

Results of the 2011 Survey of Lapsed Wisconsin Inland Trout Anglers

**Submitted to:
Bureau of Fisheries Management**

**Prepared by:
Bureau of Science Services**

May 2012

For additional information please contact:

Jordan Petchenik
Department of Natural Resources
Bureau of Science Services
101 South Webster Street
Madison, WI 53707
608/266-8523

jordan.petchenik@wisconsin.gov

Acknowledgements

Three colleagues deserve special recognition for their guidance with this project. Richard "Scot" Stewart and Marty Engel of the Bureau of Fisheries Management and Matt Mitro of the Bureau of Science Services were the driving force behind this research. Without their passion for responsible fisheries management and improving trout fishing experiences for Wisconsin anglers this research would not have occurred. Thanks are also extended to the survey respondents that returned completed questionnaires, many of which included thoughtful and informative comments.

Thank you for giving me the opportunity to give some feedback to your survey. In years past I have spent many hours enjoying the afternoon on a trout stream and I would like to do it again.

I will be trout fishing again soon. Wisconsin has a lot to offer and I'm very pleased with research work that's been done. Regulation changes in past years have seemed to improve my area of trout streams. I love to trout fish and will be back. I'm just short of free time these past couple years.

At no time have I vowed never to trout fish again. I may start again in the future because I do enjoy the thrill on a brookie on the end of the line.

I'll buy again when my next generation of nieces/nephews go fishing more, probably in 2012.

Like most people, I don't have the time to get out and fish, so when I do get out it needs to be worth my time. The cost: \$16 license, \$7.25 stamp, \$50.00 gas to do it -- \$75 a year all for three to five seven inch trout!

I didn't buy the stamp because the water levels have been too low. The number of and quality of trout have dropped and the areas that are close to me are overcrowded with out-of-towners. So I find it better to fish for other species a lot easier and less expensive.

All the regulations have turned me off. And the streams -- most of the streams I fished have very few trout in them. All the streams are shallow, no turns, no holes or down falls to fish. I would walk miles without a hole to fish. I hope something gets done!

The number of regulations and lack of quality fish impede me from supporting the sport.

-- Volunteered comments from survey respondents

Table of Contents

3	Introduction and Research Highlights
7	Methods: Sampling, Data Collection and Analysis
9	Results and Discussion
9	I. Making Sense of Lapsed Participation
21	Management Implications
24	II. Initiation to and Years of Trout Fishing Experience
27	III. Trout Fishing Experiences and Techniques
34	IV. Lapsed Trout Angler Background

Introduction and Research Highlights

The research was conducted to inform the Wisconsin Department of Natural Resources' fisheries management program on reasons for lapsed participation in Wisconsin inland trout fishing. Sales of Wisconsin's inland trout stamp have remained relatively stable. During the 11-year period from 2000 through 2010, an average of 139,204 inland trout stamps were sold (excluding stamps issued in conjunction with the Conservation Patrons License). Sales ranged from a high of 146,803 in 2009 to a low of 132,035 in 2006. Despite this stability, like any attentive business, retention is one key to success. This research explored why previously dedicated holders of the inland trout stamp stopped purchasing the stamp. Specifically, the research will identify the aspects of trout management which are influenced by Department actions and which may contribute to angler drop-out.

A secondary purpose is to explore the role our trout regulations have had on lapsed participation. For years, both regional personnel and Department administrators have heard from trout anglers that there are too many regulations for Wisconsin inland trout fishing; that the regulations are complex, confusing and in some situations, illogical. Management decisions, however, should not be based on anecdotal information. Results of this research will explain just how much influence our regulations have had on lapsed participation in trout fishing.

The results of this study are based on data generated from a questionnaire mailed to a random sample of 800 lapsed inland trout anglers. Lapsed anglers were defined as not purchasing the inland trout stamp for the last three consecutive years (2009 through 2011) but had been "dedicated" holders by purchasing the inland trout stamp the five consecutive previous years (2004 through 2008). After a maximum of three contacts, 498 lapsed trout anglers returned usable questionnaires yielding a 68 percent response rate.

To anticipate the detailed findings of the Results section, seven major findings followed by seven secondary findings are presented here.

Major Finding 1.

How lapsed anglers choose to allocate their time is the primary reason they have stopped participating in inland trout fishing (Table I2, page 14). Time constraints was cited by just over one-third (35%) of lapsed anglers as their primary reason for not trout fishing. One-fourth (25%) of the lapsed anglers ranked time constraints as either their most or second most important reason for why they no longer pursue inland trout. Time constraints was significantly more influential for respondents less than 40 years old than for older respondents.

Major Finding 2.

Trout regulations were cause for some anglers to break their participation, but they were not the most influential reason, and significantly less important (less influential) than time constraints (Table I2, page 14). The state's inland trout regulations were cited by 12 percent of lapsed trout anglers as either their first or second most important reason they no longer pursue inland trout.

Major Finding 3.

The quality of the trout fishery at the respondents' favorite trout water was cited as the most important reason for lapsed participation by one lapsed angler in eight (13%); one lapsed angler in seven (14%) cited this as the first or second most important reason s/he no longer pursued inland trout (Table I2, page 14). It should be recognized that while active management such as habitat improvement and regulation simplification can lead to greater quality opportunities and more satisfying experiences on select waters, other uncontrollable events such as drought, climate change and private landowner practices may be influencing perceptions of quality on a larger scale.

Major Finding 4.

Poor stream access and stream conditions explained lapsed participation for less than ten percent (7%) of the respondents (Table I2, page 14). About one lapsed angler in seven (15%) cited poor stream access and stream conditions as the first or second most important reasons for not fishing. As noted above, events and activities beyond the Department's control will continue to influence stream access and conditions.

Major Finding 5.

Results indicate that if the issue which prompted a trout angler's departure was remedied, a majority of those anglers would start trout fishing again (Table I3, page 20).

Of the lapsed trout anglers that ranked the poor quality of their favorite trout fishery as the primary reason they stopped fishing, more than eight in ten (83%) indicated they would likely return if the quality improved.

For those that ranked poor stream access and stream conditions as the primary reason they stopped fishing, two-thirds (67%) indicated they would likely return if access and conditions improved.

Of the lapsed trout anglers that ranked our regulations as the primary reason they stopped fishing, about three-fourths (74%) indicated that they would likely return if our regulations were simplified or allowed anglers to fish the way they preferred.

Three-fourths (74%) of lapsed anglers reported that would likely start trout fishing again if their current time constraints improved. This finding perhaps holds real potential for returned participation when current time constraints clear.

Major Finding 6.

Of the seven influences on lapsed participation, four are responsive to DNR management and policies (Figure I2, page 22). Access to and conditions of trout streams (discounting natural occurrences such as drought periods), the quality of trout waters, and trout fishing regulations can all be addressed in-part by DNR actions. If these potential influences on lapsed participation were remedied (i.e., access to and conditions of streams improved through increased funds from the stewardship acquisition program, quality of trout waters improved, and regulations were simplified), then two hypotheses emerge: 1) the influence of fishing-related expenses on lapsed participation would diminish because the value of the experience would increase (i.e., the fishing experience

becomes worth the expense); and 2) time constraints as a barrier to participation would diminish and time would once again be allocated for trout fishing. While this interpretation is not a quick nor simple fix, it points to a prescription to curb lapsed participation in trout fishing.

Major Finding 7.

Considerably more lapsed trout anglers were satisfied than dissatisfied with their Wisconsin trout fishing experiences (Table III1, page 27). More than eight in ten (83%) lapsed trout anglers rated their trout fishing experiences as satisfactory; three in ten reported they were “very satisfied” with their trout fishing experiences. Just fewer than one in five (18%) lapsed trout anglers rated their trout fishing experiences as unsatisfactory; only two percent reported they were “not at all satisfied” with their trout fishing experiences.

