum	14.0	20.0	20.0
Brown trout (p < .013)			
< 10”	8%	2%	13%
10” – 12”	35	42	51
13” – 15”	23	34	25
> 15”	**35**	21	12
Mean	13.6	13.6	**12.5**
Minimum	6.0	8.0	8.0
Maximum	18.0	20.0	20.0
Rainbow trout			
< 10”	4%	5%	16%
10” – 12”	40	47	50
13” – 15”	28	29	20
> 15”	**28**	19	14
Mean	13.6	13.2	**12.6**
Minimum	6.0	8.0	7.0
Maximum	20	20	28.0

Table A-10: Length which anglers consider a trophy stream trout

Trophy length trout	**E/SE**	**Driftless**	**North**
Brook trout (p < .015)			
< 16”	40%	36%	**54%**
16” – 20”	60	56	45
> 20”	0	8	1
21 – 24” (Brown and Rainbow trout)			
> 24” (Brown and Rainbow trout)			
Mean	16.1	16.7	**15.3**
Minimum	13.0	11.0	12.0
Maximum	20.0	25.0	24.0
Brown trout			
< 16”	9%	5%	10%
16” – 20”	46	55	65
> 20” (Brook trout)			
21 – 24”	36	31	18
> 24”	9	9	7
Mean	20.1	20.7	**19.5**
Minimum	13.0	13.0	12.0
Maximum	30.0	32.0	30.0
Rainbow trout			
< 16”	10%	5%	12%
16” – 20”	48	61	55
> 20” (Brook trout)			
21 – 24”	14	26	17
> 24”	29	7	16
Mean	20.1	20.1	20.3
Minimum	13.0	12.0	12.0
Maximum	32.0	32.0	32.0

Table A-11: Number of trophy brook trout caught from streams in 2011

Number caught	**E/SE**	**Driftless**	**North**
0	95%	85%	93%
1	3	8	2
2 – 3	2	4	1
4+	0	3	4
Number actually kept (% responding caught)			
0	Cell size too small	73%	Cell size too small
1+		27	
***If caught* (% responding 0), likelihood of keeping**			
Yes	20%	43%	**57%**
Unsure	17	27	24
No	**63**	30	19

Table A-12: Number of trophy brown trout caught from streams in 2011

Number caught	**E/SE**	**Driftless**	**North**
0	81%	83%	87%
1	5	4	6
2 – 3	8	10	4
4+	5	3	3
Number actually kept (% responding caught)			
0	Cell size too small	77%	39%
1+		23	61
***If caught* (% responding 0), likelihood of keeping**			
Yes	23%	**51%**	**52%**
Unsure	18	20	25
No	**59**	29	24

Table A-13: Number of trophy rainbow trout caught from streams in 2011

Number caught	**E/SE**	**Driftless**	**North**
0	87%	94%	96%
1	4	2	2
2 – 3	4	3	1
4+	5	1	1
Number actually kept (% responding caught)			
0	Cell size too small	Cell size too small	Cell size too small
1+			
***If caught* (% responding 0), likelihood of keeping**			
Yes	26%	**49%**	**53%**
Unsure	15	17	22
No	59	34	25

Regulations by Most Frequently Fished County

Table A-14: Ease or difficulty of understanding stream regulations

Easy or difficult to understand	**E/SE**	**Driftless**	**North**
Easy (68%)	**88%**	64%	65%
Unsure (4%)	5	6	2
Difficult (29%)	8	30	33

(p < .018).

Table A-15: Satisfaction with stream regulations

Satisfaction	**E/SE**	**Driftless**	**North**
Satisfied (59%)	**71%**	60%	53%
Neither (19%)	21	18	19
Dissatisfied (23%)	8	22	28

Table A-16: Support or opposition for regulations to promote quality brown trout fishing

Support or opposition	**E/SE**	**Driftless**	**North**
Support (63%)	**74%**	65%	59%
Unsure (22%)	24	21	22
Oppose (16%)	2	14	**20**

Table A-17: Support or opposition for regulations to promote wild brook trout

Support or Opposition	**E/SE**	**Driftless**	**North**
Support (60%)	**76%**	60%	59%
Unsure (25%)	21	24	25
Oppose (15%)	3	16	16

Table A-18: Support or opposition for catch and release only (0 bag limit)

Support or opposition	**E/SE**	**Driftless**	**North**
Support (22%)	39%	26%	14%
Unsure (17%)	22	13	18
Oppose (61%)	39	**61**	**68**

(p < .000).

Table A-19: Support or opposition for regulations allowing trout harvest

Support or opposition	**E/SE**	**Driftless**	**North**
Support (76%)	**59%**	76%	81%
Unsure (17%)	22	19	16
Oppose (6%)	**19**	5	3

(p < .018).

Table A-20: Support or opposition for low bag limit (1 – 2 trout)

Support or opposition	**E/SE**	**Driftless**	**North**
Support (40%)	**56%**	45%	33%
Unsure (21%)	21	22	22
Oppose (38%)	24	34	**45**

(p < .047).

Table A-21: Support or opposition for moderate bag limit (3 – 5 trout)

Support or opposition	**E/SE**	**Driftless**	**North**
Support (57%)	30%	49%	**71%**
Unsure (20%)	24	22	18
Oppose (23%)	**46**	29	11

(p < .000).

Table A-22: Support or opposition for higher bag limit (6 – 10 trout)

Support or Opposition	**E/SE**	**Driftless**	**North**
Support (17%)	11%	11%	**21%**
Unsure (19%)	11	23	19
Oppose (64%)	**79**	66	60

(p < .019).

Table A-23: Support or opposition for artificials only

Support or Opposition	**E/SE**	**Driftless**	**North**
Support (34%)	**46%**	28%	34%
Unsure (18%)	27	18	14
Oppose (49%)	27	**53**	**51**

(p < .004).

