

Cost-Benefit Analysis of Stocked Trout Stream Angling and an
Evaluation of Two Opening Days of Trout Season in Pennsylvania based
on Opening Day Angler Use Count and Opinion Information from the 2007
Season

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November 5, 2007

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Bureau of Fisheries
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Background

Beginning with the 2007 season, two major changes were made with the goal of enhancing trout angling opportunities for stocked trout in Pennsylvania. Initially, the average size of adult trout produced by Pennsylvania Fish and Boat Commission (PFBC) hatcheries increased from approximately 10.25 to 11 inches in length. This equated to an increase in weight of approximately 30% per fish. A biomass (weight) limitation of 1.9 million pounds of trout is currently in place for PFBC trout hatcheries. This was implemented to comply with the effluent discharge criteria that have been placed on PFBC trout hatchery permits by the Pennsylvania Department of Environmental Protection. In order to accomplish the goal of raising trout that were 30% larger in weight, the number of trout produced was reduced by 20% to remain in compliance with the biomass limitation of 1.9 million pounds.

The second change involved the implementation of two opening days of trout season in Pennsylvania. Beginning with the 2007 season, an earlier opening day of trout season applied to waters within an 18 county region located in southeastern and southcentral Pennsylvania (Figure 1). The traditional time period for opening day remained in place for waters in other regions of the state. The rationale for an earlier opening day of season is based upon long-term weather patterns that indicate air temperatures in the 18 county region tend to be warmer earlier in the spring as compared to other regions of the state. These warmer temperatures provide conditions more conducive to angling earlier in the spring. The warmer temperatures can also elevate water temperatures earlier in the year. The combination of an opening day in mid-April and the potential for these waters to become too warm for trout angling by mid-spring reduces the amount of time that trout angling opportunities can be provided on many stocked trout waters in this region. Therefore, implementation of an earlier opening day was designed to take advantage of conditions that provide for optimum trout angling in this region of the state.

The purpose of this study was to determine the amount of opening weekend angler use that occurs on stream sections stocked with adult trout and provide a cost-benefit comparison of revenue generated from angler trip expenditures and fishing license sales versus the production costs to raise and distribute trout. The study was also intended to determine any differences in angler use as a result of the implementation of two opening days of trout season. For this comparison, opening day angler use counts were collected in 2007 from

a set of stream sections where opening day angler counts were made during the 2005 or 2006 seasons. Angler counts were collected on a set of streams where the earlier opening day applied and on a set of streams where the traditional opening day applied. In addition, some brief angler interviews were conducted to determine angler residence, the water area anglers usually visit on opening day, and angler opinions concerning the two opening days of trout season in Pennsylvania. Interview information was collected to address angler concerns regarding the potential for large increases in opening day angler use and the potential for a large influx of opening day anglers from outside either region.

Methods

For this evaluation, opening day angler use counts and angler interviews were collected on a total of 76 trout stocked stream sections. This included 22 stream sections managed under the (March 31, 2007) regional opening day, and 54 stream sections managed under the traditional (April 14, 2007) opening day of trout season (Table 1). Prior to this study, opening day angler count data had been collected during either 2005 or 2006 on 21 of the stream sections managed under the earlier opening day and 33 of the stream sections managed under the traditional opening day. Opening day angler counts were conducted on an additional 22 stream sections where opening day angler count information was not collected during the 2005 or 2006 seasons. Of these, 20 were examined as part of a continuation of the 2006 stocked trout residency study and two streams were added to collect additional opening day angler count and interview information.

Angler count and interview information was collected on both opening days of trout season. Data were collected on March 31, 2007, for stream sections managed under the regional opening day, and on April 14, 2007, for stream sections managed under the traditional opening day. Waterways Conservation Officers, Deputy Waterways Conservation Officers, Fisheries Biologists, Fisheries Technicians, and Fisheries Biologist Aides served as creel clerks to collect the data. For this effort, one angler count was conducted per stream section. Following the completion of the angler count, angler interviews were conducted on a sample of anglers fishing within the stream section.

For comparative purposes clerks were instructed to conduct the angler count at the same time interval when the opening day angler count was conducted on the stream section during the previous survey. On stream sections where angler counts were not collected in 2005 or 2006, clerks had the option of conducting the angler count at either 8:00 am or 9:30 am; based on previous opening day angler counts, these represented the time periods when the greatest number of anglers were

counted. Angler counts began at either the upstream or downstream section limit and continued until the count had been completed for the entire section of stream. At the completion of the angler count, the number of anglers actively fishing along the stream was recorded on the data forms provided by the Division of Fisheries Management (Appendix 1). Other information recorded on the count form included water name, section number, the last name of the creel clerk, survey date, count start time (or the time the count began in military time), and count finish time (or the time the count was completed for the entire section in military time). After the angler count was completed and recorded, data were recorded that best described weather and stream flow conditions as outlined in Appendix 2. Information was recorded on cloud cover, precipitation, air temperature, and stream flow. If turbid (muddy) water conditions were encountered during the survey, the clerk was instructed to write in "Turbid Water" under the weather and stream flow condition codes.

After the angler count, weather, and stream flow conditions were recorded, a brief set of questions was posed to a sample of anglers fishing within the stream section. In cases where large numbers of anglers were present, clerks were instructed to interview at least 25% of the anglers (or every fourth angler) who were actively fishing within the designated stream section. In cases where lower numbers of anglers were present, clerks were instructed to interview all anglers or as many as possible within the stream section. Angler interviews began at either the upstream or downstream section limit and continued until interviews had been completed for the entire stream section. Information recorded on the interview form included water name, section number, the last name of the creel clerk, survey date, zip code of the angler's permanent residence, the County of residence for Pennsylvania residents or State of residence for out-of-state anglers, and responses to two questions pertaining to where anglers normally fish on the opening day of trout season and angler opinions on the concept of two opening days of trout season in Pennsylvania (Appendix 3).

Since angler counts were made during only one count interval in 2007, the estimated opening day angler count was determined by extrapolation from data collected during the 2005 creel surveys on trout stocked stream sections (where anglers were counted during several time intervals for the day). A multiplier developed from the 2005 data was used to equate the number of anglers counted during any one-count interval to an estimated total number of anglers counted on opening day. The number of second day anglers in 2007 was determined by multiplying the estimated number of opening day anglers by 0.348 (or the ratio of the total number of anglers counted on the second day of season in 2005 divided by the total number of anglers counted on opening day in 2005). For stream sections surveyed in 2007, the estimated number of angler hours for opening weekend were determined

by using the estimated total angler counts from opening day and the second day of season and applying the procedures used for estimating angler hours in 2005. For stream sections surveyed in 2005, total daily effort in angler hours (E) was determined by dividing the length of the fishing day sampled (T) by the number of angler counts for the day (k) and multiplying this figure by the sum of the angler counts for the day (a). For example, $E = (T/k) (\sum a)$. The same figure could be determined by dividing the sum of the angler counts for the day by the number of angler counts for the day and multiplying this figure by the length of the fishing day sampled. Total angler hours for opening day and the second day of season were summed to arrive at an estimated number of angler hours for opening weekend.