Secondary Findings

1. No single item had an alarming influence on lapsed participation. Not one of the 27 influences resulted in a mean score of “moderate influence” or greater (Table I1, page 12). The highest mean score was 2.5 (between “little” and “moderate”) for “work or household responsibilities.” A possible interpretation is that multiple influences were present, working against an angler’s participation, to the point where the angler eventually succumbed to those influences.
2. Lapsed trout anglers exhibited low levels of commitment to trout fishing (Table III8, page 32). More than twice as many lapsed anglers said trout fishing was less important than their other outdoor activities as said it was more important. Nearly two-fifths (38%) said trout fishing was less important than all (9%) or most (29%) other outdoor activities they participate in. Only 15 percent of the lapsed anglers said trout fishing was more important than all (2%) or most (13%) of their other outdoor activities. Slightly less than one-half (47%) reported that trout fishing was no more or less important than other outdoor activities. This low level of importance is not surprising (they’ve already deserted from participation) and is also a possible predictor for continued desertion.
3. The mean age lapsed trout anglers started trout fishing was 21 (Table II1, page 24). This initiation age is considerably older than that typically found for similar outdoor pursuits such as general fishing (eight to ten years old) and hunting (12 years old). One might hypothesize that this older initiation age results in lower commitment levels to the sport.
4. The importance of fathers as the socializing agent for trout fishing cannot be ignored (Table II3, page 25). Development as a trout angler was most frequently attributed to the respondent’s father with just over one-fourth (27%) citing their father as being most influential in their trout fishing development. For those who reported their father as being most influential, the mean initiation age was 11 years old.
5. Live bait was the most frequently cited technique used to pursue trout (Table III2, page 28). Just more than one-half (51%) of the lapsed trout 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 35 percent and 25 percent, respectively, of the lapsed trout anglers. Though fly fishing is frequently associated with the pursuit of trout, it was not commonly practiced by lapsed anglers. More than one-half (57%) of the lapsed trout anglers said they “never” or “rarely” fished for trout using artificial flies.

6. Lapsed anglers who always fished with bait were more likely to keep all legal trout (61%) than release all trout (12%) or even keeping some trout and releasing others (27%) (page 29). Those who never fished with live bait were most likely to release all trout (64%) ($p < .000$).
7. Overall, nine in ten (92%) lapsed anglers fished a stream; more than one-half (57%) fished an inland lake or spring pond (Table III5, page 30). Just over two-fifths (43%) of lapsed trout anglers were exclusive stream anglers, meaning in a typical year they did not fish an inland lake or spring pond. Less than one lapsed angler in ten (8%) exclusively fished inland lakes or spring ponds. Approximately one-half (49%) of the lapsed anglers fished both streams and inland lakes or spring ponds in a typical year.

Methods: Sampling, Data Collection and Analysis

Sampling and Data Collection

The data presented in this report were generated from a questionnaire mailed to Wisconsin residents who previously held a Wisconsin inland trout stamp. A lapsed trout angler was defined as someone who was at least 21 years old and who had not purchased the stamp for the last three consecutive years (2009 through 2011) but had been a “dedicated” holder by purchasing the inland trout stamp the five consecutive previous years (2004 through 2008). From these criteria, 2,268 lapsed anglers were identified from the Departmental database of inland trout stamp holders. (Patrons license purchasers were excluded because not all holders of the license pursue inland trout.) A screening letter was mailed to the identified population to verify current mailing addresses (a necessity given the survey was being mailed to addresses that were three years old). After three weeks, 290 non-deliverable letters (including deceased) were purged from the population, resulting 1,978 viable addresses. A random selection of 800 lapsed trout anglers was drawn from this list.

Data were obtained through the use of a mailed questionnaire developed in consultation with personnel from Department of Natural Resources’ (DNR) Bureaus of Fisheries Management and Science Services. The questionnaire was pre-tested on six lapsed trout anglers; revisions were subsequently made resulting in a six-page questionnaire.

Data Collection

Standard mailed questionnaire techniques were used in the conduct of the survey. A maximum of three contacts were made with each lapsed angler. These contacts included an initial questionnaire with a cover letter (signed by Michael Staggs, Bureau 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; and a second full mailing sent to all non-respondents. Mailings were conducted during October and November 2011.

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; mailings undelivered with no forwarding address given; or people who said they did not purchase a license (although they were in the Department database). From the sample of 800 lapsed trout anglers, 71 were eliminated as non-sample. This is a high number of non-sample questionnaires, but perhaps not surprising given that mortality is a likely explanation for lapsed participation. Useable questionnaires were returned by 498 lapsed trout anglers for a response rate of 68 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 15.0. All mailings originated from and were returned to the Bureau of Science Services. A margin of error for the study is +/- 3 percent.

Non-Response Check and Interpreting any Application of Non-Respondents

A non-response bias check is typically conducted when returns fall below 60 percent. With a response rate of 68 percent, the potential for non-response bias was dismissed.

From the 2,268 lapsed anglers, 361 (290 from the screener mailing and 71 from the survey) were returned as non-deliverable due to moving without a forwarding address and death. This represents 16 percent of all lapsed anglers. **We cannot, however, definitively conclude that 16 percent of lapsed participation is due to death and moving out of state.** Additional research beyond the scope of the survey is required to answer: 1) how many of the non-respondents moved out of state (differentiating those who moved but remained in Wisconsin); and 2) how many lapsed anglers have died. While 57 questionnaires were returned by spouses and children noting that the addressee had passed away, it's likely that additional non-respondents had died. Thus, we cannot report with statistical validity and reliability how the non-respondents "fit" into the lapsed angler picture.

Respondent Quotes

Many respondents submitted comments with their questionnaires, most of which addressed why they stopped trout fishing. Others comments were more general and addressed the respondents' past enjoyment of Wisconsin trout fishing. Some of those comments have been included in this report to underscore survey findings. They appear in italic text.

Results and Discussion

I. Making Sense of Lapsed Participation

This first section presents a large amount of information. To assist the reader with understanding reasons behind lapsed participation results are presented in the following order:

1. Twenty seven possible influences on lapsed participation, organized by seven themes, are presented. Presentation of the individual items is intended to uncover whether or not a single item or two exerts a moderate or great amount of influence on lapsed participation. The findings demonstrate that no single item had a strong influence on lapsed participation.
2. Although no single item exerted notable influence on lapsed participation, when items with a shared theme are considered collectively, a clearer picture emerges explaining why trout anglers stopped participating. Table I2 on page 14 presents the relative importance of seven thematic influences on lapsed participation. It answers the question of “Which theme is most important in explaining lapsed participation?” Time constraints was the most frequently cited theme for lapsed participation.
3. Presented next is the likelihood that an inland trout angler would start fishing again if the primary theme for lapsed participation was remedied. Results are encouraging; they indicate that if the issue which prompted trout anglers’ departure was remedied, a majority of those anglers would start trout fishing again.
4. The section concludes by presenting the management implications of the previously discussed findings. Figure I2 on page 22 illustrates that by addressing three influential themes which to a certain extent are under Department control, anglers would be more likely to allocate time for trout fishing.

Table I1 (page 12) presents the results of the 27 possible influences. The reported mean scores are based on a 6-point scale where 0 equals “no influence” or “not applicable (NA),” 1 equals “very little influence,” 3 equals “moderate influence” and 5 equals “great influence.” Overall, no single item had an alarming influence on lapsed participation. Not one of the 27 influences resulted in a mean score of “moderate influence” or greater. The highest mean score was 2.5 (between “little” and “moderate”) for “work or household responsibilities.” A possible interpretation is that multiple influences were present, working against an angler’s participation, to the point where the angler eventually succumbed to those influences.

The “story” within the table is not obvious. To help understand the findings, consider two questions: which items resulted in the highest mean scores (“moderate” to “great” influence); and which items had no influence at all? Seven of the 27 items resulted in ratings of “moderate” to “great” for 40 percent or more of the lapsed anglers, which resulted in mean scores of at least 2.0. The items which seemed to exert the strongest influence on desertion from trout fishing included:

Time constraints

1. Work or household responsibilities: 55 percent reported “moderate” to “great” influence; 2.5 mean score.
2. Other activities enjoyed more: 50 percent reported “moderate” to “great” influence; 2.2 mean score.

Quality of trout fishery in favorite trout water

3. Not enough trout to catch: 48 percent reported “moderate” to “great” influence; 2.1 mean score.
4. Not enough large trout: 44 percent reported “moderate” to “great” influence; 2.0 mean score.

Regulations

5. Regulations vary along the course of a stream or are different for multiple streams in the same area: 44 percent reported “moderate” to “great” influence; 2.1 mean score.
6. Number of regulations: 43 percent reported “moderate” to “great” influence; 2.0 mean score.

Expenses

7. Trout stamp/license became too costly: 41 percent reported “moderate” to “great” influence; 2.0 mean score.

The other perspective considers which items had no influence at all on angler desertion. A criterion of 50 percent was selected based on the observation that if the no influence cutoff was lowered to 40 percent, 18 of the 27 items would have qualified. Six of the 27 items had no influence at all on desertion for at least 50 percent of the lapsed anglers. These items included:

Access to and conditions of trout streams

1. I was harassed by other stream users or by landowners: 72 percent reported “no influence.”
2. Not enough public access or I lost access via private land: 50 percent reported “no influence.”
3. Overcrowded with other stream users: 50 percent reported “no influence.”

Age, health and companions

4. Fishing companions stopped participating or moved away: 62 percent reported “no influence.”
5. Health issue or too old to get around fishing: 61 percent reported “no influence.”

Time constraints

6. Time spent with children: 50 percent reported “no influence.”

The following comments indicate that lack of interest in trout fishing (i.e., little to no commitment) was a primary reason some respondents stopped purchasing the trout stamp. Other respondents never were trout anglers; they purchased the stamp to support resource management.