Table A-24: Support or opposition for live bait on catch and release streams

Support or Opposition	**E/SE**	**Driftless**	**North**
Support (29%)	30%	32%	26%
Unsure (29%)	24	28	32
Oppose (42%)	46	40	42

Table A-25: Support or opposition for no size limit

Support or opposition	**E/SE**	**Driftless**	**North**
Support (19%)	11%	14%	**23%**
Unsure (13%)	16	15	10
Oppose (69%)	73	72	67

Table A-26: Support or opposition for harvest restricted to under 12 inches

Support or Opposition	**E/SE**	**Driftless**	**North**
Support (20%)	30%	15%	22%
Unsure (21%)	24	24	18
Oppose (59%)	46	**61**	**60**

Table A-27: Support or opposition for uniform regulations for entire stream

Support or opposition	**E/SE**	**Driftless**	**North**
Support (66%)	59%	67%	66%
Unsure (23%)	27	21	22
Oppose (11%)	13	12	12

Table A-28: Support or opposition for uniform regulations in area

Support or opposition	**E/SE**	**Driftless**	**North**
Support (58%)	54%	56%	58%
Unsure (23%)	24	24	23
Oppose (19%)	22	19	19

Seasons by Most Frequently Fished County

Table A-29: Support or opposition for current regular open season

Support or opposition	E/SE	Driftless	North
Support (75%)	65%	78%	79%
Unsure (16%)	27	15	15
Oppose (9%)	8	7	7

Table A-30: Support or opposition for earlier regular season opener

Support or opposition	E/SE	Driftless	North
Support (37%)	44%	42%	32%
Unsure (28%)	31	27	30
Oppose (34%)	25	31	37

Table A-31: Support or opposition for ending regular season later

Support or opposition	E/SE	Driftless	North
Support (40%)	42%	41%	38%
Unsure (29%)	31	31	28
Oppose (32%)	28	28	34

Table A-32: Support or opposition for current early catch and release season

Support or opposition	E/SE	Driftless	North
Support (34%)	49%	41%	**24%**
Unsure (37%)	31	26	47
Oppose (30%)	**20**	33	29

($p < .001$).

Table A-33: Support or opposition for earlier catch and release opener

Support or opposition	E/SE	Driftless	North
Support (18%)	**31%**	20%	13%
Unsure (42%)	40	40	44
Oppose (40%)	29	40	43

Table A-34: Support or opposition for adding catch and release season after regular open season ends

Support or opposition	**E/SE**	**Driftless**	**North**
Support (24%)	37%	31%	16%
Unsure (32%)	40	31	32
Oppose (44%)	23	39	**52**

(p < .011).

Table A-35: Support or opposition for extending catch and release season to begin Oct. 1 (allows year-round fishing)

Support or opposition	**E/SE**	**Driftless**	**North**
Support (26%)	33%	31%	20%
Unsure (27%)	39	26	25
Oppose (48%)	28	43	**56**

(p < .053).

Table A-36: Support or opposition for year-round open stream season

Support or opposition	**E/SE**	**Driftless**	**North**
Support (26%)	28%	30%	22%
Unsure (21%)	31	17	22
Oppose (53%)	42	54	57

Table A-37: Percent ranking possible season as first or second preference

Possible season	**E/SE**	**Driftless**	**North**	**Sig. level**
Current regular open season (35%)	**35%**	57%	67%	**.001**
Earlier regular season opener (17%)	23	31	27	n.s.
End regular open season later (18%)	**13**	29	32	**.048**
Current early catch & release season (7%)	15	13	10	n.s.
Start catch & release season earlier (4%)	**20**	6	3	**.001**
Add catch & release season after regular open season ends (7%)	**25**	13	7	**.004**
Extend catch & release season to begin Oct. 1 (8%)	20	18	9	**.058**
Year-round open season (14%)	23	21	24	n.s.

Regulations by Angler Resident County

Table A-38: Ease or difficulty of understanding stream regulations

Easy or difficult to understand	**E/SE**	**Driftless**	**North**
Easy (68%)	71%	67%	67%
Unsure (4%)	5	6	1
Difficult (29%)	24	27	32

Table A-39: Satisfaction with stream regulations

Satisfaction	**E/SE**	**Driftless**	**North**
Satisfied (59%)	61%	58%	56%
Neither (19%)	22	17	17
Dissatisfied (23%)	17	25	26

Table A-40: Support or opposition for regulations to promote quality brown trout fishing

Support or opposition	**E/SE**	**Driftless**	**North**
Support (63%)	**74%**	62%	57%
Unsure (22%)	21	23	22
Oppose (16%)	5	15	21

(p < 047).

Table A-41: Support or opposition for regulations to promote wild brook trout

Support or Opposition	**E/SE**	**Driftless**	**North**
Support (60%)	63%	58%	60%
Unsure (25%)	26	28	24
Oppose (15%)	11	14	16

Table A-42: Support or opposition for catch and release only (0 bag limit)

Support or opposition	**E/SE**	**Driftless**	**North**
Support (22%)	36%	28%	10%
Unsure (17%)	18	10	22
Oppose (61%)	46	**62**	**68**

(p < .000).

Table A-43: Support or opposition for regulations allowing trout harvest

Support or opposition	**E/SE**	**Driftless**	**North**
Support (76%)	68%	**77%**	**80%**
Unsure (17%)	21	17	16
Oppose (6%)	11	6	4

(p < .046).

Table A-44: Support or opposition for low bag limit (1 – 2 trout)

Support or opposition	**E/SE**	**Driftless**	**North**
Support (40%)	**51%**	42%	34%
Unsure (21%)	20	29	20
Oppose (38%)	29	29	**46**

(p < .011).

Table A-45: Support or opposition for moderate bag limit (3 – 5 trout)

Support or opposition	**E/SE**	**Driftless**	**North**
Support (57%)	39%	51%	**70%**
Unsure (20%)	24	22	18
Oppose (23%)	**37**	27	12

(p < .001).

Table A-46: Support or opposition for higher bag limit (6 – 10 trout)

Support or Opposition	**E/SE**	**Driftless**	**North**
Support (17%)	11%	13%	22%
Unsure (19%)	19	20	19
Oppose (64%)	70	67	59

Table A-47: Support or opposition for artificials only

Support or Opposition	**E/SE**	**Driftless**	**North**
Support (34%)	**52%**	24%	27%
Unsure (18%)	12	27	18
Oppose (49%)	36	49	55

(p < .000).

Table A-48: Support or opposition for live bait on catch and release streams

Support or Opposition	**E/SE**	**Driftless**	**North**
Support (29%)	28%	35	26%
Unsure (29%)	24	32	32
Oppose (42%)	48	33	42

Table A-49: Support or opposition for no size limit

Support or opposition	**E/SE**	**Driftless**	**North**
Support (19%)	19%	13%	22%
Unsure (13%)	13	16	12
Oppose (69%)	69	71	66

Table A-50: Support or opposition for harvest restricted to under 12 inches

Support or Opposition	**E/SE**	**Driftless**	**North**
Support (20%)	28%	12%	18%
Unsure (21%)	25	21	19
Oppose (59%)	**47**	67	63

(p < .027).