The estimated number of opening weekend angler trips per stream section was derived by dividing the estimated number of opening weekend angler hours per section by an opening weekend mean angler trip length of 3.61 hours. Opening weekend mean angler trip length was determined from the analysis of creel survey data conducted on trout stocked stream sections in 2005 (Greene et al. 2006).

To provide a cost-benefit comparison, opening weekend angler trip expenditures were compared with the production costs of the number of adult trout stocked by the PFBC within the stream sections prior to opening day. Angler trip expenditures were determined by multiplying the estimated number of opening weekend angler trips per stream section by opening weekend daily angler expenditures (\$43.16). Expenditures were based on the amount of dollars anglers spent on lodging, travel, food, and fishing gear on opening weekend. These were derived from the analysis of economic information collected as part of the creel survey conducted on stocked trout stream sections in 2005 (Greene et al. 2006). Production costs were determined by multiplying the number of adult trout stocked within the stream sections prior to opening day by a production cost of \$1.89. This figure represents the estimated cost to produce and stock one adult trout (T. Cochran, PFBC, personal communication). Opening weekend angler expenditures minus production cost provided a cost-benefit measure.

Cost-benefit was also examined based on a comparison of fishing license expenditures with production costs. To determine fishing license expenditures, the cost of a fishing license and trout stamp for resident adult, non-resident adult, and anglers under age 16 was determined along with the percentage of anglers within each group. The combined cost of a resident fishing license and trout stamp (\$31.00) was used for resident adult anglers, as the number of senior resident and senior resident lifetime license holders could not be determined from 2005 angler survey data. For non-resident adult anglers, the cost of a three-day tourist license and trout stamp, seven-day tourist and trout stamp, and annual non-resident license and

trout stamp was averaged for a cost of \$46.33. Anglers under 16 years of age (resident and non-resident) are not required to purchase a fishing license, so there was no license cost associated with this group of anglers. The percentage of resident adult, non-resident adult, and anglers under age 16 were determined from opening weekend angler interview information collected in 2005. Based on this information, resident adult anglers composed 81.1%, non-resident adult anglers composed 5.9%, and anglers under age 16 composed 13% of the anglers interviewed on stocked trout streams on opening weekend. To arrive at an average value for fishing license expenditures, the license cost associated with each group was multiplied by the percentage of anglers in each group. The sum of these figures divided by 100 produced a weighted average license cost per angler value of \$27.87. Opening weekend fishing license expenditures were determined by multiplying the estimated number of opening weekend angler trips per stream section by the average cost of a fishing license and trout stamp (\$27.87). Opening weekend fishing license expenditures minus production cost provided a cost-benefit measure.

Another cost-benefit comparison was calculated by summing opening weekend angler trip expenditures (\$43.16) and the average cost of a fishing license and trout stamp (\$27.87) to arrive at a combined expenditures figure of \$71.03. The combined opening weekend angler trip and fishing license expenditures figure was determined by multiplying the estimated number of opening weekend angler trips per stream section by the combined opening weekend expenditures (\$71.03). The combined opening weekend angler trip and fishing license expenditures minus production cost provided an additional cost-benefit measure.

Results

Angler Use

Estimated opening weekend angler use on the 2007 study waters ranged from 20 angler hours and 5 angler trips on Green Spring Creek, Section 03, to 4,905 angler hours and 1,359 angler trips on Jordan Creek, Section 06. Median opening weekend angler use was estimated at 432 angler hours and 120 angler trips (Table 2). Opening weekend angler effort at the lower 10th percentile was estimated at 96 angler hours and 27 angler trips, whereas opening weekend angler use at the 90th percentile (upper 10th percentile) was estimated at 1,728 angler hours and 479 angler trips.

Cost-Benefit - Angler Trip Expenditures

Values for opening weekend angler trip expenditures minus production costs ranged from -\$2,135.78 on Long Run, Section 02, to \$54,856.98 on Jordan Creek, Section 06. The median cost-benefit value

based on angler trip expenditures minus production costs was \$3,978.52 (Table 3). The production cost to raise and distribute the preseason allocation of stocked trout exceeded the estimated opening weekend angler trip expenditures on a total of 10 stream sections, or 13.2% of the stream sections evaluated in 2007.

Cost-Benefit - Fishing License Expenditures

The values for opening weekend fishing license expenditures minus production costs ranged from -\$3,001.02 on the Lackawanna River, Section 01, to \$34,084.05 on Jordan Creek, Section 06. The median cost-benefit value based on fishing license expenditures minus production costs was \$2,020.41 (Table 4). The production costs to raise and distribute the preseason allocation of trout exceeded fishing license expenditures on a total of 15 stream sections, or 19.7% of the stream sections evaluated.

Cost-Benefit - Combined Angler Trip and Fishing License Expenditures

Values for opening weekend angler trip and fishing license expenditures combined minus production costs ranged from -\$952.00 on Long Run, Section 02, to \$92,721.03 on Jordan Creek, Section 06. The median cost-benefit value based on angler trip and fishing license expenditures minus production costs was \$7,157.81 (Table 5). The production cost to raise and distribute the preseason allocation of stocked trout exceeded the estimated opening weekend angler trip and fishing license expenditures on a total of six stream sections, or 7.9% of the stream sections evaluated.

Number of Trout Stocked per Opening Weekend Angler Trip

The number of trout stocked during the preseason distribution period compared with the number of opening weekend angler trips ranged from 1 to 89 trout stocked per angler trip. The median number of trout stocked per opening weekend angler trip was five trout per trip (Table 6). The number of trout stocked per angler trip at the lower 10th percentile was two trout per trip. The number of trout stocked per angler trip at the 90th percentile (upper 10th percentile) was 31 trout per trip.

Angler Trip Comparison on 2007 Study Waters

A total of 54 stream sections examined in 2007 also had opening day angler count information collected during either the 2005 or 2006 season. In comparison with previous opening weekend angler trip estimates, the difference in the number of 2007 opening weekend angler trips ranged from -599 to 262 angler trips. The 10th, 50th, and 90th percentile differences between opening weekend angler use in 2007 compared to previous years equaled -97, 6, and 120 trips,

respectively. In comparison with previous opening weekend angler trip estimates, the number of opening weekend angler trips increased on 54% of the stream sections examined in 2007 (Table 7).

Prior to the 2007 season, opening day angler count data had been collected on 21 stream sections that were within the 18 county region managed under the earlier opening day in 2007. In comparison with previous opening weekend angler trip estimates, the difference in the number of 2007 opening weekend angler trips ranged from -52 to 262 angler trips. The 10th, 50th, and 90th percentile differences between opening weekend angler use in 2007 compared to previous years equaled -24, 29, and 120 trips, respectively. In comparison with previous opening weekend angler trip estimates, the number of opening weekend angler trips increased on 71% of the stream sections examined in 2007 (Table 8).

A total of 10 of the 21 stream sections managed under the earlier opening day were located in counties that bordered the regional opening day and traditional opening day of trout season. In comparison with previous opening weekend angler trip estimates on these waters, the difference in the number of 2007 opening weekend angler trips ranged from -22 to 262 angler trips. The 10th, 50th, and 90th percentile differences between opening weekend angler use in 2007 compared to previous years equaled -22, 42, and 198 trips, respectively. In comparison with previous opening weekend angler trip estimates, the number of opening weekend angler trips increased on 80% of the border county stream sections managed under the regional opening day (Table 9).