I only bought a stamp because there could have been trout in one the lakes I fished. I never caught one so I stopped buying.

We only purchased the trout stamp because it's required on the lake we wanted to fish.

I never really fished for trout. I was told to get a stamp just in case a trout bit my hook.

I never really did trout fish. I got the stamp because I thought I would need it to take my grandkids fishing for trout. I'm a bass fisher person and panfish through the ice.

I never was an inland trout person. I bought the stamp in case we wanted to troll for lakers in Big Green Lake or in Geneva. I'm almost exclusively a Lake Michigan angler.

We had bought the stamps to support sport fishing but were never really trout fishing people.

I also want to support those resources. So, please continue to provide your services.

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.

Table I1: Possible influences on why trout anglers may have stopped fishing

Possible influence	Mean	None or NA (0)	Very little to Little (1 - 2)	Moderate to Great (3 - 5)
Time constraints				
Work or household responsibilities	2.5	27%	18	55
Other activities I enjoy more	2.2	27%	22	50
Time spent with children	1.6	50%	16	34
Travel distance – takes too much time	1.5	43%	28	29
Fish preferences				
Prefer to catch or eat other fish	1.8	42%	20	38
Age, health, companions				
Health issues or too old to get around fishing	1.2	61%	13	26
Companions stopped fishing or moved away	1.1	62%	14	24
Access to and conditions of trout streams				
Stream habitat became degraded or difficult to fish	1.7	43%	22	36
Not enough public access or I lost access via private land	1.5	50%	18	32
Overcrowded with other stream users	1.2	50%	28	23
I was harassed by other users or by landowners	< 1	72%	18	9
Expenses				
Trout stamp/license became too costly	2.0	32%	28	41
Other fishing expenses became too costly	1.3	43%	33	24

NOTE: Results should be read across rows to total 100% (or greater due to rounding).

Table I1 (cont.): Possible influences on why trout anglers may have stopped fishing

Possible influence	Mean	None or NA (0)	Very little to Little (1 - 2)	Moderate to Great (3 - 5)
Regulations				
Regs. vary along the course of a stream or are different for multiple streams in same area	2.1	34%	22	44
Number of regs.	2.0	33%	25	43
Overall complexity of regs. and seasons	1.8	38%	25	36
Difficulty understanding regs.	1.7	43%	22	35
Regs. are not clearly posted at access sites	1.6	45%	23	32
Regs. did not allow me to keep trout during early spring catch-release season	1.0	68%	19	13
Regs. prevented me from fishing the way I wanted to	1.0	59%	22	18
Quality of trout fishery I favorite trout water				
Not enough trout to catch	2.1	32%	21	48
Not enough large trout	2.0	35%	21	44
Too many small trout	1.8	37%	29	35
Favorite water no longer stocked with trout	1.5	51%	18	31
Wild trout no longer present	1.4	51%	20	29
Type of trout I prefer to catch no longer present	1.1	57%	22	20
Trout fishing is better in other states or Canada	1.0	77%	7	17

NOTE: Results should be read across rows to total 100% (or greater due to rounding).

After rating each of the possible influences for why the respondents may have stopped trout fishing, they were asked to rank the importance of the seven major themes. A ranking of one was recorded as the most important influence on their lapsed participation; a ranking of seven was recorded as the least important influence. Lower mean scores, therefore, indicate greater influence.

Table I2: Ranking of seven influential themes on lapsed inland trout fishing

Possible influences	Mean	% ranked 1 st	% ranked 1 st or 2 nd
Time constraints	3.0	35%	25%
Access to and conditions of trout streams	3.7	7	15
Quality of fishery of favorite trout water	3.8	13	14
Regulations	3.9	12	12
Expenses	4.1	6	11
Age, health and companions	4.2	21	16
Fish preferences	4.5	5	7

How lapsed anglers allocated their time was the primary reason they stopped participating in inland trout fishing (Table I2). (Note the distinction between how lapsed anglers choose to allocate their time and not having enough time.) Time constraints was cited by more than one-third (35%) of lapsed anglers as their primary reason for not trout fishing. One-fourth (25%) of the lapsed anglers ranked time constraints as either their most or second most important reason for why they no longer pursue inland trout. The mean score of 3.0 is to the left of the 7-point scale midpoint, indicating a degree of importance.

I certainly intend to resume some day when my kids (13 and 16 years old) are out of the house or willing to try something requiring patience and quiet. I also need to free up the time from work and parenting demands in order to concentrate enough on trout fishing and fly-tying.

My decision to stop trout fishing has nothing at all to do with the quality of the resource or regulations, it is about time and priorities.

The fish or fishing had nothing to do with the reason I quit. Too many things to do and not enough time. We would fish about two hours travel time away from home, which would take too much time out of my weekend. I fished with my boyfriend and just wanted a little more 'me' time. The quality of the fishing had nothing to do with it.

Fishing is great in Wisconsin! I have a two-year old and a one-year old. I have NO time to fish and I live only 1-½ miles from good waters.

One hundred percent of my free time is now spent musky fishing. I have musky fever and lost interest in trout fishing. If we didn't fish for musky we would still be fishing trout in Wisconsin. Musky fishing is the only reason we stopped.

The reason I stopped trout fishing is I now live on the Bay of Green Bay. I mainly fish for walleye and perch. If I ever go trout fishing again I will buy my stamp at that time. Keep up the good work.

I stopped trout fishing when I started to go salmon fishing out of Sheboygan charter boats. I fish for walleye all the time.

Another noteworthy finding is that while our inland trout regulations were certainly cause for some anglers to break their participation, it was not the primary reason, and significantly less important (less influential) than time constraints. The state's inland trout regulations were cited by 12 percent of lapsed trout anglers as the primary reason they no longer trout fish in Wisconsin; an identical percentage ranked regulations as their first or second most important reason. The mean score was 3.9, indicating a mid-point measure on the 7-point scale.

Why I don't trout fish – too many regulations. It is too bad when you want to go fishing you almost need to take a lawyer with you to know where to fish. I fish mostly in Iowa and Grant Counties – and the wardens there were the worst rude men to talk to. The last warden I talked to was enough for me – that's when I quit. I still miss trout fishing very much as I am 78 years old but still in good health.

Where I fish in Waupaca and Shawano Counties, the regulations are confusing. It's hard to know where you can/can't use certain baits.

I don't need a book to figure out the laws. I don't care about the stamp fee; but, it isn't worth the hassle of reading the reg book to figure it out. If there was an app on the DNR site where my phone could just pull up the regulations that would be great but I doubt the funds are there to provide that service. I have spent time reading the trout reg book, looking for the posted signs and so on. I like to fish from my kayak and a float trip becomes complicated to fish at times. I'd rather fish smallies and not worry about it.

It seems like a big risk to go fishing in a different stream without doing a lot of research reading the regulations for each stream. I don't have the time or patience for all the different regulations and restrictions. It is very hard to tell where one rule starts and another starts along a stream – it feels like entrapment. My brother almost had to forfeit his fishing pole, tackle box and possibly my truck when he caught a trout and released it and the DNR came over and said the rules for that part of the stream were different than my side – he paid the fine. It is much more relaxing to fish for crappie, bass and bluegill.

The regs are too hard to understand and you need to carry the darn regs book all the time with you. Too many regulations from one stream to the next plays a large part in why I quit.

Trout fishing on a stream or river is a physical activity. As an angler ages, wading a stream or traversing rough terrain may become difficult or insurmountable. It's no surprise that the respondents' age, health (and secondarily status of fishing companions) influenced lapsed participation. This was the second most frequently cited primary reason (21%) and primary plus secondary reason (16%) that lapsed anglers no longer trout fish. Yet the mean score of 4.2, while at the mid-point of the 7-point scale, is deceptively high. This is attributed to almost 40 percent of the respondents reporting that their age, health or companions had little to do with their lapsed participation (i.e., ranked sixth or seventh, essentially saying it was not an influence for younger respondents in good health).

It's 100 percent physical for me. I can't get around anymore. I enjoyed every minute I spent in a trout stream.

It is easier for me to fish from a boat than to wade in streams, mainly due to getting old.

Mostly I enjoyed walking the streams. I injured my knee and I can no longer walk in a stream. Now my balance is so bad that I can't really walk a stream AND fish at the same time. Were that not the case, I would still buy a stamp.

The only reason I use to get a trout stamp and license was because I fished with my two young grandsons. Now they are old enough to go by themselves. I don't need a license because the only time I needed it was when I went with them.

I went trout fishing for years with a friend who has since moved away. I would drive and he did everything else. He had equipment and bait and everything. I really enjoyed it, but I just don't have anyone to go with now. This survey seems like a great idea.