Table A-51: Support or opposition for uniform regulations for entire stream

Support or opposition	**E/SE**	**Driftless**	**North**
Support (66%)	58%	68%	70%
Unsure (23%)	31	22	18
Oppose (11%)	11	10	12

Table A-52: Support or opposition for uniform regulations in area

Support or opposition	**E/SE**	**Driftless**	**North**
Support (58%)	47%	**61%**	**61%**
Unsure (23%)	28	27	20
Oppose (19%)	25	13	19

Seasons by Angler Resident County

Table A-53: Support or opposition for current regular open season

Support or opposition	E/SE	Driftless	North
Support (75%)	70%	73%	80%
Unsure (16%)	20	19	13
Oppose (9%)	10	9	4

Table A-54: Support or opposition for earlier regular season opener

Support or opposition	E/SE	Driftless	North
Support (37%)	39%	43%	34%
Unsure (28%)	36	28	24
Oppose (34%)	25	29	42

Table A-55: Support or opposition for ending regular season later

Support or opposition	E/SE	Driftless	North
Support (40%)	44%	38%	39%
Unsure (29%)	36	29	24
Oppose (32%)	20	33	37

(p < .012).

Table A-56: Support or opposition for current early catch and release season

Support or opposition	E/SE	Driftless	North
Support (34%)	**50%**	38%	23%
Unsure (37%)	32	31	44
Oppose (30%)	18	31	33

(p < .008).

Table A-57: Support or opposition for earlier catch and release opener

Support or opposition	E/SE	Driftless	North
Support (18%)	**31%**	19%	11%
Unsure (42%)	47	42	41
Oppose (40%)	22	39	**48**

(p < .001).

Table A-58: Support or opposition for adding catch and release season after regular open season ends

Support or opposition	**E/SE**	**Driftless**	**North**
Support (24%)	33%	30%	16%
Unsure (32%)	41	30	28
Oppose (44%)	26	40	**56**

(p < .007).

Table A-59: Support or opposition for extending catch and release season to begin Oct. 1 (allows year-round fishing)

Support or opposition	**E/SE**	**Driftless**	**North**
Support (26%)	35%	27%	20%
Unsure (27%)	33	31	20
Oppose (48%)	32	42	**60**

(p < .023).

Table A-60: Support or opposition for year-round open stream season

Support or opposition	**E/SE**	**Driftless**	**North**
Support (26%)	28%	32%	22%
Unsure (21%)	27	13	22
Oppose (53%)	45	55	56

Table A-61: Percent ranking possible season as first or second preference

Possible season	**E/SE**	**Driftless**	**North**	**Sig. level**
Current regular open season (35%)	43%	46%	**59%**	**.026**
Earlier regular season opener (17%)	21	30	23	n.s.
End regular open season later (18%)	20	26	32	n.s.
Current early catch & release season (7%)	15	10	8	n.s.
Start catch & release season earlier (4%)	14	4	2	**.000**
Add catch & release season after regular open season ends (7%)	14	12	7	n.s.
Extend catch & release season to begin Oct. 1 (8%)	20	12	8	**.027**
Year-round open season (14%)	18	23	20	n.s.

Appendix B: Questionnaire

An Opportunity to Provide Input on Wisconsin's Inland Trout Fishing Program

An Opportunity to Provide Input on Wisconsin's Inland Trout Fishing Program

We are sending this trout fishing survey to people who purchased a Wisconsin trout stamp to fish for inland trout in 2011.

All questions pertain to INLAND trout fishing only, including streams, lakes and ponds. Please do NOT include any fishing you might do in waters of Lake Michigan, Green Bay or Lake Superior.

This survey is one of the primary ways that you can tell trout managers about your trout fishing experiences in Wisconsin.

Even if you are just a casual trout angler, we need your input.

Results of the survey WILL be used to inform the trout fishery program and possibly lead to new management strategies and regulations. In other words, your participation is extremely important!

Section 1: Your trout fishing practices

This first section asks about your general trout fishing participation. If you did not do any inland trout fishing in Wisconsin in 2011, please proceed with questions 1 and 2 – you will then be skipped to the last section.

1. Did you do any inland trout fishing in Wisconsin during 2011?

   □ Yes → **skip to question 3** □ No → **continue with question 2**

2. What are some of the reasons you did not fish for inland trout in Wisconsin during 2011? **(check all that apply)**

   □ It came with my Patrons license but I did not go trout fishing
   □ I purchased the stamp to support fish management – not to go fishing
   □ I purchased the stamp in case my children/grandchildren wanted to go fishing, but we did not
   □ I just didn't get around to it – I never found the time
   □ Illness, poor health or injury prevented me from fishing
   □ My fishing companion(s) decided not to fish or moved away
   □ The regulations were too difficult to understand
   □ There were too many regulations
   □ I didn't know where to go trout fishing
   □ I couldn't find or gain access to trout streams
   □ Some other reason? _____

After answering question 2 please skip to Section 8.

3. Which types of inland trout do you fish for? **(check all that apply.)**

   □ Brook trout □ Rainbow trout
   □ Brown trout □ Lake trout (species, not stream trout found in lakes or ponds)

4. How many years have you been trout fishing in Wisconsin? If this is your first year, write "1" in the space provided.

   I have been fishing for trout in Wisconsin for _____ years.

5. In the table below, please tell us the size range (in inches) that each trout must be for you to keep it **for eating**. Minimum size means that you would not keep a trout smaller than your answer for eating; maximum size means you would not keep a trout larger than your answer for eating. **If you do not fish for a type of trout or would never keep it for eating, check the bottom box**.

