



Economic Impact of Recreational Trout Angling in the Driftless Area

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EXECUTIVE SUMMARY

- The objectives of this study were to estimate the economic impact of fishing to the Driftless Area in 2015, summarize information on area angler demographics and opinions, and identify characteristics of a healthy “Trout Economy”.
- A representative sample of trout stamp holders in Wisconsin, Iowa, and Minnesota who lived outside the Driftless Area was mailed surveys. The sample was also provided the option of completing the survey online and encouraging other to do the same.
- Trout Unlimited Driftless Area Restoration Effort provided expenditure information on items and labor used in restoration projects in the Driftless Area in 2015.
- The total economic impact of fishing to the Driftless Area in 2015 was estimated to be over one-half billion dollars at **\$703,676,674.50**, supporting 6,597 jobs in the region.
- The total effect of fishing in the Driftless Area in 2015 when Driftless Area as well as non-Driftless Area angler spending is included was estimated to be over one and one-half billion dollars at **\$1,627,186,794.79**.
- The typical angler is a 51 year old male with a college education earning a median income of about \$90,000. The typical angler travels with 2 companions with an average age of 42 years per trip which last about 2.5 days.
- The typical angler has fished in an average of 8 different streams in the Driftless Area for almost 18 years and travels an average of 138 miles one-way to fish there.
- A large majority of 88.5% reported awareness of efforts to preserve and restore trout streams in the region, and of these people, almost 80% reported they were more likely to fish in the region because of these past efforts. Moreover, 72.7% wrote that they were more likely to fish in the region if additional trout stream restoration efforts occurred.
- Overall satisfaction with the fishing experience in the Driftless Area is very high: 92% of respondents definitely agree or agree they are satisfied with the experience.
- The responses that generated the most enthusiasm to the question *Why did you decide to trout fish in the Driftless Area?* was “Opportunities to Catch Wild Trout”, followed by “Better Rivers/Streams than Outside the Area”, and “Easy Stream/River Access”.
- Healthy Trout Economies are comprised of a mixture of energetic private businesses, active non-governmental organizations and volunteers, and an effective government that all work together to make the most of the gift of miles of clear, cold trout streams. Two communities that exemplify a “Healthy Trout Economy” are Viroqua, WI, and the Preston/Lanesboro, MN, area.

I. INTRODUCTION

The Driftless Area is a stunning region in the upper Midwestern portion of the U.S. covering approximately 24,000 square miles in southeastern Minnesota, northeastern Iowa, southwestern Wisconsin, and northwestern Illinois. Its unique terrain of deep river valleys sculpted by cold-water trout streams is a result of glaciers bypassing the region during the last glacial period, meaning that the area avoided the “drift” – rocks, boulders, silt, and other residue - that was left behind by retreating glaciers. Fishing is one of the most popular activities in this region due to the over 600 spring creeks covering over 5,800 miles.

This study had the following objectives:

- 1) Estimate the economic impact of fishing to the Driftless Area communities and translate that impact into jobs for 2015.
 - Visitors from outside the immediate area spend money in the local community on goods and services offered by hotels, restaurants, gas stations, and shops. Thus, anglers support the local economy through their spending on local businesses.
 - Various governmental and non-governmental organizations spend money to restore habitat and streams in the Driftless Area. This restorative spending includes dollars spent in area businesses that provided rocks, heavy equipment, fuel, seed, seedlings, labor, and design and construction expertise.
- 2) Gather and summarize information on angler demographics, habits, preferences, and opinions on various angler and stream restoration issues.
- 3) Identify what constitutes a healthy “Trout Economy” and highlight two Driftless Area communities that exemplify this designation.

Context: According to the American Sportfishing Association, in 2011 approximately 33 million people in the U.S. aged 16 or older engaged in Great Lakes, saltwater, or freshwater fishing. They spent \$48 billion annually on equipment, licenses, trips and other fishing-related items or events helping to create and support more than 828,000 jobs nationwide.¹ In its ranking of states by angler expenditures,

¹ *Sportfishing in America: An Economic Force For Conservation.*
http://asafishing.org/uploads/2011_ASASportfishing_in_America_Report_January_2013.pdf

Minnesota ranked fourth and Wisconsin ranked ninth, while in its ranking of non-resident fishing destinations by number of out-of-state visiting anglers, Wisconsin ranked third and Minnesota ranked eighth. Clearly the draw of Driftless Area fishing is a strong economic driver for its states.

II. ECONOMIC IMPACT ANALYSIS

An economic impact study measures new spending in a region that occurs as a result of an event or feature such as trout streams in this particular study, as opposed to spending that would have occurred anyway. That means it was necessary to determine whether people travelled to this area primarily to fish or whether they would have been in the region for other reasons, such as visiting friends and family. The survey allowed this distinction to be made.

The direct effect and the resulting secondary effects, called the indirect and induced effects, were calculated to arrive at the total economic impact. The direct effect is the amount of initial spending done by visiting anglers and governmental or non-governmental organizations on fishing-related projects. The secondary effects of visitor spending are also known as the “multiplier” effects on local businesses as the initial, direct, spending circulates further within the regional economy, creating additional sales and employment opportunities in other businesses. Indirect effects are changes in sales, income or jobs in the various industry sectors within the Driftless Area that supply goods and services to the visitors such as local organic farms that supply food to local grocery stores and restaurants that visiting anglers frequent. Induced effects are the increased sales within the region from household spending of the income earned in the supporting sectors. For example, lodging employees spend the income they earn from visitors on Driftless Area housing, utilities, groceries, entertainment, and so on.

III. METHODOLOGY

In order to achieve the study's objectives, a survey was mailed to a representative sample of trout stamp holders who bought stamps from the Department of Natural Resources (DNR) in Wisconsin, Minnesota, and Iowa and included anglers from other states. Note that all trout anglers in these three states need both a trout stamp, which supports habitat programs in Wisconsin and Minnesota and hatcheries in Iowa, and a state fishing license. The sample was drawn from trout stamp holders who agreed to be surveyed and not from fishing license holders, a much larger group.² In addition, the survey was made available online to anglers who were encouraged by recipients of the mailed survey. Trout Unlimited Driftless Area Restoration Effort (TUDARE) provided expenditure information to permit estimation of the economic impact resulting from restorative spending in various communities in the Driftless Area.

Survey: The survey contained questions developed in collaboration with Trout Unlimited (TU) pertaining to the following. The survey appears in Appendix 1.

- a) Demographic characteristics of anglers.
- b) Home zip codes of anglers and whether the anglers visited the Driftless Area specifically to fish.
 - Recall that an economic impact analysis of an event or area attribute such as trout streams estimates the spending of visitors living outside the study region who come to the area specifically for an event or activity such as fishing.
- c) Angler habits, including number of visits and length of time spent visiting the Driftless Area, and fish and fishing activity preferences.
- d) Visit-related expenditures within the Driftless Area.
- e) Knowledge and opinions on various issues important to TU.