Previous opening day angler count was also collected on 33 stream sections that were managed under the traditional opening day of trout season. In comparison with previous opening weekend angler trip estimates, the difference in the number of 2007 opening weekend angler trips ranged from -599 to 222 angler trips. The 10th, 50th, and 90th percentile differences between opening weekend angler use in 2007 compared to previous years equaled -125, -16, and 114 trips, respectively. In comparison with previous opening weekend angler trip estimates, the number of opening weekend angler trips decreased on 58% of the stream sections examined in 2007 (Table 10).

Twelve of the 33 stream sections managed under the traditional opening day were located in counties that bordered the regional opening day and traditional opening day of trout season. In comparison with previous opening weekend angler trip estimates on these waters, the difference in the number of 2007 opening weekend angler trips ranged from -192 to 222 angler trips. The 10th, 50th, and 90th percentile differences between opening weekend angler use in 2007 compared to previous years equaled -67, -33, and 114 trips,

respectively. In comparison with previous opening weekend angler trip estimates, the number of opening weekend angler trips also decreased on 58% of the border county stream sections managed under the traditional opening day (Table 11).

Angler Residence

Five hundred eighty-two angler interviews were conducted on 22 streams in the 18 county region where the regional opening day (March 31, 2007) of trout season applied. An additional 1,174 interviews were conducted on 54 streams where the traditional opening day (April 14, 2007) of trout season applied (Table 1). Based on the information collected from these interviews, 95% of the anglers interviewed on the regional opening day were residents of the 18 county region. In contrast, 15% of the anglers interviewed on traditional opening day streams were residents of the 18 county opening day region (Figure 2). On border county streams within the 18 county opening day region, 93% of the anglers interviewed on opening day were residents of the 18 county region. On border county streams where the traditional opening day applied, 33% of the anglers interviewed on opening day were from the 18 county region (Figure 3).

Angler Opinions

As part of the interview process, anglers were asked to provide the name of the water they normally visited on the opening day of trout season in Pennsylvania. On streams managed under the regional opening day, 67% of the anglers interviewed indicated they were fishing on the same stream they normally fish on opening day. On streams managed under the traditional opening day, 72% of the anglers interviewed indicated they were fishing on the same stream they normally fish on opening day (Figure 4). On border county streams managed under the regional opening day, 66% of the anglers interviewed indicated they were fishing on the same stream they normally fish on opening day. On border county streams managed under the traditional opening day, 72% of the anglers interviewed indicated they were fishing on the same stream they normally fish on opening day (Figure 5).

Anglers were also asked their opinion of having two opening days of trout season in Pennsylvania. On streams managed under the regional opening day, 73.4% of the anglers interviewed agreed, 10% disagreed, and 16.6% were neutral on having two opening days of trout season in Pennsylvania. On streams managed under the traditional opening day, 55.9% of the anglers interviewed agreed, 7.5% disagreed, and 36.6% were neutral on having two opening days of trout season (Figure 6). On border county streams managed under the regional opening day, 70.1% of the anglers interviewed agreed, 14.3% disagreed,

and 15.6% were neutral on having two opening days of trout season. On border county streams managed under the traditional opening day, 66.6% of the anglers interviewed agreed, 8.5% disagreed, and 24.9% were neutral on having two opening days of trout season in Pennsylvania (Figure 7).

Discussion

In interpreting the data from this study, one must keep in mind that angler use on opening weekend on stocked trout streams equals approximately 29% of the total use on such streams as determined by Greene et al. (2006). Therefore, the cost-benefit for the entire year based on either method used in this analysis could be about 3.4 times higher than estimated here. Conversely, because stocked trout anglers often fish for other species as well, attributing license sales as an economic benefit to the agency based on stocked trout angling alone would overestimate the true benefit. In addition, evaluating costs solely on the basis of production and distribution of fish, as was done here, does not consider the costs of managing the fishery by way of biological surveys and development of management plans, enforcement of regulations, habitat protection and enhancement by way of permit review, habitat improvement efforts, promoting the fishery, educating the public on fishing opportunities, acquiring access, investigating pollution events, and other related activities which represent a more true idea of the costs to manage stocked trout fisheries. When these various potential biases are considered together, the Division of Fisheries Management believes that the methods used in this report represent a reasonable method to index costs and benefits related to the stocked trout program with the added benefit that cost-benefits estimated in this manner are relatively simple to develop.

In 2007 the production costs to raise and distribute the preseason allocation of trout exceeded both the estimated opening weekend angler trip expenditures and fishing license expenditures on 10 stream sections: Long Run, Section 02; Kettle Creek, Section 03; Lackawanna River, Section 01; Decker Brook, Section 03; North Branch Wyalusing Creek, Section 03; North Creek, Section 02; South Branch Towanda Creek, Section 02; Elk Creek, Section 02; Green Spring Creek, Section 03; and Rocky Run, Section 02 (Tables 3 & 4). In addition, Sixmile Run, Section 02; South Branch Tunkhannock Creek, Section 02; Havens Run, Section 02; Lake Creek, Section 02; and Tunkhannock Creek, Section 02, had negative cost-benefit values when production costs were compared with fishing license expenditures (Table 4). Based on a comparison of production costs versus combined angler trip and fishing license expenditures, negative cost-benefit values were recorded on Long Run, Section 02; Decker Brook, Section 03; North Branch Wyalusing Creek, Section 03; Kettle Creek, Section 03; North Creek, Section 02; and Green Spring Creek, Section 03 (Table 5).

The inverse of the number of trout stocked per angler trip can be used as an indicator of angler use. For example, a high number of trout stocked per angler trip indicates that a low number of angler trips were generated per trout stocked. Based on the results of this study, a high number of trout stocked per trip was recorded for each of the 15 stream sections with negative cost-benefit values (Table 6). The number of trout stocked per angler trip on these waters ranged from 13 to 89 trout stocked per trip, and exceeded the 75th percentile (11 trout stocked/trip). Stocking rate reductions should be applied or stocking should be eliminated on stream sections with negative cost-benefit values and a high number of trout stocked per trip.

Stocked trout residency between the time of stocking and opening day could have influenced opening weekend angler use and cost-benefit values. In 2007 electrofishing surveys were completed on nine of the stream sections with negative cost-benefit values as part of the 2007 Stocked Trout Residency study. On these waters, the timing of stocking ranged from 14 to 30 days before opening day and averaged 22.3 days before opening day. The residency study examined stocked trout residency within 300 meters of stocking point locations between the time of the preseason stocking and opening day. Results from these examinations indicated that recapture rates of stocked trout were very poor on three streams (< 10%), poor on five streams (≥ 10 to < 40%) and fair on one stream (≥ 40 to < 70%). Recapture rates on these streams ranged from 1% to 46% and averaged < 20%. Based on these results, it appears that poor or very poor stocked trout residency could have influenced angler use on at least eight stream sections.