	Brook trout	**Brown trout**	**Rainbow trout**
Minimum size: would not keep smaller than this for eating	inches	inches	inches
Maximum size: would not keep larger than this for eating	inches	inches	inches
Do not fish for or **would never keep** for eating			

6. In general, would you say the time you spend trout fishing in Wisconsin is more, less, or about the same as in past years? **(check one)**

□ I spend **more** time trout fishing now → **go to Section 2**
□ I trout fish now **about the same** amount as I always have → **go to Section 2**
□ I spend **less** time trout fishing now → **continue to question 7**

7. From the list below, please check all of the reasons which help explain why you spend less time trout fishing in Wisconsin now than in past years. **(check all that apply)**

□ Not as much available time
□ Other activities I enjoy more
□ Moved to area with fewer trout fishing opportunities
□ Prefer to catch or eat other fish
□ Health issues or just getting too old
□ Fishing companions moved or no longer participate
□ Stream habitat became degraded or became difficult to fish (overgrown banks)
□ Not enough public access or I lost access across private land
□ Trout fishing became too expensive
□ Too many other expenses so I cut back on trout fishing
□ Too many regulations
□ Regulations prevent me from fishing for trout the way I want to
□ Regulations were difficult to understand
□ Quality of trout fishing has declined (number and size of trout)
□ Trout fishing is better or I spend more time trout fishing in other states
□ Another reason? _____

Section 2: Trout fishing on Wisconsin streams

This section asks about your trout fishing on Wisconsin streams in 2011. If you did not do any stream trout fishing please answer the first question and then skip to Section 7.

1. Did you do ***any*** fishing for trout on a Wisconsin stream during 2011?

   □ Yes □ No → **go to Section 7**

2. How many different Wisconsin streams did you fish for trout in 2011?

   I fished _____ different streams for trout in Wisconsin in 2011

3. On a **typical** day of trout fishing in 2011, how many Wisconsin streams would you fish for trout?

   I fished _____ stream(s) for trout on a typical day in 2011

4. In which Wisconsin county did you do most of your trout stream fishing? _____

5. How often do you fish for trout in streams using the following methods?
   (circle one number for each method)

	Never	Rarely	Sometimes	Often	Always
Live bait …….	1	2	3	4	5
Spinners or lures…….	1	2	3	4	5
Artificial flies…….	1	2	3	4	5

6. When planning a trout fishing trip to a stream, which if any, of the following resources do you use?
   (check all that apply)

□ Online DNR web map sites
□ Road atlas
□ County plat map
□ County web map site
□ Trout Fishing Regulations and Guide
□ Google maps
□ Bing maps
□ MapQuest
□ Some other resource? _____
□ None of the above

7. During a trout fishing trip to a stream, which if any, of the following resources do you bring with you?
   (check all that apply)

□ Mobile phone
□ Smart phone
□ Trout Fishing Regulations and Guide
□ Road atlas
□ County plat map
□ GPS
□ None of the above

8. When planning a trout fishing trip to a stream, do you consult the Trout Fishing Regulations and Guide booklet? **(check one)**

   □ Never □ Rarely □ Sometimes □ Often □ Always

9. Listed below are various aspects you might consider when deciding whether or not to fish a **new trout stream**. Please check all of the items that would be important in deciding whether or not to fish a new stream. **(check all that apply)**

   □ The type of trout present (brook, brown or rainbow)

   □ The presence of trophy trout
   □ The presence of quality-size trout
   □ The presence of wild trout
   □ The presence of stocked trout
   □ Easy access to trout stream
   □ Condition of trout stream and stream bank
   □ Regulations allow me to keep fish
   □ Regulations allow me to fish the way I want to

10. How often do you keep **for eating** brook, brown or rainbow trout caught from Wisconsin streams? **(check one for each trout)**

Brook:	□ Do not fish for	□ Never	□ Rarely	□ Sometimes	□ Often	□ Always
Brown:	□ Do not fish for	□ Never	□ Rarely	□ Sometimes	□ Often	□ Always
Rainbow:	□ Do not fish for	□ Never	□ Rarely	□ Sometimes	□ Often	□ Always

11. For each item in the list below, please circle the number that best indicates how you feel it has changed over time. If you are unsure or unfamiliar with any item in the list, please circle the "U" in the last column. **(circle one response for each item)**

	Much better	**Somewhat better**	**Remained unchanged**	**Somewhat worse**	**Much worse**	**Unsure**
Trout fishing access to streams……..	1	2	3	4	5	U
Landowner attitudes towards stream trout anglers……...	1	2	3	4	5	U
Trout fishing opportunities on streams……..	1	2	3	4	5	U
Size of trout in streams you fish……	1	2	3	4	5	U
Number of trout in streams you fish……..	1	2	3	4	5	U
Number of quality-sized trout in streams you fish……...	1	2	3	4	5	U
Number of trophy-sized trout in streams you fish……	1	2	3	4	5	U
Water quality of trout streams…….	1	2	3	4	5	U

12. How satisfied are you with each of the following aspects of trout fishing on Wisconsin streams? **(circle one number for each item)**

	Very satisfied	**Fairly satisfied**	**Neutral or Unsure**	**Fairly dissatisfied**	**Very dissatisfied**
How streams are categorized for trout size and bag limit…….	1	2	3	4	5
Trout fishing seasons for streams…….	1	2	3	4	5
Quality trout fishing opportunities on streams…….	1	2	3	4	5
Trout fishing regulation booklet……	1	2	3	4	5

13. Overall, how satisfied are you with your trout fishing experiences on Wisconsin streams? **(check one)**

□ Very satisfied
□ Fairly satisfied
Neither satisfied
□ nor dissatisfied
□ Not too satisfied
□ Not at all satisfied

Section 3: Your trout fishing effort on streams – when you fish and what you catch

This section asks about how much time you spend fishing for trout on streams and what you catch. If any item is difficult for you to recall exactly, just provide your best recollection.

1. Did you fish during the 2011 **early trout season** (March 5 – May 1)?

□ Yes □ No → **go to Question 4**

2. For each month please tell us how many **days** you went trout fishing on Wisconsin streams during the 2011 early trout season. We realize it may be difficult to recall exactly so please just provide your best recollection.

In **March** I fished _____ days In **April – May 1** I fished _____ days

3. How many trout did you **catch and release** on your **typical** trout fishing trip during the early season in 2011? If you did not catch any trout please write "0." Just provide your best recollection.

_____ Brook trout _____ Brown trout _____ Rainbow trout

4. Did you fish during the 2011 **regular trout season** (May 7 – September 30)?

□ Yes □ No → **go to Question 8**

5. For each month please tell us how many **days** you went trout fishing on Wisconsin streams during the 2011 regular trout season. We realize it may be difficult to recall exactly so please just provide your best recollection.