Due to medical reasons (heart/stroke) my husband is no longer able to trout fish. This was something he introduced me to and that we did together. It's no fun going alone!

I lost others that participated in fishing with me so I became less interested in stream fishing. I now fish walleye and pike in Green Bay and Great Lakes fishing is what I do now.

The quality of the trout fishery at the respondents' favorite trout water was cited as the most important reason for lapsed participation by only one lapsed angler in eight (13%); one lapsed angler in seven (14%) cited this as the first or second most important reason s/he no longer pursued inland trout. It should be recognized that while active management such as habitat improvement and regulation simplification can lead to greater quality opportunities and more satisfying experiences on select waters, other uncontrollable events such as drought, climate change and private landowner practices may be influencing perceptions of quality on a larger scale.

I used to fish Stormy Lake up by Conover for brown trout during the winter and summer with great trout populations. And in recent years when I went fishing on Stormy you are lucky if you catch one trout and it is usually undersized. I am all for catch and release, but it's nice to keep a few for dinner once in a while. I have talked

to others in the area and they have all said that DNR has neglected the trout fishery in Vilas County for many years and spent most of the funding closer to the metro areas. I don't know how true that is, I just would like to see the trout fishing improve in this area.

When I did have a trout stamp the size of fish were so small it did not seem worth it. Last few years I decided not to fish for trout so I did not get stamps.

I think one of the biggest reasons for my lack of trout fishing is the discontinuation of stocking trout by DNR in streams and rivers. Also changes on Oconto River has affected fishing there. Between that, and the lack of stocking trout there, it is not worth the effort and time.

The majority of my fishing was on stocked ponds. Most of them haven't been stocked lately. The ones that have been seem to be stocked with seven inch trout. Size of fish and competition for them are the two main reasons I no longer trout fish.

I used to take my son to a local park pond that was stocked with rainbow trout. Early in the season they were fun to catch and were almost big enough to keep for a meal. A few weeks after the season starts the trout are mostly gone. What appears to happen is some families bring down many children at a time and since the children don't require licenses they take all the fish within a month or so after they are stocked.

I live in West Bend now and cannot find any decent trout streams for rainbow, brooks or browns. I would start trout fishing again if there were some good streams. Instead I go to Colorado twice a year now to trout fish.

Poor stream access and stream conditions explained lapsed participation for less than ten percent (7%) of the respondents. About one lapsed angler in seven (15%) cited poor stream access and stream conditions as the first or second most important reasons for not fishing. As noted above, events and activities beyond the Department's control will continue to influence stream access and conditions.

I was very disappointed when I moved back to the area and found all of the trout streams that I had spent so many hours fishing were now totally overgrown with brush. The brush is so thick right up to the road in most places that you can't even get a line in the water.

Five Mile Washburn County Trout Creek used to be my family's primary spot. We never caught large trout, but it was common to get a dozen or so trout in an hour. That was probably ten years ago. Now the banks are terribly overgrown and all we were catching recently was lots of assorted chubs. Lots! Fishing for trout with an ice jig pole just stopped being enjoyable.

My favorite stream became so overgrown with low-hanging trees that it became nearly impossible to fish. I spent more time untangling my line from the trees than I spent fishing and it was no longer enjoyable.

I use to stream trout fish weekday evenings as I live within 20 miles of a number of streams. The habitat had diminished to the point you had to wade 100 yards to find a

pool or snag that would hold fish. Then another 100 yards, again. That's tough to do in chest waders on a warm evening and then hike back to your car again. In my opinion, habitat is the most needed area of concern. Thanks for being concerned.

I lived on the Willow River about five years. Always caught many each time I fished. It may be coincidental, but after the housing developments were created along the river, the trout seemed to quickly disappear.

Beavers did damage to small streams I like to fish...Too many beaver moved in the brook trout streams so there's no more moving water.

A number of years ago I was under the understanding that the DNR would destroy beaver dams that were affecting the health of a trout stream. Nine Mile Creek near Langlade was one of my favorite streams. After a number of years of excellent fishing, the beavers constructed a major dam. I made a request to destroy the dam but nothing was done. The stream silted-in and became wide and slow. The fishing was never the same so I quit!

The beavers wrecked a lot streams and they have never been reclaimed. So I ask you, where does the trout stamp money go?

Expenses related to inland trout fishing as well as fish preferences to catch and eat fish other than trout were important reasons for some lapsed trout anglers, but less so relative to other reasons. Approximately one lapsed trout angler in ten reported that expenses (11%) and preferences for other fish (7%), respectively, were either the first or second most important reason they no longer fish for inland trout in Wisconsin. We should be aware that many inland streams in Wisconsin have limited potential to produce quality and/or trophy size trout. Opportunities to fish for other species which provide more frequent action as well as meals are available throughout the state and may in-part explain a lapsed angler's preference for other fish.

The comments below foreshadow the impact increased gasoline prices will likely play on future participation.

Basically it all boils down to the increase in license costs. Not to mention the economic decline or 'recession' we are having. Gas is high even though we're within 15 miles of many places to fish, it's still a \$50 bill to go every time. And me being on a fixed income doesn't help or let me help my children pay for their licenses, bait, etc.

I would like to travel to different counties to fish but honestly it's all about money. I can't afford to spend \$35.00-\$45.00 to go fishing with my vehicle (truck) on gasoline alone...This is the first year I won't be duck hunting, as well. It's all about expenses. My wife and I are spending less money due to the economy.

Trout fishing in Wisconsin has always been enjoyable. The reason I stopped has to do with money and time available.

I used to go to northern Wisconsin to fish the Brule. With the price of gas I have found other things to do. Motels are expensive if I would stay overnight.

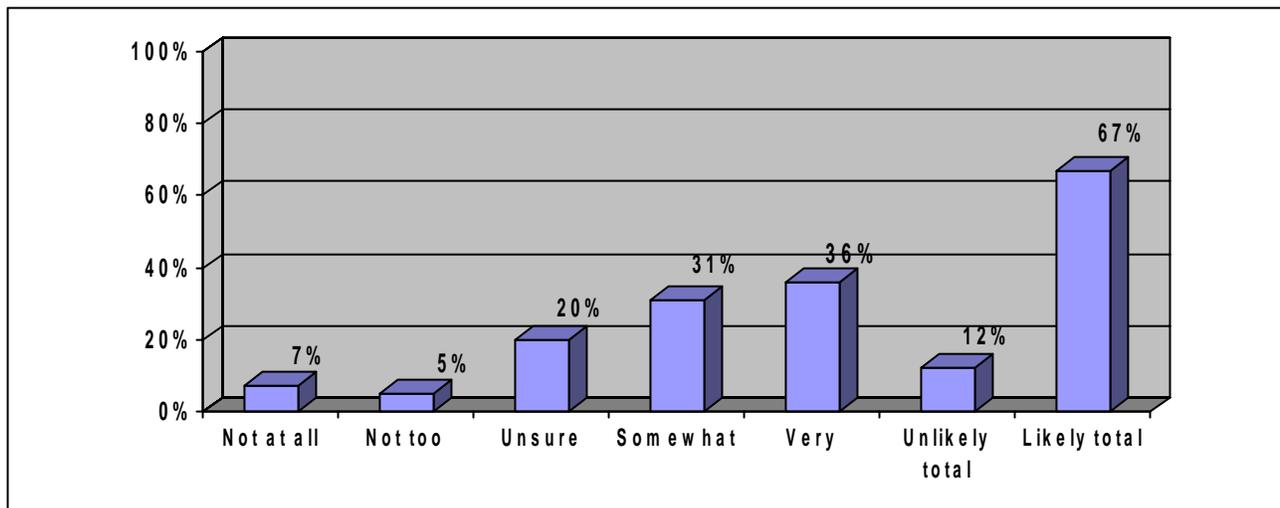
Of the seven possible influence categories, time constraints was identified by enough respondents to permit further analysis. Were respondents with certain characteristics any more likely to say that time constraints was either their most or second most important reason for why they no longer fish for inland trout? Cross-tabulations with the respondents' age and years of fishing experience produced significant differences. Significantly more respondents less than 40 years old selected time constraints as their primary reason they no longer pursue trout (59% ranked first or second). The exact opposite was found for older respondents: significantly fewer respondents over 60 years old selected time constraints as their primary reason they no longer pursue trout (30% ranked first or second) ($p < .000$).

Further analysis reveals that significantly more respondents with less than six years of trout fishing experience selected time constraints as their primary reason they no longer pursue trout (58% ranked first or second). As with respondents' age, the opposite was found for respondents with the most years of fishing experience: significantly fewer respondents with at least 30 years of trout fishing experience selected time constraints as their primary reason they no longer pursue trout (26% ranked first or second) ($p < .000$).