Based on the results from the 2005 and 2006 study, it was recommended that preseason stocking should occur within 10 days of the opening day of season on six stream sections with negative cost-benefit values, and opening day angler counts should be repeated on these sections in 2007 (Greene and Weber, 2006). The purpose of the adjustment was to improve opening weekend angler use on East Branch Fishing Creek, Section 02; Jones Creek, Section 02; Kettle Creek, Section 03; Rocky Run, Section 02; Treaster Run, Section 02; Tunkhannock Creek, Section 02; and West Branch Meshoppen Creek, Section 02. Based on the results of the adjustment in the timing of the preseason stocking, opening weekend angler use improved dramatically on Treaster Run (from 23 to 245 angler trips) and West Branch Meshoppen Creek (from 17 to 111 angler trips). Opening weekend angler use improved slightly on Jones Creek, East Branch Fishing Creek, and Rocky Run, and declined considerably on Kettle Creek (from 153 to 56 angler trips). Positive cost-benefit values were recorded in 2007 for Treaster Run, West Branch Meshoppen Creek, Jones Creek and East Branch Fishing Creek, while negative cost-benefit values were recorded for Rocky Run and Kettle Creek.

In comparison with angler count data collected during the 2005 and 2006 seasons, opening weekend angler use generally increased during 2007 on the streams sampled within the 18 county area where the regional opening day of trout season applied. For example, on the 21 stream sections with previous opening day use count information, angler trips increased by an average of 48 angler trips with a median increase of 29 angler trips. Opening weekend angler trips increased on 15 of the 21 stream sections or 71% of the sections examined within the 18 County area where the regional opening day applied. On the 10 border county streams sampled within this area, angler trips increased by an average of 80 angler trips with a median increase of 42 angler trips. Opening weekend angler trips increased on eight of the 10 stream sections or 80% of the border county streams examined within the 18 County area where the regional opening day applied. Conversely, opening weekend angler use declined during 2007 on stream sections sampled within the region of the state where the traditional opening day of trout season applied. For example, on the 33 streams sections with previous opening day use count information, angler trips declined by an average of 35 angler trips with a median decrease of 16 angler trips. Opening weekend angler trips decreased on 19 of the 33 stream sections or 58% of the sections examined where the traditional opening day applied. On the 12 border county streams sampled within this area, angler trips declined by an average of five angler trips with a median decrease of 33 angler trips. Opening weekend angler trips decreased on seven of the 12 stream sections or 58% of the border county streams examined where the traditional opening day applied (Tables 8-11).

Data collected on angler residence did not support the concern that two opening days would lead to a large influx of opening day anglers from outside the respective regions. Overall, 95.4% of the anglers interviewed on the regional opening day of trout season (March 31, 2007), were residents of the 18 county area where the regional opening day of trout season applied. For border county streams within the regional opening day area, 93% of the anglers interviewed on opening day were residents of the 18 county regional opening day area. A total of 14.7% of the anglers interviewed on traditional opening day streams were from the 18 county regional opening day area. For border county streams within the traditional opening day area, approximately one-third of the anglers interviewed were from the 18 county regional opening day area. Aside from this, there was not a large cross over of opening day anglers from outside either area. Clearly, the majority of opening day anglers fishing streams managed under the regional opening day were residents of the 18 county area where the regional opening day of trout season applied (Figures 2 & 3).

Approximately two-thirds of the opening day anglers interviewed in the 18 county regional opening day area were fishing the same stream they normally fish on opening day. Over 70% of the opening day

anglers interviewed in the traditional opening day area were fishing the same stream they normally fish on opening day.

The majority of the anglers interviewed agreed with having two opening days of trout season in Pennsylvania. For example, agreement on this concept ranged from 55.9% of the anglers interviewed on traditional opening day streams to 73.4% of the anglers interviewed within the 18 county regional opening day area. The percentage of interviewed anglers that disagreed with having two opening days was low, and ranged from 7.5% of the anglers interviewed on traditional opening day streams to 14.3% of the anglers interviewed on border county streams within the 18 county regional opening day area. The percentage of interviewed anglers that were neutral on two opening days ranged from 15.6% on border county streams within the 18 county regional opening day area to 36.6% on traditional opening day streams. One would expect a high rate of neutrality on streams within the traditional opening day area, as the regulation did not change the timing of opening day in this area (Figures 6 & 7).

Based on angler survey information collected on stocked trout streams in 2005, opening weekend angler use accounted for over 29% of the total angler use observed on stocked trout streams during the first eight weeks of season (Greene et al. 2006). Considering that approximately one-third of the total angler use occurs during opening weekend on stocked streams, preseason stocking should be reduced or eliminated on stream sections with low opening weekend angler use (or high numbers of trout stocked per trip values), negative cost-benefit values, and where poor or very poor stocked trout residency has been confirmed. When comparing production costs to raise and distribute the preseason allocation of trout with angler trip expenditures, fishing license expenditures, and a combination of both expenditures, 19.7% of the stream sections examined in 2007 had negative opening weekend cost-benefit values for one or more of the expenditures listed. Based on this information, as many as 190 of the stream sections currently stocked with trout during the preseason distribution period may have negative cost-benefit values on opening weekend. To address this issue, opening weekend angler counts should continue to be conducted until all stream sections that are stocked with trout during the preseason distribution period have been assessed.

Management Recommendations

1. The preseason allocation of trout should be reduced or eliminated on stream sections with low opening weekend angler use as confirmed by negative cost-benefit values in combination with high numbers of trout stocked per trip values, or where poor or very poor stocked trout residency rates have been confirmed. On stream sections where negative cost-benefit values are confirmed, the preseason stocking rate should be reduced to a level that equates to a positive cost-benefit value. In some cases, this may require the elimination of preseason stocking.
2. The two opening days of trout season should remain in place. An earlier opening day should apply to waters within the 18 county area in southeastern and southcentral Pennsylvania and the traditional opening day should continue to apply to waters in other regions of the state.
3. Opening day angler counts (at 8:00 am or 9:30 am) should be conducted in conjunction with all future stocked trout residency sampling.

Literature Cited

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Table 1. 2007 Opening Day Angler Survey Data - Number of Streams and Angler Interviews

Region	Number of Stream Sections	Number of Angler Interviews	Number of Anglers from 18 County Region
Regional Opening Day Waters	22	582	555
Traditional Opening Day Waters	54	1174	173
Regional Opening Day Border County Waters	11	328	305
Traditional Opening Day Border County Waters	12	365	120
All Waters	76	1756	728

Table 2. Comparison of Opening Weekend Angler Hours and Angler Trips for stream sections stocked with adult trout where angler counts were collected in 2007.
(Multiple page table.)