   In **May** I fished _____ days In **August** I fished _____ days

   In **June** I fished _____ days In **September** I fished _____ days

   In **July** I fished _____ days

6. How many trout did you **catch** on your **typical** trout fishing trip during the regular season in 2011? If you did not catch any trout, please write "0." Just provide your best recollection.

   _____ Brook trout _____ Brown trout _____ Rainbow trout

7. How many trout did you **keep** on your **typical** trout fishing trip during the regular season? If you did not keep any trout, please write "0." Just provide your best recollection.

   _____ Brook trout _____ Brown trout _____ Rainbow trout

8. For some anglers, their time on the water may vary throughout the season. Please indicate for each month how many **hours** your **typical** trout fishing trip lasted (**not including travel time**). Please just provide your best recollection. If you did not fish during a month, please write "0".

   Early season (March 5 to May 1)

   In **March** I typically fished _____ hours per trip In **April – May 1** I typically fished _____ hours per trip

   Regular season (May 7 to September 30)

   In **May** I typically fished _____ hours per trip In **August** I typically fished _____ hours per trip

   In **June** I typically fished _____ hours per trip In **September** I typically fished _____ hours per trip

   In **July** I typically fished _____ hours per trip

9. How long (nearest inch) must a trout from a Wisconsin stream be for you to consider it a quality-sized trout versus a trophy-sized trout? If you are uncertain, please write "**unsure**."

   Quality size **Trophy size**

   Brook trout – quality size _____ Brook trout – trophy size _____

   Brown trout – quality size _____ Brown trout – trophy size _____

   Rainbow trout – quality size _____ Rainbow trout – trophy size _____

For the next questions please consider how you defined a trophy-sized trout in the previous question. For each question, just provide your best recollection. If you did not fish for the trout, please write "0".

10. a) How many **trophy-sized brook trout** did you **catch** in 2011? _____

    b) ***If 0,*** do you think you would keep a **trophy brook trout** if you caught one? **(check one)**

    □ Definitely yes □ Probably no
    □ Probably yes □ Unsure □ Definitely no

    c) ***If you caught*** **a trophy-sized brook trout** in 2011, how many did you **keep**? _____

11. a) How many **trophy-sized brown trout** did you **catch** in 2011? _____

    b) ***If 0,*** do you think you would keep a **trophy brown trout** if you caught one? **(check one)**

    □ Definitely yes □ Probably no
    □ Probably yes □ Unsure □ Definitely no

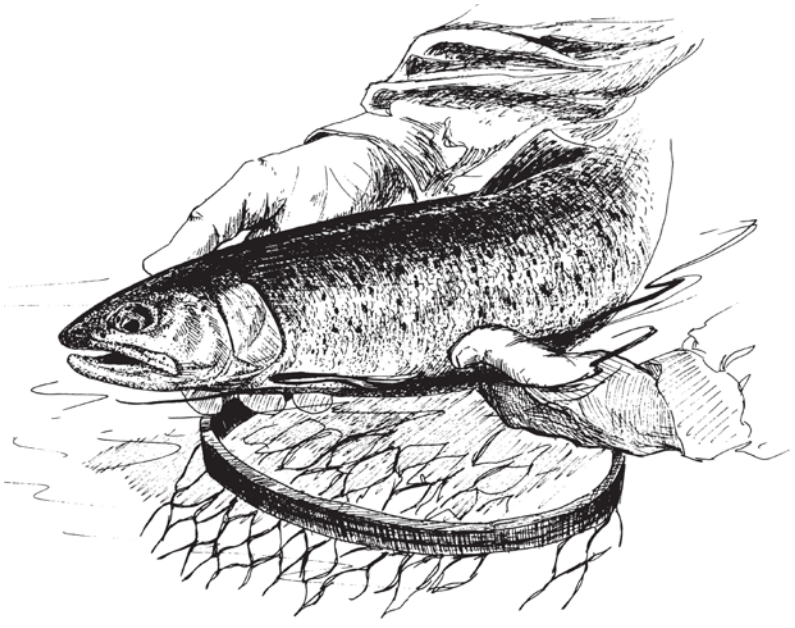
    c) ***If you caught*** **a trophy-sized brown trout** in 2011, how many did you **keep**? _____

12. a) How many **trophy-sized rainbow trout** did you **catch** in 2011? _____

    b) ***If 0,*** do you think you would keep a **trophy rainbow trout** if you caught one? **(check one)**

    □ Definitely yes □ Probably no
    □ Probably yes □ Unsure □ Definitely no

    c) ***If you caught*** **a trophy-sized rainbow trout** in 2011, how many did you **keep**? _____



Section 4: Your preferences for various seasons for trout fishing and characteristics of Wisconsin trout streams

This section asks about your preferences for various trout stream fishing seasons and also your preferences for fishing streams with different characteristics.

1. Below are several possible seasons for trout fishing on Wisconsin streams. Please tell us whether you support or oppose each of the following seasons. **(circle one number for each season)**

	Strongly support	**Moderately support**	**Neutral or Unsure**	**Moderately oppose**	**Strongly oppose**
Current regular open season (first Saturday in May through September 30)…….	1	2	3	4	5
Start regular open season earlier……	1	2	3	4	5
End regular open season later……	1	2	3	4	5
Current early catch & release season (beginning on the first Saturday in March)……	1	2	3	4	5
Start catch & release season earlier……	1	2	3	4	5
Add a catch & release season after regular open season ends……..	1	2	3	4	5
Extend catch & release season to begin October 1 to allow year-round trout fishing (except for closure during deer season)……	1	2	3	4	5
Year-round open stream season…….	1	2	3	4	5

2. Of the possible seasons in the above question, which **two** do you prefer? Please write a **1 for your first choice** and a **2 for your second choice**.