Sampling Procedure: The sample was drawn from a list of 2015 trout stamp holders not living in a county fully contained in the Driftless Area who agreed to be on a solicitation list made available by the Wisconsin and Iowa DNR licensing bureaus using the random sampling technique described in the next paragraph. A sample of 2015 Minnesota trout stamp holders from non-Driftless Area Minnesota counties was drawn by the Minnesota DNR using the same random sampling technique. Illinois did not make their list available. However, since Illinois is a

² Illinois does not have a trout program and therefore no trout stamp requirement.

small part of the entire Driftless Area and Illinois residents who obtained trout stamps in one of the other three states were captured in the sample, it was determined that the absence of a sampling frame for Illinois did not materially affect the results.

Each list was sorted by zip code. Zip codes with 10 or fewer anglers were omitted from the sampling frame. For the remaining zip codes, a stratified random sampling method was employed to gain a representative sample of all trout stamp holders in the three states of Wisconsin, Iowa, and Minnesota who live outside the Driftless Area counties. For zip codes containing 10-100 names, the 10th name was chosen. For zip codes containing >100 names, every 50th name was chosen.

In May, 2016, a total of 2000 surveys were mailed along with a pre-addressed envelope in which to return the survey. This represented 1.5% of the total population of 134,776 estimated trout stamp holders in Wisconsin, Iowa, and Minnesota living outside the Driftless Area. Respondents were asked to donate a stamp for the return mailing. Three weeks later, a reminder postcard was sent to the non-respondents, asking them to mail back their completed survey or complete the survey online. The postcard also asked recipients to encourage other anglers to complete the survey online. As an incentive to complete the survey, a free one year trial membership in their local TU accompanied by a subscription to TU's quarterly *Trout* magazine and entry into a drawing for one of three \$50.00 gift certificates to Cabela's was offered. A total of 52 surveys were returned as undeliverable. Of the remaining 1,948 sent mailed surveys, 170 responded.

Online survey respondents numbered 181. Those who either did not provide a zip code or who lived in the Driftless Area were excluded from the economic impact analysis resulting in 140 online respondents and total of 310 for the economic impact analysis.

Expenditures on restorative spending: TU provided expenditure information on items and labor used in restoration projects in the Driftless Area for 2015.

Economic Impact-Direct and Secondary Effects: The survey and the TU expenditure report allowed for estimation of the direct effects of the spending in the area. Calculation of the secondary, or "ripple", effects of angler spending involved applying an appropriate regional multiplier to the direct spending estimates. Using Impact Analysis for Planning (IMPLAN), statistical software specific to economic impact research, a multiplier for the counties under

investigation was calculated based on the 2014 Wisconsin counties in the Driftless Area and is shown in **Table 1**.

Table 1: Secondary Effects Multiplier

Indirect Effect Multiplier	.36
Induced Effect Multiplier	.34
Total Multiplier	.70

IV. ECONOMIC IMPACT

Direct Economic Effect: In this section, the key results from the visitor surveys are summarized that provide information important in calculating the direct economic impact of trout fishing to the Driftless Area. **Table 2** shows the per trip spending by non-Driftless Area visitors whose primary purpose for visiting the Driftless Area was to fish in each of nine categories based on responses to Survey Questions 8 and 9³. The total amount spent by a visitor per trip is estimated at \$474.91, where a trip averages 2.44 days⁴.

Table 2: Per Trip Spending in Driftless Region (Q8)

Category	Average
Fishing supplies (bait, tackle, etc.)	\$ 55.91
Guiding services	\$ 29.18
Restaurants/bars	\$ 78.54
Amusements/entertainment	\$ 8.79
Equipment rental (canoe, kayak, etc.)	\$ 2.04
Auto related services (gas, oil, etc.)	\$ 61.96
Lodging	\$ 97.89
Groceries (including alcohol)	\$ 67.48
Souvenirs, gifts, apparel, other retail	\$ 14.12
Fishing equipment per year	\$ 59.00
Total	\$474.91

The survey also revealed that the respondents who lived outside the area reported taking an average of 14.04 fishing trips in 2015, and of those, 6.49 trips, or 46.22%, occurred in the Driftless Area. Of the 6.49 trips, 5.84 trips, or 90.00%, were for the primary or sole purpose of fishing⁵. Thus if each visitor spent an average of \$474.91 on an average of 5.84 trips, the total average amount of spending per visitor as shown in **Table 3** is \$2,773.47.

Table 3: Spending per Visitor

$$\text{\$474.91 per trip} * 5.84 \text{ trips} = \text{\$2,773.47 per visitor}$$

This spending per visitor amount was multiplied by the estimated number of non-Driftless Area visiting anglers from Wisconsin, Iowa, and Minnesota, the calculation of which is

³ See Tables A4 & A5 in Appendix 2.

⁴ See Table A1 in Appendix 2.

⁵ See Table A1 in Appendix 2.

shown in **Table 4**. The total number of trout stamp holders who agreed to be on a solicitation list in each of the states is provided in column 1. Column 2 shows the percentage of the population in each state that resides in counties outside the Driftless Area. Columns 1 and 2 are multiplied to arrive at an estimate of the number of anglers living outside the area that is given in column 3.

Table 5 then shows the total direct economic impact of visiting anglers.

Table 4: Non-Driftless Area Trout Stamp Holders

State	(1) Total	(2) % from outside Driftless Area	(3) Total from outside Driftless Area
Iowa	45,491	94.04%	42,779.74
Minnesota	85,048	93.99%	79,936.62
Wisconsin	26,708	92.55%	24,718.25
Total	157,247		147,434.61

Sources: Demographics by Cubit, <https://www.cubitplanning.com/>

Table 5: Total Direct Economic Impact of Visiting Anglers

Spending per Visitor (from Table 3)	Number of Visitors (from Table 4)	Total Spending by Visiting Anglers
\$2,773.47	147,434.61	\$408,905,455.59

It is important to note that the number of potential visitors from outside the area is understated since it does not include an estimate of visitors from outside the surveyed 3-state Driftless Area. Thus the estimated direct economic impact is conservative. According to Wisconsin's and Iowa's trout stamp holder list, anglers came from Alaska, Arkansas, Arizona, California, Colorado, Connecticut, DC, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Kansas, Kentucky, Louisiana, Massachusetts, Maryland, Maine, Michigan, Missouri, Montana, North Carolina, Nebraska, New Hampshire, New Jersey, New Mexico, Nevada, New York, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, and West Virginia. For Wisconsin, 2.25% of trout stamp holders came from these states and Canada, while in Iowa, the percentage was 2.87% in 2015.

The direct economic impact of 2015 spending of restoration and improvement project spending is shown in **Table 6**. Adding this total to that found in **Table 5** reveals an estimated Total Direct Economic Impact of **\$413,927,455.59** shown in **Table 7**.