No significant differences were found for the type of water fished; those who exclusively fished streams, inland lakes, or fished both types of water had similar rankings for the influence time constraints had on why they no longer pursue inland trout.

Following the ranking question, the respondents were asked to consider a hypothetical situation: if the primary reason they no longer went trout fishing was remedied (it was no longer an issue for the respondent), how likely is it that they would start inland trout fishing again in Wisconsin? Results illustrated in Figure I1 indicate the majority of lapsed anglers would return. Two-thirds (67%) of the lapsed anglers reported that if the primary reason they no longer trout fish was to disappear, they would be somewhat likely (31%) or very likely (36%) to start trout fishing again. Slightly more than one lapsed angler in ten (12%) is unlikely to start trout fishing again and one-fifth (20%) was uncertain of their future participation.

Figure I1: Likelihood of trout fishing again in Wisconsin if most important reason for lapsed participation was remedied (no longer an issue)



While the results are encouraging, they must be considered relative to the possibility or eventuality that an issue can be or will be remedied. In other words, some reasons for lapsed participation cannot be or are unlikely to be remedied (e.g., debilitating health, old age, preference for fish). But what about the explanations for lapsed participation which can be addressed (e.g., regulations, stream conditions) or are likely to change in a respondent's life (e.g., children are grown, diminished household or work responsibilities)? Table I3 explores the likelihood respondents would start trout fishing again in Wisconsin if the most important reason for their lapsed participation was remedied.

Table I3: Likelihood of trout fishing again in Wisconsin if most important theme for lapsed participation was remedied (no longer an issue)

Most important influence theme	Not at all / Not too likely	Unsure	Somewhat / Very likely
Time constraints	8%	18	74
Access to and conditions of trout streams	6%	27	67
Quality of fishery of favorite trout water	6%	11	83
Regulations	7%	20	74
Expenses	3%	10	87
Age, health and companions	26%	24	50
Fish preferences	24%	48	28

NOTE 1: Results should be read across rows to total 100% (or greater due to rounding).

NOTE 2: With the exception of time constraints (n = 168) and age (n = 107), combined cell sizes are small (n = 27 to 68) because results are based on number one rankings.

Although hypothetical, results indicate that if the issue which prompted a trout angler's departure was remedied, a majority of those anglers would start trout fishing again. For example, of the lapsed trout anglers that ranked the poor quality of their favorite trout fishery as the primary reason they stopped fishing, more than eight in ten (83%) indicated that they would likely return if the quality improved. Similarly, of the lapsed trout anglers that ranked poor stream access and stream conditions as the primary reason they stopped fishing, two-thirds (67%) indicated that they would likely return if access and condition improved. Also noteworthy is that of the lapsed trout anglers that ranked our regulations as the primary reason they stopped fishing, about three-fourths (74%) indicated that they would likely return if our regulations were simplified or allowed anglers to fish the way they preferred. A final noteworthy observation is the high percentage (74%) of lapsed anglers that would likely start trout fishing again if their current time constraints improved. This finding perhaps holds real potential for returned participation given the number of unsolicited comments from respondents that wrote they hope to start fishing again once their responsibilities lighten or their children are older.

My fishing experiences were a lot of good memories and I'm sure I will be back at it soon, it just conflicts with my two sons that play baseball (spring and summer). My oldest has been asking when I'm taking him trout fishing so probably the next year or two I'll be back.

In short, the only reason I have not been trout fishing in the last few years is due to the birth of my two children who seem to occupy the majority of time these days. As things calm down I have every intention of returning to the streams I once frequented. Thank you for all your efforts.

We now have a young son whom I intend on passing the tradition onto...Due to my increased needs at home I have forgone getting my trout stamps. I will again soon, when my son and I can share in the beautiful trout fisheries.

I do enjoy trout fishing. With teenage kids and summer baseball that they play it is hard to get to a good stream for weekend fishing. I always fished the Popple, Pine, Peshtigo. I wonder how many people who had purchased a trout stamp probably do not fish for the same reason.

Management Implications

Perhaps the most important question to consider is what are the management implications of these findings? To address this question we must first accept the idea that constraints on time are not defined as “not having enough time.” A more informative interpretation of time constraints is the lapsed trout angler has chosen to allocate his/her time in specific ways such that trout fishing is no longer a priority (i.e., time is no longer allocated for fishing). This distinction is not intended to imply that a lapsed angler’s perception of time constraints is not real. In particular, family-related responsibilities exist today that were not present a generation ago. Yet if we follow this premise, the question which must be addressed is what, if anything, can be done to foster a re-allocation of time, that is, what can be done to facilitate trout fishing becoming (or remaining) a recreation priority? I believe the results in Table I2 hold the answer. Of the seven influences on lapsed participation, four are responsive to DNR management and policies. Access to and conditions of trout streams, the quality of trout waters, and trout fishing regulations can all be addressed in-part by DNR actions. If these potential influences on lapsed participation were remedied (i.e., access to and conditions of streams improved through increased funds from the stewardship acquisition program, quality of trout waters improved, and regulations were simplified), then two hypotheses emerge: 1) the influence of fishing-related expenses on lapsed participation would diminish because the value of the experience would increase (i.e., the fishing experience becomes worth the expense); and 2) time constraints as a barrier to participation would diminish and time would once again be allocated for trout fishing. While this interpretation is not a quick nor simple fix, I believe it points to a prescription to curb lapsed participation in trout fishing.

I would always catch less and less fish every year. The size would get smaller and smaller every year as well. Mainly I have not had much time to go fishing with having kids that are small. Also I don't have the money. If I knew I would catch decent size fish I would make time and pull money out of my ass to go.

Cost of living is too high, gas to travel is too high. Getting skunked more often than not while the river is degrading is just not worth it.

For the few times I could get fishing it is not worth the expense of the trout stamp. All I ever got was very small six-inch trout. It isn't worth the cost of the stamp.

Figure I2 illustrates the above interpretation. In summary, if the trout fishing experience (access, quality and regulations) is less than satisfactory, the value of the experience relative to the investment is diminished; and if the investment is not worth the experience, then allocation of time for the experience also diminishes.

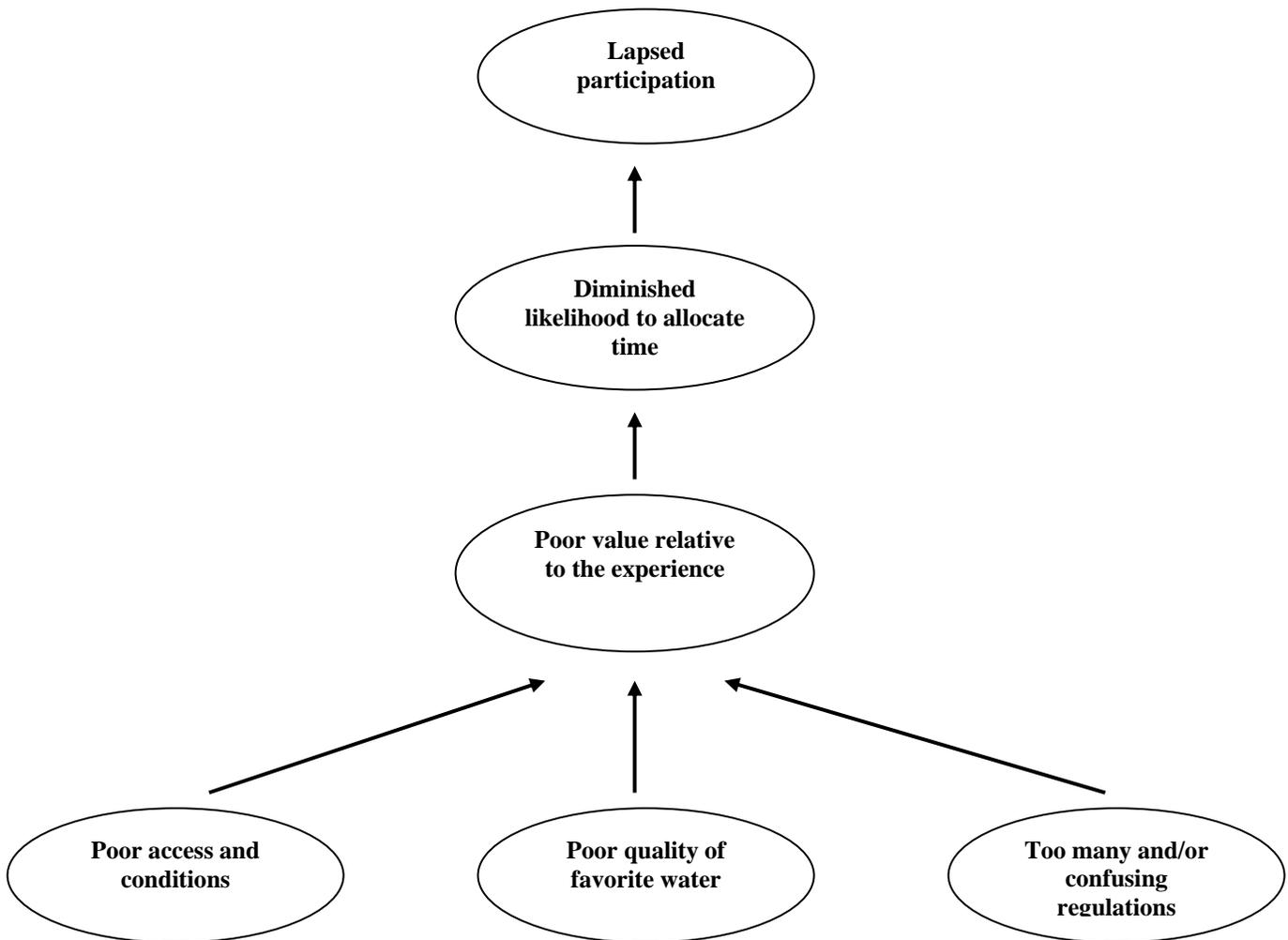


Figure I2: Schematic summary of possible influences leading to lapsed participation