_____ Current regular open season for streams (first Saturday in May through September 30)

_____ Start regular open season earlier on streams

_____ End regular open season later on streams

_____ Current early catch & release season for streams (beginning on the first Saturday in March)

_____ Start catch & release season earlier on streams

_____ Add an catch & release season on streams after regular open season ends

_____ Extend catch & release season on streams to begin October 1 to allow year-round trout fishing (except for closure during deer season)

_____ A stream season that is open year-round

3. Listed below are different characteristics of Wisconsin trout streams. Please circle the appropriate number that best represents the effect each item would have on whether or not you would fish a trout stream. If you are unsure about any item, please circle the "U" in the last column. **(circle one response for each item)**

1 = I will **only** fish this type of stream
2 = I **prefer** to fish this type of stream
3 = Does **not matter** to me
4 = I **prefer not** to fish this type of stream
5 = I will **never** fish this type of stream
U = **Unsure**

	Only	**Prefer**	**No matter**	**Prefer not**	**Never**	**Unsure**
Presence of wild trout……	1	2	3	4	5	U
Presence of stocked trout…… ..	1	2	3	4	5	U
Chance to catch a brook trout…… ..	1	2	3	4	5	U
Chance to catch a brown trout…… ..	1	2	3	4	5	U
Chance to catch a rainbow trout……	1	2	3	4	5	U
Chance to catch quality-size trout……..	1	2	3	4	5	U
Chance to catch a trophy trout…… ..	1	2	3	4	5	U
Chance to catch many trout…… ..	1	2	3	4	5	U
Chance to catch a trout I can keep to eat……..	1	2	3	4	5	U
Stream size is small (less than 10 feet wide)…….. .	1	2	3	4	5	U
Stream size is medium (10-30 feet wide)…….	1	2	3	4	5	U
Stream size is large (greater than 30 feet wide)……	1	2	3	4	5	U

4. **Stream access** may differ from one steam to the next. Please circle the appropriate number that best represents the effect each item would have on whether or not you would fish a trout stream. If you are unsure about any item, please circle the "U" in the last column. **(circle one response for each item)**

1 = I will **only** fish this type of stream
2 = I **prefer** to fish this type of stream
3 = Does **not matter** to me
4 = I **prefer not** to fish this type of stream
5 = I will **never** fish this type of stream
U = **Unsure**

	Only	**Prefer**	**No matter**	**Prefer not**	**Never**	**Unsure**
Public access to stream is available……..	1	2	3	4	5	U
Landowner permission is required to access stream…….	1	2	3	4	5	U

5. **Stream habitat** may also differ from one stream to the next. Please circle the appropriate number that best represents the effect each item would have on whether or not you would fish a trout stream. If you are unsure about any item, please circle the "U" in the last column. **(circle one response for each item)**

1 = I will **only** fish this type of stream
2 = I **prefer** to fish this type of stream
3 = Does **not matter** to me
4 = I **prefer not** to fish this type of stream
5 = I will **never** fish this type of stream
U = **Unsure**

	Only	Prefer	No matter	Prefer not	Never	Unsure
Pastured or mowed stream banks……	1	2	3	4	5	U
Stream banks overgrown with brush or reed canary grass……	1	2	3	4	5	U
Forested stream banks……	1	2	3	4	5	U
Trees have been removed along stream banks……	1	2	3	4	5	U
Stream habitat has been restored……	1	2	3	4	5	U
Stream has become degraded (eroded banks, wide shallow channel, etc.)……	1	2	3	4	5	U
Beaver dams are present……..	1	2	3	4	5	U
Beaver dams are not present……	1	2	3	4	5	U

6. **In general,** how important would you say it is that Wisconsin stocks some streams to provide trout fishing opportunities? **(check one)**

□ Very important
□ Somewhat important
□ Unsure
□ Not too important
□ Not at all important

7. **For you** to fish a Wisconsin stream, how important is it that the stream is stocked with trout? **(check one)**

□ Stream **must be stocked** for my participation
□ Stocking is **very important**
□ Stocking is **fairly important**
□ Neither important nor unimportant
□ Stocking is **not too important**
□ Stocking is **not at all important**
□ Stream **must not need to be stocked** for my participation

Section 5: Regulations on Wisconsin trout streams

This section asks about your preferences for various regulations for trout fishing on Wisconsin streams.

1. For you personally, would you say the regulations for trout streams are easy or difficult to understand? **(check one)**

   □ Very easy to understand
   □ Fairly easy to understand
   □ Unsure
   □ Fairly difficult to understand
   □ Very difficult to understand

2. Overall, how satisfied are you with the trout fishing regulations on Wisconsin inland streams? **(check one)**

   □ Very satisfied
   □ Fairly satisfied
   Neither satisfied
   □ nor dissatisfied
   □ Not too satisfied
   □ Not at all satisfied

3. Have regulations for a specific trout stream ever prevented you from fishing that stream?

   □ Yes □ No

4. Have you stopped fishing any trout stream in Wisconsin that you had fished in the past?

   □ Yes □ No → **go to question 6**

5. For any stream(s) that you had fished in the past but now choose not to fish, please indicate the reason why by checking all the appropriate boxes below. **(check all that apply)**

   □ Trout numbers have decreased
   □ Trout size has decreased
   □ Access has become difficult (landowner posted)
   □ Access has become difficult because of overgrown stream banks
   □ Regulations are difficult to understand
   □ I don't like the regulations
   □ Regulations no longer allow me to keep a trout
   □ My health prevented me from reaching my fishing spot
   □ Another reason? _____

6. Some trout anglers have been asking for more **quality brown trout** fishing experiences (12 inches or greater) on Wisconsin streams. This would likely mean a variety of special regulations tailored to individual streams. Would you support or oppose new regulations which would promote quality brown trout fishing on more Wisconsin streams? **(check one)**

   □ Definitely support
   □ Probably support
   □ Unsure
   □ Probably oppose
   □ Definitely oppose

7. Some anglers have also been asking for regulations that promote **wild brook trout**. One way to protect wild brook trout is to allow the liberal harvest of other trout. Would you support or oppose a liberal harvest of rainbow and brown trout on designated wild brook trout streams in order to promote brook trout? **(check one)**

□ Definitely support □ Probably support □ Unsure □ Probably oppose □ Definitely oppose

8. Listed below are different **trout stream regulations**. Some of these are existing regulations; others are just ideas. For the streams you currently fish, please tell us whether you support or oppose each regulation. **(circle one number for each item)**

	Strongly support	**Moderately support**	**Neutral or Unsure**	**Moderately oppose**	**Strongly oppose**
For the streams you fish…					
Bag Limits					
Fishing restricted to catch and release only (0 bag limit)…….....	1	2	3	4	5
Regulations allow harvest of trout…….	1	2	3	4	5
Regulations allow low bag limit of 1 – 2 trout……...	1	2	3	4	5
Regulations allow bag limit of 3 – 5 trout……	1	2	3	4	5
Regulations allow higher bag limit of 6 – 10 trout……..	1	2	3	4	5
Artificials and bait					
Only artificials (spinners, lures, flies) are allowed……..	1	2	3	4	5
Regulations allow live bait on catch & release streams……...	1	2	3	4	5
Size limits					
There is no size limit……...	1	2	3	4	5
Only trout under 12” may be harvested..	1	2	3	4	5
Uniform regulations					
Regulations are the same for the entire stream……...	1	2	3	4	5
Nearby streams have the same regulations (uniform regulations in a geographic area)…….	1	2	3	4	5

Section 6: Trout stream programs

This section includes questions about state programs designed to protect and enhance Wisconsin's inland trout fishery.