**Table 6: Total Direct Economic Impact of Restoration & Improvement
Project Spending in Driftless Area**

State	Total
Iowa	\$ 22,000.00
Minnesota	\$1,500,000.00
Wisconsin	\$3,500,000.00
Total	\$5,022,000.00

Source: Trout Unlimited Driftless Area Restoration Effort

Table 7: Total Direct Economic Impact

Total Spending by Visiting Anglers (from Table 5)	Total Spending by Govt and NGOs (from Table 6)	Total Direct Spending
\$408,905,455.59	\$5,022,000.00	\$413,927,455.59

Secondary Effects and Total Economic Impact: Column 3 of **Table 8** shows the calculation of the secondary effects, found by multiplying the direct effect by the multiplier of .70. The last column shows an estimated Total Economic Impact of **\$703,676,674.50**, found by adding columns 1 and 3.

Table 8: Total Secondary Economic Impact

Total Direct Spending (from Table 7)	Multiplier	Total Secondary Spending	Total Economic Impact
\$413,927,455.59	.70	\$289,749,218.91	\$703,676,674.50

Jobs supported by Driftless Area Fishing: IMPLAN analysis allowed the estimation of jobs supported by area fishing as a result of direct and secondary spending. This is calculated at approximately 6,597 jobs in 2015. The top industries for employment supported by fishing were: full-service restaurants, hotels and motels, retail (including sporting goods), scenic and sightseeing transportation, food and beverage stores, gas stations, general merchandise retail stores, and wholesale trade.

Economic Effect-Non-Driftless and Driftless Area Anglers: In order to draw comparisons with a 2008 report on the economic impact of trout fishing in the Driftless Area, two adjustments were made to the estimates given above. First, the 2008 report did not exclude anglers whose primary purpose for visiting the area was not angling. The result was that

the total number of visits per angler recorded in 2008 was much higher than that reported here. The weighted average number of fishing trips in the Driftless Area of non-resident and resident anglers in the 2015 survey, estimated to be 12.75 trips per visitor, was multiplied by the spending per trip from **Table 2**, to arrive at an estimated amount spent per angler of \$6055.17, shown in **Table 9**.

Table 9: Spending per Angler

\$474.91 per trip * 12.75 trips = **\$6,055.17 per angler**

Second, in the 2008 report spending per visitor was multiplied by all trout-stamp holders in Wisconsin, Minnesota, and Iowa. This is done here by multiplying the spending per angler figure of 6,055.17 (**Table 9**) by the total number of trout-stamp holders shown in column (1) of **Table 4**. The result, shown in **Table 10**, is an estimated total spending amount by anglers in the area of \$952,146,702.82. Finally, **Table 11** shows the Total Effect of Angling in the area that includes the total spending by anglers and by government and non-governmental organizations on stream restoration and improvements, and the secondary effects, using the comparable methodology of the 2008 report. The result is an economic benefit of **\$1,627,186,794.79**.

Table 10: Total Direct Economic Impact of Anglers

Spending per Angler (from Table 9)	Number of Anglers (from Table 4)	Total Spending by Anglers
\$6,055.17	157,247	\$952,146,702.82

Table 11: Total Effect of Anglers

Total Spending by Anglers (Table 10)	\$952,146,702.82
Total Spending on Restoration projects (Table 6)	\$5,022,000.00
Total Direct Spending	\$957,168,702.82
Total Secondary Effects (.70*Total Direct Spending)	\$670,018,091.97
Total Effect	\$1,627,186,794.79

V. FISHING HABITS AND OPINIONS

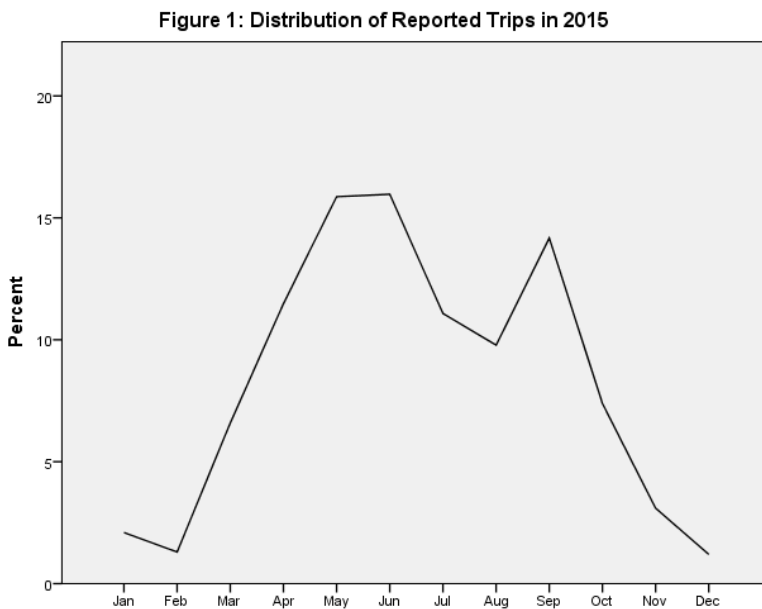
The popularity of the Driftless Area for fishing is supported by the survey results. The typical angler who lived outside the Driftless Area travelled over 138 miles one-way to fish in the region, and has been fishing in the region for almost 18 years. **Table 12**⁶ shows that the most popular lodging arrangement was camping, followed by a hotel or motel. The average length of a trip to the area was 2.44 days.

Table 12: Lodging¹

Friends or relatives	8.7%
Bed & breakfast	1.3%
Hotel or motel	22.8%
Camping	34.7%
Rented cabin	15.4%
Own recreational home	3.9%

¹Respondents could check more than one lodging type

The typical angler fished in an average of 8 Driftless Area streams out of the over 600 available in the region⁷. Further, 53.1% of respondents reported that fishing in the Driftless Area was one



of the more important recreational activities they participate in, while one-third stated it was their most important recreational activity⁸. The most popular month for fishing in the region was June, when 51.4% of respondents reported fishing, closely followed by May (51.1%), and September (45.7%), while the two least popular months were December (3.9%)

⁶ See Table A3 in Appendix 2.

⁷ See Table A7 in Appendix 2.

⁸ See Table A9 in Appendix 2.

and February (4.2%).⁹ **Figure 1** shows the distribution of all trips reported over the year by respondents and reveals that 30% occurred in May and June.

While respondents listed trout as their most sought-after fish in the region, including brown, brook, rainbow, and tiger, they also listed smallmouth bass, walleye, catfish, crappie, bluegill, northern pike, sauger, white bass, perch, and redhorse. They used a variety of angling methods when trout fishing and many used more than one method. As shown in Table A4 in Appendix 2, the most popular method was fly, selected by 51.4% of respondents, followed by spin (34.7%), artificial bait (26.4%), live bait (24.1%), and other methods (1%) that included salmon eggs, and drift cheese.