NOTE 1: Other studies have similarly concluded that insufficient time as an explanation for lapsed participation may actually indicate a preference for other recreational pursuits. People will make time for recreations they want to do, perhaps at the expense of activities such as trout fishing. (See “On the Fence about Fishing:

Why Anglers Lapse and Fishing's Competition." American Sportfishing Association, 2012.)

NOTE 2: The above discussion is not meant to imply that the fisheries management program has ignored issues of access, habitat improvement and simplification of trout regulations. The conclusion is drawn solely from the perspectives of the lapsed trout anglers. Their perspective likely points to the need for continued communication with trout anglers regarding work being done to address these barriers. However, as a cautionary note, trout managers must keep in mind that an angler's fishing experiences will always yield greater influence on their assessment of the trout program than what the trout program communicates to them (i.e., personal experience will always trump data).

II. Initiation to and Years of Trout Fishing Experience

This section summarizes four questions from the survey: at what age the respondents began trout fishing, who was most influential in their development as a trout angler, their years of trout fishing prior to lapsing, and their self-assessment of trout fishing expertise.

Table II1 indicates a fairly even age distribution for trout fishing initiation. One lapsed trout angler in six (17%) first went trout fishing before the age of ten. In comparison, one lapsed trout angler in seven (14%) did not start trout fishing until s/he was at least 40 years old. Forty percent of the lapsed trout anglers started trout fishing prior to becoming teenagers; a majority of three-fifths (60%) began before the age of 20. One-fourth (25%) of the lapsed trout anglers did not start trout fishing until they were at least 30 years old. The mean age lapsed trout anglers started trout fishing was 21. This initiation age is considerably older than that typically found for similar outdoor pursuits such as general fishing (eight to ten years old) and hunting (12 years old). A pending study of current trout anglers asked an identical question of when they first went trout fishing. One might hypothesize that lapsed anglers started trout fishing at a later age, thereby diminishing their commitment. Comparing results of the two studies will help address the question of the influence age at fishing initiation might play on participation.

Table II1: Age when lapsed trout anglers began trout fishing

Age	Percent responding
< 10	17%
10 – 12	23
13 – 19	20
20 – 29	16
30 – 39	11
40+	14
Mean starting age = 21 years old	

The vast majority of lapsed trout anglers were not short-timers; they were long-time anglers (Table II2). Respondents had been trout fishing for an average of 21 years before lapsing. Approximately one-half (49%) had at least 20 years of trout fishing experience; three in ten (31%) lapsed anglers had at east 30 years of trout fishing experience. In contrast, approximately one respondent in five (19%) reported not more than five years of trout fishing experience before lapsing.

Table II2: Years of trout fishing prior lapsing

Years	Percent responding
< 6	19%
6 – 10	22
11 – 19	10
20 – 29	18
30+	31
Mean years of trout fishing = 21	

Development as a trout angler was most frequently attributed to the respondent's father (Table II3). Just over one-fourth (27%) of the lapsed 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); about one-fourth (24%) of the lapsed trout anglers cited a friend as influencing their development. For almost one-fifth (18%) of the lapsed trout anglers, development was without influence from others, that is, they started trout fishing and progressed on their own. Other notable socializing agents included other male relatives (exclusive of brothers) (16%) and volunteered responses of "husband" which comprised nearly all of the "someone else" response option. As with initiation age, the pending study of current trout anglers asked an identical question on who was most influential in their development as a trout angler. A comparison worth noting will be those who started on their own; are lapsed trout anglers any 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?

Table II3: Who was most influential in development as a trout angler?

Most influential person	Percent responding
No one, started on own	18%
Father	27
Friend (not fishing club member)	24
Other male relative	16
Brother	6
Female relative	2
Fishing club member	0 (n=2)
Someone else	8
Husband	(7%)

As expected, those who started trout fishing at an early age (pre-teen) were significantly more likely to have more years of trout fishing experience than those who started at older ages (at least 30 years old) ($p < .000$). But 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 respondents whose trout fishing development was most influenced by their father ended up participating in trout fishing the most years. For those who reported their father as being most influential, the mean years of trout fishing experience was 28 years and the mean initiation age was 11 years old. Those who developed their trout skills on their own had 22 mean years of experience with a mean initiation age of 24; and those who were influenced by a friend had 18 mean years of experience with a mean initiation age of 24. Further, for those who reported their father as being most influential, one-half (50%) reported they had at least 30 years of trout fishing experience; for those who developed their trout skills on their own or were influenced by a friend, one-third (33%) and just less than one-fourth (23%) reported at least 30 years of experience, respectively.

Table II4 indicates that when the respondents stopped trout fishing, a slight majority (53%) rated themselves as “intermediate” trout anglers. One-fifth (20%) of the lapsed anglers rated themselves as “beginner” trout anglers while nearly one-fourth (23%) rated themselves as “advanced” trout anglers.

Table II4: Respondent assessment of trout fishing skills when stopped trout fishing

Assessment	Percent responding
Beginner	20%
Intermediate	53
Advanced	23
Unsure	4

As one might hypothesize, a linear relationship was found between years of trout fishing experience and self-assessment. Self-described beginners had only seven mean years of trout fishing experience prior to lapsing; mean years of experience for intermediate anglers was 22 while mean years of experience for advanced anglers was 32. Further, nearly three-fifths (59%) of the beginning anglers had at most five years of trout fishing experience whereas a nearly equal percentage (58%) of advanced anglers had at least 30 years of experience.

III. Trout Fishing Experiences and Techniques

This section summarizes the trout fishing experiences of and techniques used by lapsed anglers. Specifically it addresses how satisfied lapsed anglers were with trout fishing in Wisconsin, what types of trout they pursued, the techniques used in pursuit of trout, their propensity towards keeping or releasing their catch and the number of streams and inland lakes and ponds they fished in a typical year. The section concludes by summarizing the lapsed anglers' trout fishing experiences outside of Wisconsin and the importance of trout fishing relative to other outdoor recreations they enjoy.

Considerably more lapsed trout anglers were satisfied than dissatisfied with their Wisconsin trout fishing experiences (Table III1). More than eight in ten (83%) lapsed trout anglers rated their trout fishing experiences as satisfactory; three in ten reported they were "very satisfied" with their trout fishing experiences. Just fewer than one in five (18%) lapsed trout anglers rated their trout fishing experiences as unsatisfactory; only two percent reported they were "not at all satisfied" with their trout fishing experiences.

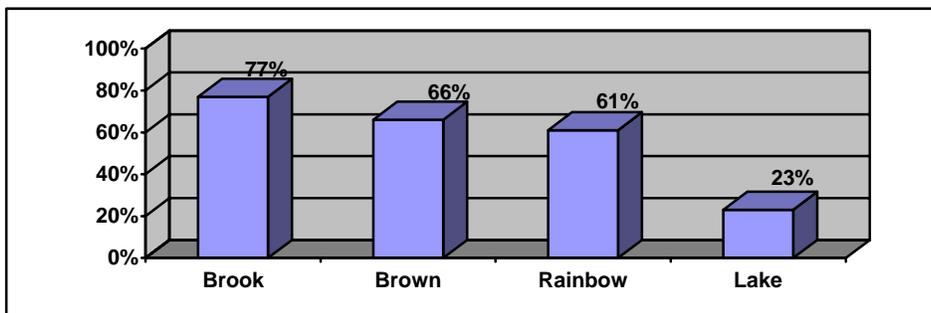
Table III1: Overall satisfaction with trout fishing experiences in Wisconsin

Satisfaction rating	Percent responding
Very satisfied	30%
Somewhat satisfied	53
Not too satisfied	16
Not at all satisfied	2

NOTE: Satisfaction was not related to self-described assessment; beginners were just as likely as advanced trout anglers to be satisfied or dissatisfied with their Wisconsin trout fishing experiences. Likewise, no relationship was found between satisfaction and years of trout fishing experience.