1. The **Wisconsin Beaver Damage Management Program** was developed to remove beaver and beaver dams from designated streams in order to restore and maintain them as free flowing coldwater systems. Prior to reading this description, how familiar were you with Wisconsin's Beaver Damage Management Program? **(check one)**

   □ I am quite familiar with this program
   □ I've heard of this program but do not know much about it → **please skip to Question 3**
   □ I am unaware of this program → **please skip to Question 3**

2. How satisfied are you with Wisconsin's Beaver Damage Management Program? **(check one)**

   □ Very satisfied □ Fairly satisfied Neither satisfied □ nor dissatisfied □ Not too satisfied □ Not at all satisfied □ Unsure

3. The **Stream Access Program** was developed to protect streams from harmful land management practices by purchasing and leasing lands along trout streams. Lands that are purchased or leased through this program allow trout anglers an opportunity to fish without fear of trespass. Prior to reading this description, how familiar were you with Wisconsin's Stream Access Program? **(check one)**

   □ I am quite familiar with this program
   □ I've heard of this program but do not know much about it → **please skip to Question 5**
   □ I am unaware of this program → **please skip to Question 5**

4. How satisfied are you with Wisconsin's Stream Access Program? **(check one)**

   □ Very satisfied □ Fairly satisfied Neither satisfied □ nor dissatisfied □ Not too satisfied □ Not at all satisfied □ Unsure

5. The **Stream Habitat Restoration Program** was developed to improve and restore trout carrying capacity by reversing the loss of trout habitat in streams. The program is funded by revenue generated from the sales of the inland trout stamp. Prior to reading this description, how familiar were you with Wisconsin's Stream Habitat Restoration Program? **(check one)**

   □ I am quite familiar with this program
   □ I've heard of this program but do not know much about it → **please skip to Question 7**
   □ I am unaware of this program → **please skip to Question 7**

6. How satisfied are you with Wisconsin's Stream Habitat Restoration Program? **(check one)**

   □ Very satisfied □ Fairly satisfied Neither satisfied □ nor dissatisfied □ Not too satisfied □ Not at all satisfied □ Unsure

7. **Wisconsin's Wild Trout Stocking Program** was developed to better maintain the characteristics of wild trout as well as the genetic diversity found in wild trout populations. Eggs are collected and fertilized from wild trout and raised in hatcheries at reduced densities with little human contact. These trout have better survival rates and live longer than do trout developed in hatcheries that are many generations removed from the wild. Prior to reading this description, how familiar were you with Wisconsin's Wild Trout Stocking Program? **(check one)**

   □ I am quite familiar with this program
   □ I've heard of this program but do not know much about it → **please skip to Section 7**
   □ I am unaware of this program → **please skip to Section 7**

8. How satisfied are you with Wisconsin's Wild Trout Stocking Program? **(check one)**

   □ Very satisfied □ Fairly satisfied Neither satisfied □ nor dissatisfied □ Not too satisfied □ Not at all satisfied □ Unsure

Section 7: Trout fishing at Wisconsin inland lakes and ponds

This section asks about your trout fishing at inland lakes and ponds in Wisconsin in 2011. If you did not do any trout fishing at inland lakes and ponds, please answer the first question and then skip to Section 8.

1. Did you do ***any*** fishing for trout at an inland lake or pond in Wisconsin during 2011?

   □ Yes □ No → **go to Section 8**

2. How many different inland lakes and ponds in Wisconsin did you fish for trout in 2011?

   I fished _____ different inland lakes or ponds for trout in Wisconsin in 2011

3. How often do you fish for trout in inland lakes and ponds using the following methods? **(circle one number for each method)**

	Never	Rarely	Sometimes	Often	Always
Live bait …….	1	2	3	4	5
Spinners or lures…….	1	2	3	4	5
Artificial flies…….	1	2	3	4	5

4. How often do you keep trout caught from inland lakes and ponds to eat? **(check one)**

   □ Never □ Rarely □ Sometimes □ Often □ Always

5. For each item in the list below, please circle the number that best indicates how you feel it has changed over time. If you are unsure or unfamiliar with any item in the list, please circle the "U" in the last column. **(circle one response for each item)**

	Much better	**Somewhat better**	**Remained unchanged**	**Somewhat worse**	**Much worse**	**Unsure**
Trout fishing opportunities in inland lakes and ponds.....	1	2	3	4	5	U
Size of trout in inland lakes and ponds you fish……..	1	2	3	4	5	U
Number of trout in the inland lakes and ponds you fish……...	1	2	3	4	5	U
Water quality of trout inland lakes and ponds……..	1	2	3	4	5	U

6. Below are three possible seasons for trout fishing at inland lakes and ponds. Please tell us whether you support or oppose each of the following seasons. **(circle one number for each item)**

	Strongly support	**Moderately support**	**Neutral or Unsure**	**Moderately oppose**	**Strongly oppose**
The current inland lake season (first Saturday in May with a closing date that varies by lake)……	1	2	3	4	5
An inland lake season which opens the first Saturday in May and closes on all waters the first Saturday of the following March……...	1	2	3	4	5
Year-round open inland lake season…..	1	2	3	4	5

7. How satisfied are you with each of the following aspects of trout fishing at Wisconsin inland lakes and ponds? **(circle one number for each item)**

	Very satisfied	**Fairly satisfied**	**Neutral or Unsure**	**Fairly dissatisfied**	**Very dissatisfied**
How inland lakes and ponds are categorized for trout size and bag limit…….1		2	3	4	5
Trout fishing seasons for inland lakes and ponds…….....1		2	3	4	5
Quality trout fishing opportunities at inland lakes and ponds……..1		2	3	4	5

8. Overall, how satisfied are you with your trout fishing experiences at Wisconsin inland lakes and ponds? **(check one)**

□ Very satisfied
□ Fairly satisfied
Neither satisfied
□ nor dissatisfied
□ Not too satisfied
□ Not at all satisfied

Section 8: Background questions

These last questions will help us compare your responses to those of other trout anglers.