A large majority of 88.5% reported awareness of efforts to preserve and restore trout streams in the region, and of these people, almost 80% reported they were more likely to fish in the region because of these past efforts. Moreover, 72.7% wrote that they were more likely to fish in the region if additional trout stream restoration efforts occurred¹⁰.

Overall satisfaction with the fishing experience in the Driftless Area was very high: 92% of respondents definitely agreed or agreed they were satisfied with the experience, while only 2.1% disagreed they were satisfied¹¹. The survey also uncovered views on more specific aspects of the area fishing experience. In response to the general question “*Why did you decide to trout fish in the Driftless Area?*”¹², the response that generated the most enthusiasm was “Opportunities to Catch Wild Trout”, in which 66.6% of respondents agreed or strongly agreed this factored into their decision. The responses that generated the next highest percentages of respondents in agreement or strong agreement were “Better Rivers/Streams than Outside the Area” (59.2%) and “Easy Stream/River Access” (55.5%). With respect to other reasons anglers are drawn to the area, 46.6% agreed or strongly agreed that “Trout Stream Restoration Projects” were a reason they fished in the area, “Friendly Landowners” (40.6%), and “Opportunities to Catch Stocked Trout” (38.1%).

Several respondents provided open-ended comments in response to Q23 “*Why did you decide to trout fish in the Driftless Area?*” These responses can be found in Appendix 3. Although the majority were positive – “It’s a beautiful area”, “Beautiful accessible healthy trout

⁹ See Table A8 in Appendix 2.

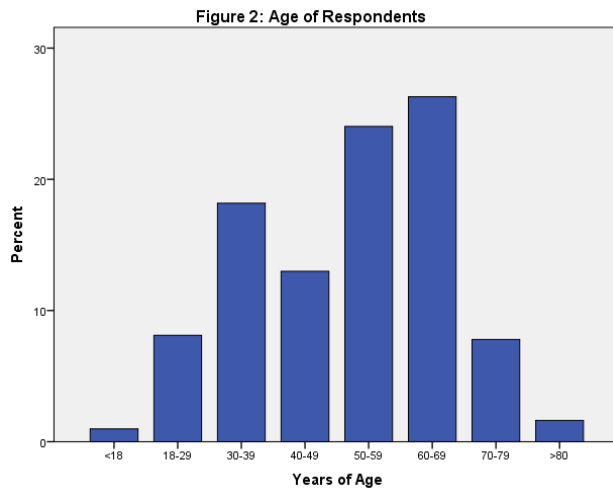
¹⁰ See Tables A10, A11, A12 in Appendix 2.

¹¹ See Table A15 in Appendix 2.

¹² See Table A16 in Appendix 2.

habitat within a day's drive”, “I know the present high reputation of the trout fishery in the area and look forward to a fishing trip in the near future”, and “Driftless is some of the best trout fishing in the country”, concerns were expressed about excessive regulations and rules governing trout fishing.

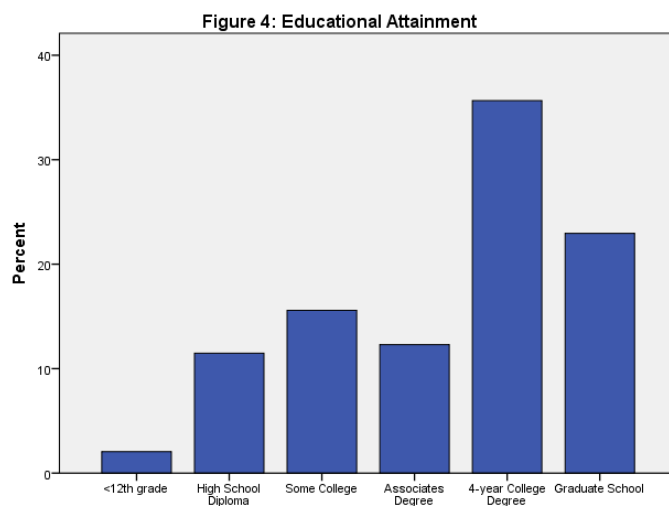
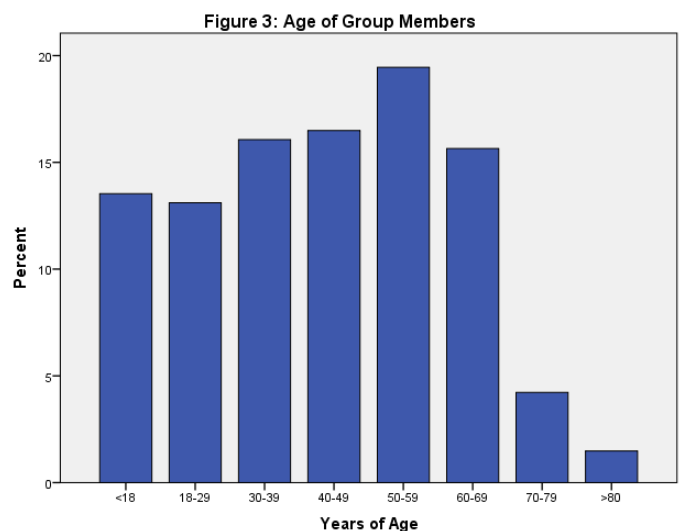
VI. DEMOGRAPHIC CHARACTERISTICS



anglers in the area is found by examining the reported ages of group members who accompanied the respondent on a typical fishing trip. Respondents report an average of 2.23 companions whose average age is much younger at 42.21 years. The range in age of the companions is shown in **Figure 3**¹⁶. Note that

Eighty-nine percent of respondent were male¹³ and 71% were married¹⁴. **Figure 2** reveals that half of all respondents were in the 50-69 years age bracket, with an average age of 51.3 years¹⁵.

A better assessment of the age of



one respondent reported bringing the Boy Scouts.

Figure 4 provides a breakdown of respondents by educational attainment and shows that over half have a four-year college degree or higher¹⁷.

¹³ See Table A19 in Appendix 2.

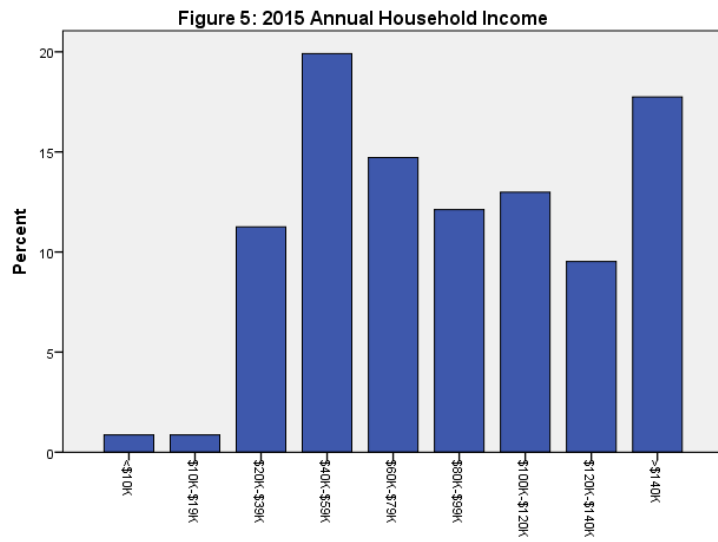
¹⁴ See Table A20 in Appendix 2.