Water Name	County	Sec Num	SSB	Year	Projected Sum of Anglers Opening Day	Projected Sum of Second Day Anglers	Projected Sum of 1st Weekend Anglers	Total Angler Hours for 1st Weekend	Est. Angler Trips for 1st Weekend	Percentile Rank
Green Spring Ck	Cumberland	03	07B	2007	9	3	12	20	5	
Decker Bk	Wayne	03	01B	2007	13	5	18	28	8	
Wyalusing Ck N Br	Susquehanna	03	04D	2007	23	8	31	50	14	
Rocky Rn	Elk	02	17A	2007	26	9	35	57	16	
Elk Ck	Sullivan	02	10B	2007	28	10	38	61	17	
Fishing Ck, E Br	Potter	02	16C	2007	39	14	53	85	24	
North Ck	Cameron	02	08A	2007	39	14	53	85	24	
Havens Rn	McKean	02	16C	2007	44	15	59	96	27	10th
Towanda Ck S Br	Bradford	02	04C	2007	48	17	65	105	29	
Bailey Rn	Potter	02	08A	2007	57	20	77	125	35	
Jones Ck	Wayne	02	01C	2007	61	21	82	134	37	
Lake Ck	Monroe	02	01E	2007	61	21	82	134	37	
Long Rn	Tioga	02	09A	2007	70	24	94	153	42	
Wrights Ck	Luzerne	02	02A	2007	70	24	94	153	42	
Sartwell Ck	McKean-Potter	02	16C	2007	80	28	108	175	49	
Sixmile Rn	Centre	02	08D	2007	88	31	119	193	53	
Kettle Ck	Potter	03	09B	2007	92	32	124	202	56	
Ross Rn	Forest	02	16F	2007	101	35	136	221	61	
Sherman Valley Rn	Bedford	02	11D	2007	105	37	142	230	64	25th
Double Rn	Sullivan	02	10B	2007	114	40	154	250	69	
Red Ck	Schuylkill	02	03A	2007	123	43	166	269	75	
Sandy Ck, Ltl	Venango	03	16G	2007	135	47	182	296	82	
Pine Rn	Mercer	02	20A	2007	136	47	183	298	83	
Tunkhannock Ck S Br	Lackawanna	02	04F	2007	136	47	183	298	83	
Kern Rn	Snyder	02	06A	2007	140	49	189	307	85	
Muddy Rn	Lancaster	02	07J	2007	145	50	195	318	88	
Sixmile Rn	Centre	03	08D	2007	146	51	197	320	89	
Trout Rn	Lancaster	02	07K	2007	149	52	201	326	90	
Kistler Ck	Lehigh	02	03B	2007	153	53	206	335	93	
Saucon Creek, S Br	Lehigh	02	02C	2007	158	55	213	346	96	
Montour Ck	Perry	02	07A	2007	164	57	221	359	100	
Lackawanna R	Lack/Susq/Wayne	01	05A	2007	169	59	228	370	103	

Table 2. Comparison of Opening Weekend Angler Hours and Angler Trips for stream sections stocked with adult trout where angler counts were collected in 2007.
(Multiple page table.)

Water Name	County	Sec Num	SSB	Year	Projected Sum of Anglers Opening Day	Projected Sum of Second Day Anglers	Projected Sum of 1st Weekend Anglers	Total Angler Hours for 1st Weekend	Est. Angler Trips for 1st Weekend	Percentile Rank
Mugser Rn	Columbia	02	05E	2007	171	60	231	375	104	
Meshoppen Ck, W Br	Susque/Wyoming	02	04G	2007	183	64	247	401	111	
Bowery Rn	Lancaster	02	07K	2007	184	64	248	403	112	
Climbers Rn	Lancaster	02	07K	2007	184	64	248	403	112	
Mill Ck	Montgomery	02	03F	2007	188	65	253	412	114	
Sinn Ck Bennett Br	Clearfield	02	08A	2007	197	69	266	432	120	50th
Carbaugh Rn	Adams/Franklin	03	13C	2007	206	72	278	451	125	
Mahoning Ck	Carbon/Schuylkill	02	02B	2007	210	73	283	460	127	
Asaph Rn	Tioga	01	09A	2007	219	76	295	480	133	
Tunkhannock Ck	Susquehanna	02	04F	2007	223	78	301	488	135	
Jacoby Ck	Northampton	02	01F	2007	232	81	313	508	141	
Middle Ck, S Br	Snyder	02	06A	2007	232	81	313	508	141	
Drakes Ck	Carbon	02	02B	2007	235	82	317	515	143	
Bachman Rn	Lebanon	02	07D	2007	241	84	325	528	146	
Lehigh R (FE Walter)	Carbon/Luzerne	06	02A	2007	241	84	325	528	146	
Long Rn	Clinton	01	09C	2007	276	96	372	605	167	
Ithan Ck	Delaware	02	03G	2007	289	101	390	633	175	
Dunbar Ck	Fayette	03	19D	2007	294	102	396	644	178	
Scotch Rn	Columbia	02	05E	2007	328	114	442	718	199	
Richey Rn	Clarion/Venango	02	16G	2007	329	114	443	721	200	
Oil Ck	Crawford	03	16E	2007	385	134	519	843	234	
Treaster Rn	Mifflin	02	12A	2007	403	140	543	883	245	
Fishing Ck	Lancaster	02	07K	2007	416	145	561	911	252	
Lehigh R (White Haven)	Carbon/Luzerne	06	02A	2007	416	145	561	911	252	
Medix Rn	Clearfield/Elk	02	08A	2007	429	149	578	940	260	75th
Beaver Rn	Columbia	02	05E	2007	434	151	585	951	263	
Cowanshannock Ck	Armstrong	03	17E	2007	438	152	590	959	266	
Brush Ck	Indiana	02	18D	2007	447	156	603	979	271	
Lizard Ck	Carbon	04	02B	2007	464	161	625	1016	282	
Cush Ck	Indiana	02	08B	2007	469	163	632	1027	285	
Hicks Rn	Elk	01	08A	2007	477	166	643	1045	289	
Roaring Bk	Lackawanna	03	05A	2007	478	166	644	1047	290	

Table 2. Comparison of Opening Weekend Angler Hours and Angler Trips for stream sections stocked with adult trout where angler counts were collected in 2007.
(Multiple page table.)

Water Name	County	Sec Num	SSB	Year	Projected Sum of Anglers Opening Day	Projected Sum of Second Day Anglers	Projected Sum of 1st Weekend Anglers	Total Angler Hours for 1st Weekend	Est. Angler Trips for 1st Weekend	Percentile Rank
Bushkill Ck	Pike/Monroe	06	01D	2007	486	169	655	1065	295	
Hokendauqua Ck	Northampton	02	02C	2007	530	184	714	1161	322	
Buffalo Ck	Butler	02	18F	2007	627	218	845	1373	380	
Powell Ck	Dauphin	03	06C	2007	742	258	1000	1625	450	
Yellow Ck	Bedford	04	11D	2007	789	275	1064	1728	479	90th
Delaware Ck	Juniata	02	12B	2007	806	280	1086	1766	489	
Cove Ck	Fulton	02	13B	2007	920	320	1240	2015	558	
Chester Ck, W Br	Delaware	02	03G	2007	968	337	1305	2120	587	
Chartiers Ck Ltl	Washington	02	20F	2007	1082	377	1459	2370	657	
Whiteley Ck	Greene	02	19G	2007	1142	397	1539	2502	693	
Fourmile Rn	Westmoreland	03	18C	2007	1494	520	2014	3273	907	
Jordan Ck	Lehigh	06	02C	2007	2239	779	3018	4905	1359	

Table 3. Comparison of Opening Weekend Angler Trip Expenditures and Production Costs for stream sections stocked with adult trout where angler counts were collected in 2007. (Multiple page table.)