Figure III1 indicates that lapsed trout anglers pursued multiple types of trout with brook trout being most popular. Just more than three-fourths (77%) of the lapsed trout anglers reported they fished for brook trout. Brown trout and rainbow trout were also frequent pursuits; two-thirds (66%) of the lapsed anglers said they fished for brown trout while three-fifths (61%) said they fished for rainbow trout. Nearly one-fourth (23%) of the lapsed anglers reported fishing for lake trout. This finding is considerably higher than expected given the limited availability of lake trout found in inland waters. It's likely that many of the respondents who reported fishing for lake trout confused the species "lake trout" with any trout they caught in an inland lake or pond. (**NOTE:** This confusion was not identified during the survey's pre-test.)

Figure III1: Types of trout pursued by lapsed anglers



A continuum of recreation specialization would show that most lapsed trout anglers were not specialists, meaning they did not pursue trout with artificial flies. More lapsed trout anglers pursued trout with live bait than any other fishing technique (Table III2). Just more than one-half (51%) of the lapsed trout 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 35 percent and 25 percent, respectively, of the lapsed trout anglers. Though fly fishing is frequently associated with the pursuit of trout, it was not commonly practiced by the lapsed anglers. More than one-half (57%) of the lapsed trout anglers said they “never” or “rarely” fished for trout using artificial flies.

Table III2: Frequency of use of three fishing techniques

Frequency of use	Live bait	Spinners or lures	Artificial flies
Never	20%	19%	38%
Rarely	10	13	19
Sometimes	20	33	18
Often	32	27	17
Always	19	8	8

One might be tempted to hypothesize that self-described advanced anglers would be more likely than beginning anglers to pursue trout with artificial flies. Cross-tabulation found that artificial flies were used by a greater proportion of advanced trout anglers than by beginning anglers; 40 percent of the beginning anglers compared to 28 percent of the advanced anglers said they never fished for trout with artificial flies ($p < .031$). Years of trout fishing experience may prove more revealing than a self-described assessment of angler development. Analysis found that artificial flies were used by a greater percentage of lapsed anglers with less than six years of experience (37% “often” or “always”) than by lapsed anglers with at least 30 years of experience (23% “often” or “always) ($p < .05$). An additional finding is that live bait was used by a smaller percentage of lapsed anglers with less than six years of experience (35% “often” or “always”) than by lapsed anglers with at least 30 years of experience (64% “often” or “always) ($p < .000$). These latter findings do not support the fly-fishing image popularized by the media. Further analysis will attempt to address this unexpected finding.

The lapsed anglers’ propensity for releasing trout or keeping legal trout was fairly equally distributed (Table III3). Not quite one-third (31%) of the lapsed anglers reported that they practiced catch-and-release fishing more than keeping legal trout. Slightly more than one lapsed trout angler in ten (12%) said s/he “always” practiced catch-and-release fishing. Slightly more lapsed anglers reported that they would keep legal trout (38%); nearly one-fifth (18%) said they would “always” keep trout. Not quite one-third (31%) of the lapsed anglers reported that equally practiced catch-and-release fishing as well as keeping legal trout. Overall, the mean score from the 7-point scale was 4.2, meaning that the most typical practice was to keep some trout and release others.

Table III3: Lapsed trout anglers' propensity for catch-and-release fishing or to keep all legal trout

Fishing practice (7-point scale)	Percent responding
Propensity for catch-and-release	31%
1 = Always catch-and-release	12
2	9
3	10
4 = Keep some / release some	31%
Propensity for keeping legal trout	38%
5	12
6	8
7 = Always keep legal trout	18
Mean = 4.2	

Some of a lapsed angler's fishing behavior is revealed through additional analyses looking at the angler's propensity for keeping or releasing trout by the angler's years of experience as well as fishing technique. Lapsed anglers who had been trout fishing the fewest years (less than six years) were more likely to practice catch-and-release fishing (48%) than keeping all legal trout (33%) or even keeping some trout and releasing others (17%). In contrast, lapsed anglers with the most years of experience (at least 30 years) were more likely to keep all legal trout (46%) than release all trout (18%) or even keeping some trout and releasing others (37%) ($p < .000$). Further, lapsed anglers who always fished with bait were more likely to keep all legal trout (61%) than release all trout (12%) or even keeping some trout and releasing others (27%). Those who never fished with live bait were most likely to release all trout (64%) ($p < .000$). And as one might expect, lapsed anglers who always fished with artificial flies were more likely to practice catch-and-release fishing (68%) than keeping all legal trout (16%) or even keeping some trout and releasing others (16%) ($p < .000$).

Volunteered comments from lapsed trout anglers indicate that the conservation ethic of not wasting the resource is alive and well in trout fishing. These lapsed anglers question the logic of allowing fishing with live bait but maintaining a size limit that prohibits them from keeping under-sized fish.

I liked when I could catch ten fish six inches or more. You may think that's too many but when you hook six-inch fish you have to throw them back and most of the time they die and I don't like wasting fish. Sorry, I like to eat six-inch to ten-inch fish.

I fish with live bait – not a fly-fishing guy. Hook a trout on a crawler and it's swallowed. That trout isn't going to survive if the regs say I have to put it back. That's a waste!

If bait is allowed then I should be able to keep what I catch. It makes no sense because anything I toss back isn't going to make it; they'll be belly-up. Trout are too fragile to toss back after being caught on bait.

In a typical year of fishing, lapsed trout anglers fished an average of slightly more than three trout streams (Table III4). Nearly all (91%) lapsed trout anglers fished at least one trout stream. One-third (33%) of the anglers fished one or two streams per year; 45 percent fished three to five streams and about one lapsed trout angler in eight (13%) fished more than five streams in a typical year.

Fishing for trout in inland lakes or spring ponds was not as widely pursued as stream fishing (Table III4). Slightly more than two-thirds (43%) of the lapsed trout anglers reported that they did not fish any inland lakes or spring ponds. Overall, lapsed trout anglers fished an average of slightly more than one inland lake or spring pond. Two-fifths (40%) of the anglers fished one or two inland lakes or spring ponds per year; one lapsed trout angler in eight (13%) fished three to five inland lakes or spring ponds while only four percent said they fished more than five inland lakes or spring ponds in a typical year.

Table III4: Number of different Wisconsin streams and lakes/spring ponds fished in a typical year

Number of different streams	Percent responding
0	9%
1 – 2	33
3 – 5	45
6 or more	13
Mean = 3.5	
Number of different inland lakes or spring ponds	Percent responding
0	43%
1 – 2	40
3 – 5	13
6 or more	4
Mean = 1.5	

Combining the measures of streams fished and inland lakes and spring ponds fished tells us how many lapsed anglers fished streams, or inland lakes and spring ponds, or both. Table III5 indicates that just over two-fifths (43%) were exclusive stream anglers, meaning in a typical year they did not fish an inland lake or spring pond. Less than one lapsed angler in ten (8%) exclusively fished inland lakes or spring ponds. Approximately one-half (49%) of the lapsed anglers fished both streams and inland lakes or spring ponds in a typical year. Overall, nine in ten (92%) lapsed anglers fished a stream; more than one-half (57%) fished an inland lake or spring pond.

Table III5: Percent of lapsed anglers that fished streams, inland lakes/ponds, or both

Water type	Percent responding
Streams – no lakes/ponds	43%
Lakes/ponds – no streams	8
Both streams and inland lakes/ponds	49
Streams	92
Inland lakes/ponds	57

Correlations were not found between the number of streams fished or the number of inland lakes and spring ponds fished and the lapsed anglers' assessment of satisfaction with trout fishing in Wisconsin. A correlation was found between a lapsed angler's years of trout fishing and the number of streams fished in a year. Those with the fewest years of experience (less than six years) were more likely to not fish any streams or to fish at most two trout streams (60%) than to fish three or more streams (40%). At the other extreme, those with 30 or more years of trout fishing experience were more likely to fish three or more streams in a year (73%) than to not fish any streams (2%) or at most two

streams (25%) ($p < .000$). No relationship was found between a lapsed angler's years of trout fishing and the number of inland lakes and spring ponds fished in a year.

The vast majority of lapsed trout anglers confined their trout pursuits to Wisconsin. Table III6 indicates that just more than two-thirds (68%) of lapsed trout anglers did not leave Wisconsin to fish for trout. For the 32 percent that trout fished outside of Wisconsin, Canada was visited by 29 percent (9% overall) and other states were visited by just more than three-fourths (78%) of the lapsed trout anglers (24% overall). The most popular destinations were Montana (19%), Colorado (17%), Wyoming (14%) and Michigan (14%).