¹⁵ See Table A18 in Appendix 2.

¹⁶ See Table A18 in Appendix 2.

¹⁷ See Table A21 in Appendix 2.

Finally, **Figure 5** shows the income breakdown of respondents¹⁸. Note that the median household annual income was between \$80,000 and \$99,999.



¹⁸ See Table A22 in Appendix 2.

VII. HEALTHY TROUT ECONOMIES

“A community is a dynamic whole that emerges when a group of people participate in common practices, depend on one another, make decisions together, identify themselves as part of something larger than the sum of their individual relationships, and commit themselves for the long term to their own, one another's, and the group's well-being.” (*Creating Conscious Community*, by Shaffer & Anundsen, 1993).

Although many cities and towns in the Driftless Area are fortunate enough to surround some of the best trout fishing in the country, a few take positive steps to nurture a healthy “Trout Economy”. These communities are comprised of a mixture of energetic private businesses, active non-governmental organizations and volunteers, and an effective government that all work together to make the most of the gift of miles of clear, cold trout streams.¹⁹ In this section, two communities are highlighted that exemplify a Healthy Trout Economy: Viroqua, Wisconsin, and the Preston and Lanesboro, Minnesota, area.

VIROQUA

Viroqua is located in Vernon County almost right in the middle of the Driftless Area. The county alone contains over 220 miles of trout streams. However, the environmental assets of this area are not the only characteristics that set this community of 4,400 people apart. Private businesses work to actively court anglers, led by Viroqua Chamber Main Street. A fishing cornerstone in the city is the Driftless Angler Fly Shop, whose owner, Mat Wagner, moved to the area because of outstanding stream restoration projects. His shop maintains a remarkable list of lodging options for visiting anglers. A review of the list shows a diversity of accommodations that range from campgrounds to cabins to bed-and-breakfasts to rental apartments to family-owned hotels and motels, all within 10-15 minutes of the town. In addition, beautiful Wildcat State Park is 30 minutes away.

The area is also one of the best in the country for organic farms which complements the emphasis on a healthy ecosystem necessary for trout. The farms supply fresh, tasty food to the Viroqua People's Food Co-Operative, as well as local cafes that have sprung up in Vernon and neighboring La Crosse County capitalizing on the popularity of the farm-to-table eating-out experience.

¹⁹ An excellent account of how a community of government workers (Department of Natural Resources staff), university researchers, non-profit groups, and local citizens came together to save the sturgeon is found in *People of the Sturgeon: Wisconsin's Love Affair with an Ancient Fish*, by Kline, Bruch, & Binkowski, 2009.

TU's local chapter is extremely active in the community as the Driftless Area Restoration Effort (TUDARE) is headquartered there. They work with landowners to provide public fishing easements and to acquire permission to carry out restoration projects on their land. Their work also includes promoting long-term sustainability of the broader ecosystem by encouraging managed grazing, sustainable farming practices, and prairie restoration. TUDARE has successfully obtained funding to restore an average of 12-18 miles of streams per year, many in the Viroqua area, and much of it done by volunteers they train themselves. The chapter regularly collaborates with federal agencies such as the U.S. Fish and Wildlife Service and the U.S. Department of Agriculture's Natural Resources Conservation Service, state agencies such as the Wisconsin DNR, county conservation departments, schools and colleges, and other non-profits like the Friends of the Kickapoo Valley Reserve. In recognition of their outstanding commitment, TUDARE has been selected for induction into the National Freshwater Fishing Hall of Fame.

PRESTON AND LANESBORO

Preston and Lanesboro view the Root River and the Driftless Area as assets and economic engines. Five years ago, the state of Minnesota officially branded Preston, a regional home for the Driftless Area, the **Trout Capital of Minnesota**. According to Cathy Enerson, Preston's passionate Community and Business Development Specialist, various parties including TU, the Minnesota DNR, the Minnesota Trout Association, the City of Preston, and Preston's Economic Development Authority founded the National Trout Center in the city. This area foundation for fishing incorporates art, environmental study, and education into its mission. Among its annual events are a river clean-up and a Driftless Area bus tour. The Center was instrumental in developing a nine-hole fishing course on the Root River as a fun way to learn to fish, and in 2015 collaborated with TU to obtain \$400,000 in Lessard-Sams Outdoor Heritage Council (LSOHC) funding for work to rehabilitate and improve one mile of the South Branch of the Root River. The project will also add handicap access points

The small but vibrant Preston business community caters to anglers. A highly recognized fly fishing guide, Mel Hayner, opened an Orvis Store in Preston, offering guide services, fishing gear, lessons, canoe sales, and kayak rentals. The area boasts four hotel style lodges offering long term stays, and bed and breakfasts, as well as four area campgrounds and the Forestville/Mystery Cave State Park. Preston has its own airport into which anglers fly for self-

guided and guided fishing trips. The local Chamber of Commerce sponsors “Trout Days” on the third weekend of May that includes learn-to-fish events and fishing competitions for children and adults, and a parade with the city’s famous Trout Float that is displayed near Highway 52 when not out and about.

Like Preston, its neighbor 16 miles away, Lanesboro is celebrated for being less-crowded than other fishing destinations. Recognized as the **Bed & Breakfast Capital of Minnesota**, Lanesboro also has an outstanding diversity of lodging from camping to high-end resorts. Moreover, the city boasts an assortment of other things to do that encourages longer stays for anglers and their accompanying family and friends. This includes biking/in-line-skating/running/walking along the extensive Root River and Harmony-Preston State Trail System that runs through the heart of Lanesboro and Preston, watercraft rentals including inner-tubes, golfing, birding, caving, and winter activities like snow-shoeing and cross-county skiing. (In fact, Preston hosts an annual Candlelight ski and chili cook-off event in January.) Lanesboro is home to a professional theater company, a thriving arts community and center, and boutique shopping along its main street, Parkway Avenue.