1. Who was most influential in your development as a trout angler? **(check one)**

□ No one, I started on my own
□ Father
□ Brother
□ Other male relative
□ Female relative
□ Member of a fishing club
□ Friend, not a fishing club member
□ Someone else? _____

2. At what age did you start trout fishing? I was _____ years old.

3. Considering all of the other outdoor recreations that you participate in, would you say that trout fishing in Wisconsin is… **(check one)**

□ …**less important than ALL** of your other outdoor recreations
□ …**less important than MOST** of your other outdoor recreations
□ …**no more or less important** than your other outdoor recreations
□ …**more important than MOST** of your other outdoor recreation
□ …**more important than ALL** of your other outdoor recreations

4. Do you belong to any of the following clubs / organizations? **(check all that apply)**

□ Trout Unlimited
□ Fly Fishing Federation
□ Rod and gun club
□ Environmental / Conservation organization
□ Some other fishing club or organization?
_____

5. Are you: □ male □ female

6. What is your age? I am _____ years old.

7. Do you have any children between the ages of 8 and 18?

   □ Yes □ No → **go to Question 9**

8. Do any of your children go fishing in Wisconsin? **(check one)**

   □ No
   □ Yes, but not for inland trout
   □ Yes, both inland trout fishing and other fishing
   □ Yes, only inland trout fishing

9. How would you describe your primary residence? **(check one)** □ Urban/Suburban □ Rural

10. In which Wisconsin county is your primary residence? _____ County

11. How many years have you resided in this county? If less than 1 year, please write 1. _____ years

12. Approximately what was your total household income in 2011 before taxes? Include your spouse/partner if appropriate. We ask this question only to see if there is a relationship between income and participation. Your reply is confidential, but **if you prefer, you may skip this question**. **(check one)**

    □ Less than $10,000
    □ $10,000 to $24,999
    □ $25,000 to $49,999
    □ $50,000 to $74,999
    □ $75,000 to $99,999
    □ $100,000 to $124,999
    □ $125,000 to $149,999
    □ $150,000 or more

Sometimes we like to follow-up on a questionnaire to obtain additional information about your fishing experiences. If we need to, may we contact you? If yes, what evening telephone number should we dial and whom should we ask for?

_____ _____

(area code) phone number name

Thank you for assisting us with improving Wisconsin trout fishing.

Please return the questionnaire at your earliest convenience in the provided stamped envelope.

If there is anything more you would like to tell us about your past trout fishing experiences in Wisconsin or suggestions for improving the inland trout fishing program, please use the space on the following pages.

Bureau of Science Services
Wisconsin Department of Natural Resources
P.O. Box 7921
Madison, WI 53707-7921

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Appendix C: Non-Response Bias Script

ID number: _____

Hello, my name is _____. I'm calling from the Department of Natural Resources.
Is _____ available please?

If no, they are not available:
Is there a better time to reach him / her?
Record time: _____
Thank you; have a good evening.

If yes, I'm calling regarding a survey of trout fishing in Wisconsin that was mailed to this past spring. We noticed that you did not respond to the survey, but your input is very valuable. Would you be willing to answer some quick questions for me – it will take only a couple of minutes.

If no (refusal): Alright. Have a good evening. Record refusal here _____

If yes: Thank you. I'll try to make this go as quickly as I can for you.

1. Did you do any inland trout fishing in Wisconsin during 2011?

   □ Yes → **continue with question 2** □ No → **skip to question 14 introduction**

2. Which types of inland trout do you fish for? **(check all that apply.)**

   □ Brook trout □ Rainbow trout
   □ Brown trout □ Lake trout (species, not stream trout found in lakes or ponds)

3. How many years have you been trout fishing in Wisconsin? If this is your first year, write "1" in the space provided.

   I have been fishing for trout in Wisconsin for _____ years.

4. Did you do ***any*** fishing for trout on a Wisconsin stream during 2011?

   □ Yes □ No → **skip to question 12**

5. How many different Wisconsin streams did you fish for trout in 2011?

   I fished _____ different streams for trout in Wisconsin in 2011

6. Overall, how satisfied are you with your trout fishing experiences on Wisconsin streams? **(check one)**

□ Very satisfied
□ Fairly satisfied
Neither satisfied
□ nor dissatisfied
□ Not too satisfied
□ Not at all satisfied

7. Did you fish during the 2011 **early trout season** (March 5 – May 1)?

□ Yes □ No

8. Did you fish during the 2011 **regular trout season** (May 7 – September 30)?

□ Yes □ No

9. **In general,** how important would you say it is that Wisconsin stocks some streams to provide trout fishing opportunities? **(check one)**

□ Very important
□ Somewhat important
□ Unsure
□ Not too important
□ Not at all important

10. For you personally, would you say the regulations for trout streams are easy or difficult to understand? **(check one)**

□ Very easy to understand
□ Fairly easy to understand
□ Unsure
□ Fairly difficult to understand
□ Very difficult to understand

11. Have regulations for a specific trout stream ever prevented you from fishing that stream?

□ Yes □ No

12. Did you do ***any*** fishing for trout at an inland lake or pond in Wisconsin during 2011?

□ Yes □ No → **skip to question 14 introduction**

13. How many different inland lakes and ponds in Wisconsin did you fish for trout in 2011?

I fished _____ different inland lakes or ponds for trout in Wisconsin in 2011

Lastly I have just a few questions so we can compare your answers to other people who go trout fishing.

14. Considering all of the other outdoor recreations that you participate in, would you say that trout fishing in Wisconsin is… **(check one)**

    □ …**less important than ALL** of your other outdoor recreations
    □ …**less important than MOST** of your other outdoor recreations
    □ …**no more or less important** than your other outdoor recreations
    □ …**more important than MOST** of your other outdoor recreation
    □ …**more important than ALL** of your other outdoor recreations

15. Are you: □ male □ female

16. What is your age? I am _____ years old.

17. How would you describe your primary residence? **(check one)** □ Urban/Suburban □ Rural

Ending: That's all the questions I have for you. Thank you for your time and have a great evening.