Water Name	County	Sec Num	SSB	Survey Year	Projected Sum of Anglers Opening Day	Projected Sum of Second Day Anglers	Projected Sum of 1st Weekend Anglers	Total Angler Hours for 1st Weekend	Est. Angler Trips for 1st Weekend	1st Weekend Daily Trip Expenditures	1st Weekend Expenditures	Number of Trout Stocked Preseason	Cost per Trout Stocked	Total Production Cost	Expenditures minus Cost	Percentile Rank
Long Rn	Tioga	02	09A	2007	70	24	94	153	42	43.16	1833.22	2100	1.89	3969.00	-2,135.78	
Kettle Ck	Potter	03	09B	2007	92	32	124	202	56	43.16	2409.38	2300	1.89	4347.00	-1,937.62	
Lackawanna R	Lack/Susq/Wayne	01	05A	2007	169	59	228	370	103	43.16	4425.93	3100	1.89	5859.00	-1,433.07	
Decker Bk	Wayne	03	01B	2007	13	5	18	28	8	43.16	340.46	700	1.89	1323.00	-982.54	
Wyalusing Ck N Br	Susquehanna	03	04D	2007	23	8	31	50	14	43.16	602.35	800	1.89	1512.00	-909.65	
North Ck	Cameron	02	08A	2007	39	14	53	85	24	43.16	1021.37	1000	1.89	1890.00	-868.63	
Towanda Ck S Br	Bradford	02	04C	2007	48	17	65	105	29	43.16	1257.07	900	1.89	1701.00	-443.93	
Elk Ck	Sullivan	02	10B	2007	28	10	38	61	17	43.16	733.29	600	1.89	1134.00	-400.71	10th
Green Spring Ck	Cumberland	03	07B	2007	9	3	12	20	5	43.16	235.70	300	1.89	567.00	-331.30	
Rocky Rn	Elk	02	17A	2007	26	9	35	57	16	43.16	680.91	400	1.89	756.00	-75.09	
Havens Rn	McKean	02	16C	2007	44	15	59	96	27	43.16	1152.31	600	1.89	1134.00	18.31	
Fishing Ck, E Br	Potter	02	16C	2007	39	14	53	85	24	43.16	1021.37	300	1.89	567.00	454.37	
Lake Ck	Monroe	02	01E	2007	61	21	82	134	37	43.16	1597.52	600	1.89	1134.00	463.52	
Sixmile Rn	Centre	03	08D	2007	146	51	197	320	89	43.16	3823.58	1700	1.89	3213.00	610.58	
Tunkhannock Ck S Br	Lackawanna	02	04F	2007	136	47	183	298	83	43.16	3561.69	1500	1.89	2835.00	726.69	
Jones Ck	Wayne	02	01C	2007	61	21	82	134	37	43.16	1597.52	400	1.89	756.00	841.52	
Bailey Rn	Potter	02	08A	2007	57	20	77	125	35	43.16	1492.77	300	1.89	567.00	925.77	
Sixmile Rn	Centre	02	08D	2007	88	31	119	193	53	43.16	2304.62	700	1.89	1323.00	981.62	
Sartwell Ck	McKean-Potter	02	16C	2007	80	28	108	175	49	43.16	2095.11	500	1.89	945.00	1,150.11	25th
Sherman Valley Rn	Bedford	02	11D	2007	105	37	142	230	64	43.16	2749.84	800	1.89	1512.00	1,237.84	
Wrights Ck	Luzerne	02	02A	2007	70	24	94	153	42	43.16	1833.22	300	1.89	567.00	1,266.22	
Ross Rn	Forest	02	16F	2007	101	35	136	221	61	43.16	2645.08	600	1.89	1134.00	1,511.08	
Meshoppen Ck, W Br	Susque/Wyoming	02	04G	2007	183	64	247	401	111	43.16	4792.57	1,500	1.89	2835.00	1,957.57	
Tunkhannock Ck	Susquehanna	02	04F	2007	223	78	301	488	135	43.16	5840.13	2,000	1.89	3780.00	2,060.13	
Double Rn	Sullivan	02	10B	2007	114	40	154	250	69	43.16	2985.54	300	1.89	567.00	2,418.54	
Red Ck	Schuykill	02	03A	2007	123	43	166	269	75	43.16	3221.24	400	1.89	756.00	2,465.24	
Pine Rn	Mercer	02	20A	2007	136	47	183	298	83	43.16	3561.69	500	1.89	945.00	2,616.69	
Muddy Rn	Lancaster	02	07J	2007	145	50	195	318	88	43.16	3797.39	500	1.89	945.00	2,852.39	
Asaph Rn	Tioga	01	09A	2007	219	76	295	480	133	43.16	5735.37	1500	1.89	2835.00	2,900.37	
Sandy Ck, Ltl	Venango	03	16G	2007	135	47	182	296	82	43.16	3535.50	300	1.89	567.00	2,968.50	
Kern Rn	Snyder	02	06A	2007	140	49	189	307	85	43.16	3666.45	300	1.89	567.00	3,099.45	
Saucon Creek, S Br	Lehigh	02	02C	2007	158	55	213	346	96	43.16	4137.85	500	1.89	945.00	3,192.85	

Table 3. Comparison of Opening Weekend Angler Trip Expenditures and Production Costs for stream sections stocked with adult trout where angler counts were collected in 2007. (Multiple page table.)