Dedicated groups of volunteers that include the Friends of the Root River, and the Hiawatha Chapter of TU, located in Rochester, MN, devote time and funding to preservation, restoration and educational activities around the Preston/Lanesboro area. The Hiawatha chapter has been active in the restoration and conservation of Southeast Minnesota’s Blue-Ribbon cold water streams and fisheries for over three decades, often collaborating with the Minnesota DNR using LSOHC funding for these projects, which incidentally has provided business for a number of local design and construction firms. It has led Trout in the Classroom efforts with four high schools in SE Minnesota, fly-tying classes, and has collaborated with the Minnesota DNR fisheries to support youth and seniors’ fishing days, and an annual fishing event at the Sylvan Park Ponds for those with mental and/or physical disabilities. Further, the Minnesota DNR Fisheries purchases state angling easements from landowners along designated trout streams that allow anglers access to water that they may not normally have available and provides tours of their Lanesboro facility and demonstrations to school and other groups.

Acknowledgements

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- City of Preston: Cathy Enerson
- Minnesota DNR, Lanesboro, MN: Vaughn Snook, Brian Nerbonne, Ronald Benjamin
- Minnesota TU: John Lenczewski
- Hiawatha Chapter of TU: Paul Krolak
- TU Driftless Area Restoration Effort: Jeff Hastings

Section 1: Driftless Area Use in 2015

CODE:_____

1. Approximately how many fishing trips did you take in 2015? A trip can be < 1 day or multiple days. _____
If your answer is equal to 0, then skip to **Q24**.
2. Of all the fishing trips you took in 2015, how many occurred in the Driftless Area? If none, write "0". _____
If your answer is equal to 0, then skip to **Q24**.
3. There are many reasons to visit the Driftless Area, including to visit friends and family, or as a stopover on the way to other destinations.
 - Of those visits to the Driftless Area noted in **Q2**, in how many was the primary or sole purpose to go trout fishing? _____
4. With respect to a typical fishing trip to the Driftless Area in 2015, what is the average number of people in your group, excluding yourself? _____
5. What were the approximate ages of the people who would accompany you on a typical trip, excluding yourself?

Group member 1 _____ years	Group member 4 _____ years
Group member 2 _____ years	Group member 5 _____ years
Group member 3 _____ years	Group members 6 or more _____
6. Of those trips that occurred in the Driftless Area, approximately how many days was a typical fishing trip in 2015? _____
7. Now think of all the fishing trips you took in the Driftless Area in 2015, noted in **Q2**. If any of those trips were more than 1 day, where did you spend your overnights? Check all that apply.

___ Friends or relatives	___ Bed and breakfast	___ Hotel or motel	___ Camping
___ Rented cabin	___ Own recreational home	___ Other, please specify: _____	

Section 2: Spending Habits in 2015

8. In order to gauge the economic impact of angling activities, we would like to know about spending in local area businesses in the Driftless Area. Approximately how much money did you personally spend in a Driftless Area business on a typical fishing trip in the following categories in 2015?

\$_____ Fishing supplies (bait, tackle, etc.)	\$_____ Auto related services (gasoline, oil, etc.)
\$_____ Guiding Services	\$_____ Lodging
\$_____ Restaurants/bars	\$_____ Groceries (including alcohol)
\$_____ Amusements/entertainment	\$_____ Souvenirs, gifts, apparel, other retail
\$_____ Equipment rental (canoe, kayak, etc.)	
\$_____ Other, please specify: _____	

9. Did you buy any of the following fishing equipment in the last 5 years **in the Driftless Area**? If so, how much did you spend?

\$_____ Rods / reels

\$_____ Hip waders / boots

\$_____ Flies / lures

\$_____ Clothing specifically for fishing

\$_____ Other, please specify _____

Section 3: Fishing Habits and Opinions

10. What method of angling did you use in 2015 when trout fishing in the Driftless Area? Please select all that apply.
 Spin Fly Live bait Artificial bait Other, please specify: _____

11. What kinds of fish do you like to fish for in the Driftless Area? _____

12. In 2015, how many different streams did you fish for trout in the Driftless Area in all your trips? _____

13. In 2015, how many miles one-way did you drive to fish on a typical trip in the Driftless Area? _____

14. How many years have you been trout fishing in the Driftless Area? _____

15. In 2015, in what months did you fish for trout in the Driftless Area? Please check all that apply.

January March May July September November
 February April June August October December

16. How important is trout fishing in the Driftless Area to you in comparison to all of your other recreational activities? Would you say that trout fishing in the Driftless Area is: (Please select one)

My most important recreational activity.
 One of the more important recreational activities I participate in.
 No more important than any other.

17. Are you aware of the efforts that have been undertaken to preserve and restore the trout streams in the Driftless Area in the last 20 years?

Yes No - Please skip to **Q19**.

18. As a result of the trout stream restoration efforts, are you: (Please select one)

More likely to fish in the Driftless Area?
 Less likely to fish in the Driftless Area?
 Neither more nor less likely to fish in the Driftless?

19. Would additional trout stream restoration efforts in the Driftless Area affect your fishing habits? (Select one)

I would be more likely to fish in the Driftless Area
 I would be less likely to fish in the Driftless Area.
 I would be neither more nor less likely to fish in the Driftless Area
 Other: please explain: _____

20. Do you currently own real estate in the Driftless Area for recreational purposes?

Yes No - Please skip to **Q22**.

21. If so, was the opportunity for trout fishing in the region a factor in your decision to purchase the property?
 Yes No
22. Overall, I am satisfied with the trout fishing experience in the Driftless Area. Please select one.
 Strongly agree Agree Neutral Disagree Strongly disagree
23. Why did you decide to trout fish in the Driftless Area?
- | | Strongly
Disagree | Disagree | Neither | Agree | Strongly
Agree |
|---|----------------------|----------|---------|-------|-------------------|
| Trout stream restoration projects | 1 | 2 | 3 | 4 | 5 |
| Better rivers and streams than outside the area | 1 | 2 | 3 | 4 | 5 |
| Easy stream and river access | 1 | 2 | 3 | 4 | 5 |
| Friendly landowners towards anglers | 1 | 2 | 3 | 4 | 5 |
| Opportunities to catch wild trout | 1 | 2 | 3 | 4 | 5 |
| Opportunities to catch stocked trout | 1 | 2 | 3 | 4 | 5 |
| Other, please explain _____ | | | | | |

Section 4: Demographic information

24. In what zip code do you live? _____
25. Do you live in Wisconsin, Minnesota, Iowa, or Illinois in the spring/summer and a warmer climate the rest of the year? Yes No
26. What is your age? _____
27. What is your gender?
 Male Female
28. What is your marital status? Please select one.
 Married Divorced Single, never married
 Separated Widowed Other, please specify _____
29. What is the highest level of education you have completed? Please select one.
 Less than 12th grade (no degree)
 High school diploma or GED
 Some college (1-4 years, no degree)
 Associates degree (including academic, technical, or vocational, or trade school)
 4-year college degree (BA, BS, AB, etc.)
 Graduate school (Masters, Ph.D., JD, MD, etc.)
30. What was your approximate annual household income in 2015, which is income from all sources and not just wages and salary? Please select one.
- | | | |
|--|--|--|
| <input type="checkbox"/> Less than \$10,000 | <input type="checkbox"/> \$40,000 - \$59,999 | <input type="checkbox"/> \$100,000 - \$119,000 |
| <input type="checkbox"/> \$10,000-\$19,000 | <input type="checkbox"/> \$60,000 - \$79,999 | <input type="checkbox"/> \$120,000-\$140,000 |
| <input type="checkbox"/> \$20,000 - \$39,999 | <input type="checkbox"/> \$80,000 - \$99,999 | <input type="checkbox"/> More than \$140,000 |

Thank you for your time.