Table III6: Trout fishing outside of Wisconsin

Fished for trout outside Wisconsin	Percent responding
No	68%
Yes	32
Canada	29
Another state	78
Montana	19
Colorado	17
Wyoming	14
Michigan	14
21 other states	37 (no state exceeded 4%)

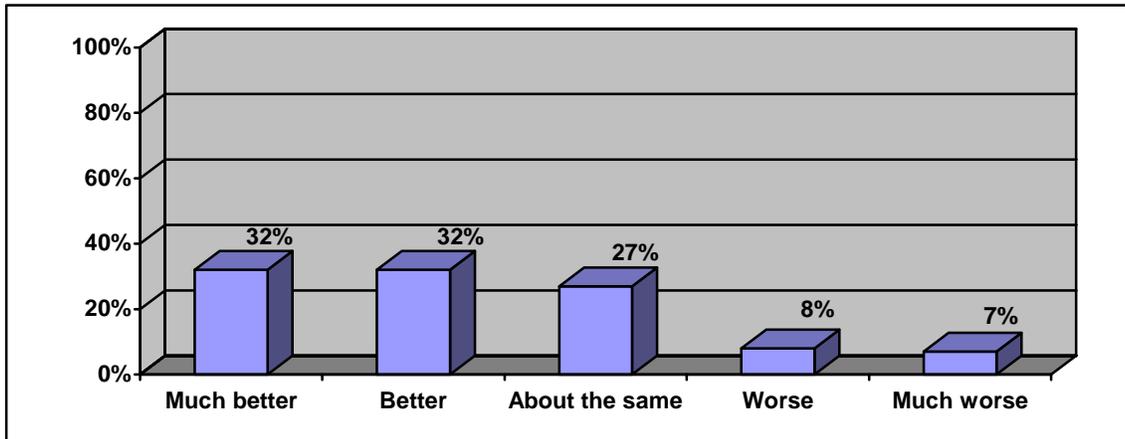
Table III7 indicates that for the 32 percent that trout fished outside Wisconsin, the majority did so while they were current Wisconsin trout anglers. Overall, nearly all (90%; 68% + 22%) lapsed trout anglers that fished another state did so while they were also fishing in Wisconsin. About three lapsed trout anglers in ten (29%; 7% + 22%) reported that they fished for trout in another state after they had stopped fishing in Wisconsin. Less than one lapsed trout angler in 20 (3%) had fished for trout in other states before fishing in Wisconsin.

Table III7: When lapsed trout anglers pursued trout outside of Wisconsin

When fished for trout outside Wisconsin	Percent responding
While still fishing in Wisconsin	68%
After stopped fishing in Wisconsin	7
Both while still fishing in Wisconsin and after stopped fishing in Wisconsin	22
Before started fishing in Wisconsin	3

Figure III2 illustrates that for the 32 percent that have trout fished outside of Wisconsin, nearly two-thirds (64%) said their experiences in these other places were "much better" (32%) or "somewhat better" (32%) than their Wisconsin experiences. Slightly more than one-fourth (27%) said the experiences were no better or worse than in Wisconsin and 15 percent said their experiences in these other places were "somewhat worse" (8%) or "much worse" (7%) than their Wisconsin experiences. Without knowing more about the particulars of their trout fishing experiences in other places, definitive explanations cannot be offered as to why those experiences were predominantly better outside Wisconsin. A possible explanation, however, is that an out-of-state destination was selected for reasons which contribute to satisfying experiences (e.g., quality water, abundant fish population, large fish, new or different setting).

Figure III2: Comparison of trout fishing experiences in other places to fishing in Wisconsin



To gauge the importance of trout fishing relative to other activities participated in, lapsed 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 III8 documents that more than twice as many lapsed anglers said trout fishing was less important than their other outdoor activities as said it was more important. Nearly two-fifths (38%) said trout fishing was less important than all (9%) or most (29%) other outdoor activities they participate in. Only 15 percent of the lapsed anglers said trout fishing was more important than all (2%) or most (13%) of their other outdoor activities. Slightly less than one-half (47%) reported that trout fishing was no more or less important than other outdoor activities. This low level of importance is not surprising (they’ve already deserted from participation) and is also a possible predictor for continued desertion.

Table III8: Importance of inland trout fishing in Wisconsin compared to other outdoor recreations

Importance	Percent responding
Less important than all other outdoor recreations	9%
Less important than most other outdoor recreations	29
No more or less important than other outdoor recreations	47
More important than most other outdoor recreations	13
More important than all other outdoor recreations	2

Further analyses found that respondent age is not a predictor of relative importance but years of trout fishing experience is a predictor. A greater percentage (21%) of lapsed anglers with at least 30 years of trout fishing experience reported that trout fishing was more important than their other outdoor recreations than did lapsed trout anglers with less than six years of experience (11%). Conversely, a greater percentage (54%) of lapsed anglers with less than six years of trout fishing experience reported that trout fishing was

less important than their other outdoor recreations than did lapsed trout anglers with at least 30 years of experience (24%) ($p < .000$).

IV. Lapsed Trout Angler 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, lapsed Wisconsin trout anglers can be described as white men at least 50 years old, residing primarily in rural areas (self-defined), and having household incomes under \$75,000. Table IV1 shows that males comprise the vast majority of lapsed trout anglers (80%). (Further studies will document the gender make-up of current trout anglers.) The average age of a lapsed trout angler is 53 years; one-third (33%) of the lapsed trout anglers are at least 60 years old while less than one-fifth (18%) are under 40 years old. As expected, the age an angler last went trout fishing is skewed slightly towards the older age categories. Almost three in ten (28%) lapsed anglers last went trout fishing when they were 60 years old or older; just under one-fourth (23%) last went trout fishing when they were under 40 years old. The mean age when an angler last went trout fishing is 50 years old. (Note: The findings in Table I1 refute any speculation that old age is a driving influence for lapsed participation).

A majority of lapsed trout anglers (58%) reside in self-defined rural areas. This raises a couple of interesting questions: do a majority of current inland trout anglers reside in rural areas?; and given the availability of urban trout ponds as well as urban streams and rivers containing trout, what role does opportunity play in trout fishing retention? While further studies will document where current inland trout anglers reside, it would also be informative to know how urban and rural residents regard their opportunities for outdoor recreational pursuits; do rural residents, more than urban residents, perceive greater options and opportunities to pursue outdoor recreations?

Lastly, household income is skewed slightly towards the lower groups. More than one-third of lapsed trout anglers (37%) reside in households with annual incomes of less than \$50,000. In contrast, approximately one lapsed trout angler in six (16%) resides in a household with an annual income of at least \$100,000. Just less than one-half of the lapsed trout anglers (48%) reside in households with annual incomes between \$50,000 and \$99,999. These results may not be surprising given that income is frequently correlated to age. A cross-tabulation of income by age reveals that older lapsed anglers have lower household incomes than do younger lapsed anglers ($p < .022$). Just over one-half (51%) of lapsed trout anglers that are at least 60 years old compared to one-third (32%) of lapsed trout anglers that are under 40 years old have household incomes of less than \$50,000. At the upper income levels approximately one lapsed trout angler in ten (9%) that is at least 60 years old compared to 16 percent of lapsed trout anglers that are under 40 years old have household incomes of at least \$100,000. An additional correlation was found between income and expenses related to trout fishing. Of the respondents citing expenses as their first or second most important reason for lapsed participation, nearly one-half (48%) had household incomes under \$50,000 while seven percent had household incomes of at least \$100,000 ($p < .014$, small n of 74).

Table IV1: Socio-demographic characteristics of responding lapsed trout anglers

Attribute	Percent responding
Gender	
Male	80%
Female	20
Age (current) ¹	
< 30	6%
30 – 39	12
40 – 49	23
50 – 59	27
60 – 69	19
70+	14
Mean age = 53 years	
Age (last WI trout fishing)	
< 30	9%
30 – 39	14
40 – 49	23
50 – 59	26
60 – 69	18
70+	10
Mean age = 50 years	
Residence	
Urban/Suburban	42%
Rural	58
Years residing in county	
< 6	7%
6 – 10	11
11 – 19	18
20 – 29	12
30 – 39	13
40 – 49	16
50+	25
Mean years = 33	
Household income	
< \$10,000	3%
\$10,000 - \$24,999	12
\$25,000 - \$49,999	22
\$50,000 - \$74,999	31
\$75,000 - \$99,999	17
\$100,000 - \$124,999	7
\$125,000 - \$149,999	5
\$150,000 +	4

¹ Current age was calculated by adding three years (time span for not purchasing an inland trout stamp) to the variable “age last went trout fishing in Wisconsin”.