Water Name	County	Sec Num	SSB	Survey Year	Projected Sum of Anglers Opening Day	Projected Sum of Second Day Anglers	Projected Sum of 1st Weekend Anglers	Total Angler Hours for 1st Weekend	Est. Angler Trips for 1st Weekend	1st Weekend Daily Trip Expenditures	1st Weekend Expenditures	Number of Trout Stocked Preseason	Cost per Trout Stocked	Total Production Cost	Expenditures minus Cost	Percentile Rank
Trout Rn	Lancaster	02	07K	2007	149	52	201	326	90	43.16	3902.15	300	1.89	567.00	3,335.15	
Mugser Rn	Columbia	02	05E	2007	171	60	231	375	104	43.16	4478.30	600	1.89	1134.00	3,344.30	
Kistler Ck	Lehigh	02	03B	2007	153	53	206	335	93	43.16	4006.90	300	1.89	567.00	3,439.90	
Montour Ck	Perry	02	07A	2007	164	57	221	359	100	43.16	4294.98	400	1.89	756.00	3,538.98	
Sinn Ck Bennett Br	Clearfield	02	08A	2007	197	69	266	432	120	43.16	5159.22	800	1.89	1512.00	3,647.22	
Mill Ck	Montgomery	02	03F	2007	188	65	253	412	114	43.16	4923.52	500	1.89	945.00	3,978.52	50th
Bowery Rn	Lancaster	02	07K	2007	184	64	248	403	112	43.16	4818.76	400	1.89	756.00	4,062.76	
Bachman Rn	Lebanon	02	07D	2007	241	84	325	528	146	43.16	6311.53	1100	1.89	2079.00	4,232.53	
Climbers Rn	Lancaster	02	07K	2007	184	64	248	403	112	43.16	4818.76	300	1.89	567.00	4,251.76	
Lehigh R (FE Walter)	Carbon/Luzerne	06	02A	2007	241	84	325	528	146	43.16	6311.53	900	1.89	1701.00	4,610.53	
Mahoning Ck	Carbon/Schuylkill	02	02B	2007	210	73	283	460	127	43.16	5499.67	400	1.89	756.00	4,743.67	
Middle Ck, S Br	Snyder	02	06A	2007	232	81	313	508	141	43.16	6075.83	700	1.89	1323.00	4,752.83	
Carbaugh Rn	Adams/Franklin	03	13C	2007	206	72	278	451	125	43.16	5394.92	300	1.89	567.00	4,827.92	
Jacoby Ck	Northampton	02	01F	2007	232	81	313	508	141	43.16	6075.83	400	1.89	756.00	5,319.83	
Drakes Ck	Carbon	02	02B	2007	235	82	317	515	143	43.16	6154.39	300	1.89	567.00	5,587.39	
Long Rn	Clinton	01	09C	2007	276	96	372	605	167	43.16	7228.14	800	1.89	1512.00	5,716.14	
Ithan Ck	Delaware	02	03G	2007	289	101	390	633	175	43.16	7568.60	900	1.89	1701.00	5,867.60	
Dunbar Ck	Fayette	03	19D	2007	294	102	396	644	178	43.16	7699.54	700	1.89	1323.00	6,376.54	
Scotch Rn	Columbia	02	05E	2007	328	114	442	718	199	43.16	8589.96	700	1.89	1323.00	7,266.96	
Oil Ck	Crawford	03	16E	2007	385	134	519	843	234	43.16	10082.73	1300	1.89	2457.00	7,625.73	
Cowanshannock Ck	Armstrong	03	17E	2007	438	152	590	959	266	43.16	11470.74	2000	1.89	3780.00	7,690.74	
Richey Rn	Clarion/Venango	02	16G	2007	329	114	443	721	200	43.16	8616.15	300	1.89	567.00	8,049.15	
Bushkill Ck	Pike/Monroe	06	01D	2007	486	169	655	1065	295	43.16	12727.81	2400	1.89	4536.00	8,191.81	
Lehigh R (White Haven)	Carbon/Luzerne	06	02A	2007	416	145	561	911	252	43.16	10894.59	1400	1.89	2646.00	8,248.59	
Lizard Ck	Carbon	04	02B	2007	464	161	625	1016	282	43.16	12151.66	2000	1.89	3780.00	8,371.66	75th
Fishing Ck	Lancaster	02	07K	2007	416	145	561	911	252	43.16	10894.59	1,100	1.89	2079.00	8,815.59	
Treaster Rn	Mifflin	02	12A	2007	403	140	543	883	245	43.16	10554.13	700	1.89	1323.00	9,231.13	
Hicks Rn	Elk	01	08A	2007	477	166	643	1045	289	43.16	12492.11	1700	1.89	3213.00	9,279.11	
Medix Rn	Clearfield/Elk	02	08A	2007	429	149	578	940	260	43.16	11235.04	1000	1.89	1890.00	9,345.04	
Brush Ck	Indiana	02	18D	2007	447	156	603	979	271	43.16	11706.44	900	1.89	1701.00	10,005.44	
Hokendauqua Ck	Northampton	02	02C	2007	530	184	714	1161	322	43.16	13880.12	1900	1.89	3591.00	10,289.12	
Beaver Rn	Columbia	02	05E	2007	434	151	585	951	263	43.16	11365.99	300	1.89	567.00	10,798.99	

Table 3. Comparison of Opening Weekend Angler Trip Expenditures and Production Costs for stream sections stocked with adult trout where angler counts were collected in 2007. (Multiple page table.)

Water Name	County	Sec Num	SSB	Survey Year	Projected Sum of Anglers Opening Day	Projected Sum of Second Day Anglers	Projected Sum of 1st Weekend Anglers	Total Angler Hours for 1st Weekend	Est. Angler Trips for 1st Weekend	1st Weekend Daily Trip Expenditures	1st Weekend Expenditures	Number of Trout Stocked Preseason	Cost per Trout Stocked	Total Production Cost	Expenditures minus Cost	Percentile Rank
Cush Ck	Indiana	02	08B	2007	469	163	632	1027	285	43.16	12282.60	700	1.89	1323.00	10,959.60	
Roaring Bk	Lackawanna	03	05A	2007	478	166	644	1047	290	43.16	12518.30	700	1.89	1323.00	11,195.30	
Buffalo Ck	Butler	02	18F	2007	627	218	845	1373	380	43.16	16420.45	1,200	1.89	2268.00	14,152.45	
Powell Ck	Dauphin	03	06C	2007	742	258	1000	1625	450	43.16	19432.17	1700	1.89	3213.00	16,219.17	
Yellow Ck	Bedford	04	11D	2007	789	275	1064	1728	479	43.16	20663.05	600	1.89	1134.00	19,529.05	90th
Delaware Ck	Juniata	02	12B	2007	806	280	1086	1766	489	43.16	21108.26	700	1.89	1323.00	19,785.26	
Chester Ck, W Br	Delaware	02	03G	2007	968	337	1305	2120	587	43.16	25350.87	2700	1.89	5103.00	20,247.87	
Cove Ck	Fulton	02	13B	2007	920	320	1240	2015	558	43.16	24093.80	1300	1.89	2457.00	21,636.80	
Chartiers Ck Ltl	Washington	02	20F	2007	1082	377	1459	2370	657	43.16	28336.41	2600	1.89	4914.00	23,422.41	
Whiteley Ck	Greene	02	19G	2007	1142	397	1539	2502	693	43.16	29907.74	1300	1.89	2457.00	27,450.74	
Fourmile Rn	Westmoreland	03	18C	2007	1494	520	2014	3273	907	43.16	39126.24	2200	1.89	4158.00	34,968.24	
Jordan Ck	Lehigh	06	02C	2007	2239	779	3018	4905	1359	43.16	58636.98	2000	1.89	3780.00	54,856.98	

Table 4. Comparison of Opening Weekend Angler Fishing License Expenditures and Production Costs for stream sections stocked with adult trout where angler use counts were collected in 2007. (Multiple page table.)