APPENDIX 2: Tables

Driftless Area Use in 2015

Table A1: Fishing Trip Characteristics (Q1, Q2, Q3, Q6)

Question	Mean (Standard Deviation)
Q1 Number of fishing trips anywhere in 2015	14.04 trips (18.84)
Q2 Of all fishing trips in 2015, how many were in Driftless Region?	6.49 trips (10.68)
Q3 Of all fishing trips in 2015 to Driftless Region, in how many was <i>trout fishing the primary or sole purpose?</i>	5.84 trips (10.52)
Q6 In a typical fishing trip in 2015 to Driftless Region, average number of days per trip	2.44 days (2.00)

Table A2: Fishing Trip Group Characteristics (Q4, Q5)

Question	Mean (Standard Deviation)
Q4 In a typical fishing trip in 2015 to Driftless Region, average number of people in group, <i>excluding respondent</i>	2.23 people (3.01)
Q5 Age of group members	42.21 years of age (20.21)

Table A3: Lodging¹ (Q7)

Friends or relatives	8.7%
Bed & breakfast	1.3%
Hotel or motel	22.8%
Camping	34.7%
Rented cabin	15.4%
Own recreational home	3.9%

¹Respondents could check more than one lodging type

Spending Habits

Table A4: Per Trip Spending in Driftless Region (Q8)

Category	Mean (Standard Deviation)
Fishing supplies (bait, tackle, etc.)	\$ 55.91 (205.08)
Guiding services	\$ 29.18 (236.43)
Restaurants/bars	\$ 78.54 (136.94)
Amusements/entertainment	\$ 8.79 (59.54)
Equipment rental (canoe, kayak, etc.)	\$ 2.04 (11.91)
Auto related services (gas, oil, etc.)	\$ 61.96 (98.55)
Lodging	\$ 97.89 (167.00)
Groceries (including alcohol)	\$ 67.48 (176.76)
Souvenirs, gifts, apparel, other retail	\$ 14.12 (37.55)
Total	\$415.91 (846.68)

Table A5: Fishing Equipment Spending in Driftless Region in Last 5 Years (Q9)

Category	Mean (Standard Deviation)
Rods/reels	\$101.69 (544.39)
Flies/lures	\$ 68.04 (128.94)
Hip waders/boots	\$ 49.88 (128.67)
Clothing specifically for fishing	\$ 75.37 (524.62)
Total	\$294.98 (1190.85)
Spending per year=Total/5	\$ 59.00

Fishing Habits and Opinions**Table A6: Method of Angling¹ (Q10)**

Spin	34.7%
Fly	51.4%
Live bait	24.1%
Artificial bait	26.4%
Other (Salmon eggs, lures, drift cheese)	1.0%

¹ Respondents could check more than one method**Table A7: Fishing Habits (Q12, Q13, Q14)**

Question	Mean (Standard Deviation)
Q12. How many different streams fished in all 2015 trips?	8.11 streams (15.50)
Q13. How many miles one-way on average driven to fish on a typical trip?	138.05 miles (107.73)
Q14. How many years fished in Driftless Area?	17.59 years (15.81)

Table A8: Months Fished in Driftless Region¹ (Q15)

January	6.8%
February	4.2%
March	21.2%
April	37.0%
May	51.1%
June	51.4%
July	35.7%
August	31.5%
September	45.7%
October	23.8%
November	10.0%
December	3.9%

¹ Respondents could check more than one month

Table A9: Importance of Fishing in Driftless Region (Q16)

My most important recreational activity	33.3%
One of the more important recreational activities I participate in	53.1%
No more important than any other	13.6%
Total	100.0%

Table A10: Awareness of Efforts to Preserve/Restore Trout Streams in Driftless Region (Q17)

Aware	88.5
Not Aware	11.5
Total	100.0%

Table A11: Likelihood of Fishing in Driftless Region Given Restoration Efforts¹ (Q18)

More likely	79.5%
Less likely	.5%
Neither more nor less likely	20.0%
Total	100.0%

¹Only respondents who were aware of preservation/restoration efforts were asked this question, i.e., those answering “yes” to Q 17.

Table A12: Effect of Additional Trout Stream Restoration on Fishing Habits (Q19)

More likely to fish in the Driftless Region	72.7%
Less likely to fish in the Driftless Region	1.2%
Neither more nor less likely to fish in the Driftless Region	26.1%
Total	100.0%

Table A13: Driftless Region Real Estate Ownership for Recreational Purposes (Q20)

Yes	6.5%
No	93.5%
Total	100.0%

Table A14: Trout Angling as a Factor in Decision to Buy Property in Driftless Region¹ (Q21)

Yes	54.2%
No	45.8%
Total	100.0%

¹Only respondents who own real estate in Driftless Region were asked this question, i.e., those answering “yes” to Q 20.

Table A15: Overall Satisfaction with Fishing Experience in Driftless Region (Q22)

Definitely agree that I am satisfied	45.4%
Agree that I am satisfied	46.7%
Neutral	5.8%
Disagree that I am satisfied	2.1%
Definitely disagree that I am satisfied	0.0%
Total	100.0%

Table A16: Decision to Trout Fish in Driftless Region (Q23)

	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Total
Trout Stream Restoration Projects	5.1%	3.4%	44.9%	25.0%	21.6%	100.0%
Better Rivers/Streams Than Outside the Area	6.0%	.3%	34.5%	16.6%	42.6%	100.0%
Easy Stream/River Access	5.5%	.9%	38.1%	21.2%	34.3%	100.0%
Friendly Landowners	5.6%	3.8%	50.0%	19.2%	21.4%	100.0%
Opportunities to Catch Wild Trout	5.5%	.8%	27.1%	20.8%	45.8%	100.0%
Opportunities to Catch Stocked Trout	11.9%	9.7%	40.3%	16.5%	21.6%	100.0%

Demographic Information

Table A17: Live in Warmer Climate in Winter (Q25)

Yes	21.7%
No	78.3%
Total	100.0%

Table A18: Age of Respondent (Q26) and Accompanying Groups Members (Q5)

Age	Respondent	Group Members¹
Under 18 years	1.0%	13.5%
18-29 years	8.1%	13.1%
30-39 years	18.2%	16.1%
40-49 years	13.0%	16.5%
50-59 years	24.0%	19.5%
60-69 years	26.3%	15.6%
70-79 years	7.8%	4.2%
80 years and older	1.6%	1.5%
Total	100.0%	100.0%
Average Age	51.3 years	42.2 years

¹A respondent reported bringing the Boy Scouts to the area.

Table A19: Gender (Q27)

Male	89.0%
Female	11.0%
Total	100.0%

Table A20: Marital Status (Q28)

Married	71.0%
Separated	11.9%
Divorced	1.9%
Widowed	13.9%
Single (never married)	1.3%
Total	100.0%

Table A21: Educational Attainment (Q29)

Less than 12 grade, no degree	1.9%
High school diploma or GED	13.2%
Some college (1-4 years, no degree)	16.8%
Associates degree (including academic, technical, vocational, trade school)	13.9%
4-year college degree (BA, BS, etc.)	33.6%
Graduate school (Masters, Ph.D. JD, MD, etc.)	20.6%
Total	100.0%

Table A22: Income (Q30)

Less than \$10,000	1.4%
\$10,000-\$19,999	1.7%
\$20,000-\$39,999	12.5%
\$40,000-\$59,999	19.7%
\$60,000-\$79,999	14.2%
\$80,000-\$99,999	14.2%
\$100,000-\$119,999	11.2%
\$120,000-\$140,000	9.2%
More than \$140,000	15.9%
Total	100.0%

APPENDIX 3: Responses to Open-Ended Questions

Q8 Other activities on which money was spent during a fishing trip to Driftless Area.

1. Golf and mini-golf
2. Horseback riding

Q19 Would additional stream restoration in the Driftless Area affect your fishing habits?

1. I'd be more willing to try other streams/stretches if I know they've been built up.

Q23 Why did you decide to trout fish in the Driftless Area?

1. We have been doing it for years. Love the NE part of Iowa.
2. Great wildlife to watch – for example mink hunting on other side of stream while fishing (once in a lifetime experience). I grew up in Waucoma, IA, on a farm but never had an opportunity to fish for trout.
3. Meeting with family from Iowa.
4. It is a beautiful area. (6)
5. I've been going there with my children to show them how much fun it is, like my parents did for me.
6. A friend got me started and the location is the nearest option.
7. For the solitude! Closest area with the challenge of trout; just a beautiful area.
8. Enjoy the solitude but that is starting to change as a result of promotion and commercialization. Some landowners not cooperating and putting up difficult fencing.
9. Long live trout!
10. Hard to get on the stream to fish. Need more access to the stream.
11. I think it's a lot of fun with friends.
12. This is a time-honored family tradition.
13. We had friends who owned property there over the years and have fallen in love with the area.
14. Trout streams are more limited in our area than out west or S/E but I really appreciate the opportunities provided by stocking and restoring streams.
15. Most of the streams are farmland where it's like fishing in the backyard on the lawn. If not, they're just inside of woods from fields. It's especially important the last few years because of pain problems. The last 10 years hasn't been as good and the fish were smaller which wasn't good and that's why I haven't gone as much.
16. I have recreated in non-fishing ways in the Driftless Area and am aware of its history of hillside farms and erosion. I know the County Extension Service worked with the farmers in a decade's long effort to improve agricultural practices and restore water quality. I know the present high reputation of the trout fishery in the area and look forward to a fishing trip in the near future.
17. I started trout fishing on family trips to Wyoming when I was young and love to fly fish for trout.

18. Closer/more convenient than Northern Rockies!
19. It's close and very good fishing! (2)
20. Bow-hunt the area.
21. Birdwatching.
22. Beautiful accessible healthy trout habitat within a day's drive.
23. Driftless is some of the best trout fishing in the country.
24. I like to fish in catch-n-release areas for trophy trout. DNR regulations are changing regarding catch-n-release areas!
25. Toppling Goliath Brewery. Float (canoe).
26. Children to live like he did as a child

Other general comments

1. I am strongly against some of your stream restoration projects, particularly beaver eradication. Things are much better for most everything with beaver in the streams.
2. Very interested in fishing Driftless Area; didn't know it was in Minnesota and Iowa, too.
3. You may not be aware that there is a 'dark side' to trout fishing here in southwest Wisconsin. In 1990 trout rules in Wisconsin went from a few words to 32 pages of words and maps. About 1,000 special rules were created for roughly 3,000 trout waters. Trout Unlimited was the main reason the DNR created the 1,000 Rules. TU members firmly believed these rules would greatly improve trout fishing in Wisconsin and especially here in southwest Wisconsin. Thousands of "regular" trout anglers here in our area quit fishing rather than deal with complex rules....Businesses here in southwest Wisconsin that benefit from trout angler spending would benefit even more (in my opinion) if trout rules were simplified which would (possibly) get dropout anglers fishing again and stimulate non-trout anglers to take up trout fishing...Low income blue collar workers are largely gone due to excessive rules and they have been replaced by small numbers of college graduates with "big incomes"...Note the lack of young trout anglers...The bulk of trout anglers now are middle aged and older...[Also] Bait fishing keep & eat anglers have decreased from 80% to 24%.
4. ...I personally think the money spent on surveys could be spent in more productive ways. I live near the White River system in Bayfield County; an extensive area of streams combining into one over many miles...My family has fished these streams since the 1920s. I can recall trout being re-stocked many times...and when catching one, we knew it was planted because of the clipping of one fin...In the 1960s, the limit was 10 per person and the fishing was superb. And most of the fish caught were natives, not the restocked variety...I know things change. Rivers (and lakes) are pretty much like living things and are constantly changing, filling in, digging out, changing course, plant and wildlife adapting, etc. Nothing stays the same. And no amount of surveys are going to compensate for Mother Nature, who will have her way...There have been a dozen of fish

surveys in the last twenty year on White River; and yet it has not improved fishing here one iota. In fact, it seems to make it worse. A couple of years ago I suggested they begin a re-stocking program again, as in the past, but they decided they needed another survey instead.

Right now the trout limit on most of the White River system is: one trout over 18 inches...If a trout fisherman decides he will fish the stream, it is likely he will have killed any number of trout before catching his one legal fish. (Recent studies reported in Montana estimate that approximately 20% of released trout die from injuries or stress and even those that don't die, their injuries may significantly reduce their ability to feed and grow.)

I do know that people have been fishing the White River system since the 1870's, and it wasn't until the 1980's that fishing was starting to be a challenging enterprise. I doubt if another survey is going to change that. Spend the money on stream maintenance and re-stocking instead of imposing a ridiculous limit. Fishermen may eventually get their 18 inch fish...but more than likely at the expense of half a dozen smaller fish who don't survive the required "catch & release" due to being under the size limit; play a 14 inch Brown to get him to shore, remove the hook from his mouth/gills and see how well he prospers by putting him back in the stream.