Water Name	County	Sec Num	SSB	Survey Year	Projected Sum of Anglers Opening Day	Projected Sum of Second Day Anglers	Projected Sum of 1st Weekend Anglers	Total Angler Hours for 1st Weekend	Est. Angler Trips for 1st Weekend	Fishing License Expenditures	Opening Weekend Expenditures	Number of trout Stocked Perseason	Cost per Trout Stocked	Total Production Cost	Expenditures minus Cost	Percentile Rank
Lackawanna R	Lack/Susq/Wayne	01	05A	2007	169	59	228	370	103	27.87	2857.98	3100	1.89	5859.00	-3,001.02	
Kettle Ck	Potter	03	09B	2007	92	32	124	202	56	27.87	1555.83	2300	1.89	4347.00	-2,791.17	
Long Rn	Tioga	02	09A	2007	70	24	94	153	42	27.87	1183.78	2100	1.89	3969.00	-2,785.22	
North Ck	Cameron	02	08A	2007	39	14	53	85	24	27.87	659.53	1000	1.89	1890.00	-1,230.47	
Wyalusing Ck N Br	Susquehanna	03	04D	2007	23	8	31	50	14	27.87	388.96	800	1.89	1512.00	-1,123.04	
Decker Bk	Wayne	03	01B	2007	13	5	18	28	8	27.87	219.84	700	1.89	1323.00	-1,103.16	
Towanda Ck S Br	Bradford	02	04C	2007	48	17	65	105	29	27.87	811.73	900	1.89	1701.00	-889.27	
Sixmile Rn	Centre	03	08D	2007	146	51	197	320	89	27.87	2469.03	1700	1.89	3213.00	-743.97	10th
Elk Ck	Sullivan	02	10B	2007	28	10	38	61	17	27.87	473.51	600	1.89	1134.00	-660.49	
Tunkhannock Ck S Br	Lackawanna	02	04F	2007	136	47	183	298	83	27.87	2299.92	1500	1.89	2835.00	-535.08	
Green Spring Ck	Cumberland	03	07B	2007	9	3	12	20	5	27.87	152.20	300	1.89	567.00	-414.80	
Havens Rn	McKean	02	16C	2007	44	15	59	96	27	27.87	744.09	600	1.89	1134.00	-389.91	
Rocky Rn	Elk	02	17A	2007	26	9	35	57	16	27.87	439.69	400	1.89	756.00	-316.31	
Lake Ck	Monroe	02	01E	2007	61	21	82	134	37	27.87	1031.58	600	1.89	1134.00	-102.42	
Tunkhannock Ck	Susquehanna	02	04F	2007	223	78	301	488	135	27.87	3771.19	2,000	1.89	3780.00	-8.81	
Fishing Ck, E Br	Potter	02	16C	2007	39	14	53	85	24	27.87	659.53	300	1.89	567.00	92.53	
Sixmile Rn	Centre	02	08D	2007	88	31	119	193	53	27.87	1488.18	700	1.89	1323.00	165.18	
Meshoppen Ck, W Br	Susque/Wyoming	02	04G	2007	183	64	247	401	111	27.87	3094.74	1,500	1.89	2835.00	259.74	
Sherman Valley Rn	Bedford	02	11D	2007	105	37	142	230	64	27.87	1775.67	800	1.89	1512.00	263.67	25th
Jones Ck	Wayne	02	01C	2007	61	21	82	134	37	27.87	1031.58	400	1.89	756.00	275.58	
Bailey Rn	Potter	02	08A	2007	57	20	77	125	35	27.87	963.94	300	1.89	567.00	396.94	
Sartwell Ck	McKean-Potter	02	16C	2007	80	28	108	175	49	27.87	1352.89	500	1.89	945.00	407.89	
Ross Rn	Forest	02	16F	2007	101	35	136	221	61	27.87	1708.03	600	1.89	1134.00	574.03	
Wrights Ck	Luzerne	02	02A	2007	70	24	94	153	42	27.87	1183.78	300	1.89	567.00	616.78	
Asaph Rn	Tioga	01	09A	2007	219	76	295	480	133	27.87	3703.54	1500	1.89	2835.00	868.54	
Red Ck	Schuylkill	02	03A	2007	123	43	166	269	75	27.87	2080.07	400	1.89	756.00	1,324.07	
Pine Rn	Mercer	02	20A	2007	136	47	183	298	83	27.87	2299.92	500	1.89	945.00	1,354.92	
Double Rn	Sullivan	02	10B	2007	114	40	154	250	69	27.87	1927.87	300	1.89	567.00	1,360.87	
Muddy Rn	Lancaster	02	07J	2007	145	50	195	318	88	27.87	2452.12	500	1.89	945.00	1,507.12	
Sandy Ck, Ltl	Venango	03	16G	2007	135	47	182	296	82	27.87	2283.00	300	1.89	567.00	1,716.00	
Saucon Creek, S Br	Lehigh	02	02C	2007	158	55	213	346	96	27.87	2671.96	500	1.89	945.00	1,726.96	
Mugser Rn	Columbia	02	05E	2007	171	60	231	375	104	27.87	2891.81	600	1.89	1134.00	1,757.81	

Table 4. Comparison of Opening Weekend Angler Fishing License Expenditures and Production Costs for stream sections stocked with adult trout where angler use counts were collected in 2007. (Multiple page table.)

Water Name	County	Sec Num	SSB	Survey Year	Projected Sum of Anglers Opening Day	Projected Sum of Second Day Anglers	Projected Sum of 1st Weekend Anglers	Total Angler Hours for 1st Weekend	Est. Angler Trips for 1st Weekend	Fishing License Expenditures	Opening Weekend Expenditures	Number of trout Stocked Perseason	Cost per Trout Stocked	Total Production Cost	Expenditures minus Cost	Percentile Rank
Kern Rn	Snyder	02	06A	2007	140	49	189	307	85	27.87	2367.56	300	1.89	567.00	1,800.56	
Sinn Ck Bennett Br	Clearfield	02	08A	2007	197	69	266	432	120	27.87	3331.50	800	1.89	1512.00	1,819.50	
Trout Rn	Lancaster	02	07K	2007	149	52	201	326	90	27.87	2519.76	300	1.89	567.00	1,952.76	
Bachman Rn	Lebanon	02	07D	2007	241	84	325	528	146	27.87	4075.59	1100	1.89	2079.00	1,996.59	
Montour Ck	Perry	02	07A	2007	164	57	221	359	100	27.87	2773.43	400	1.89	756.00	2,017.43	
Kistler Ck	Lehigh	02	03B	2007	153	53	206	335	93	27.87	2587.41	300	1.89	567.00	2,020.41	50th
Mill Ck	Montgomery	02	03F	2007	188	65	253	412	114	27.87	3179.30	500	1.89	945.00	2,234.30	
Bowery Rn	Lancaster	02	07K	2007	184	64	248	403	112	27.87	3111.65	400	1.89	756.00	2,355.65	
Lehigh R (FE Walter)	Carbon/Luzerne	06	02A	2007	241	84	325	528	146	27.87	4075.59	900	1.89	1701.00	2,374.59	
Climbers Rn	Lancaster	02	07K	2007	184	64	248	403	112	27.87	3111.65	300	1.89	567.00	2,544.65	
Middle Ck, S Br	Snyder	02	06A	2007	232	81	313	508	141	27.87	3923.39	700	1.89	1323.00	2,600.39	
Mahoning Ck	Carbon/Schuylkill	02	02B	2007	210	73	283	460	127	27.87	3551.34	400	1.89	756.00	2,795.34	
Carbaugh Rn	Adams/Franklin	03	13C	2007	206	72	278	451	125	27.87	3483.70	300	1.89	567.00	2,916.70	
Long Rn	Clinton	01	09C	2007	276	96	372	605	167	27.87	4667.48	800	1.89	1512.00	3,155.48	
Jacoby Ck	Northampton	02	01F	2007	232	81	313	508	141	27.87	3923.39	400	1.89	756.00	3,167.39	
Ithan Ck	Delaware	02	03G	2007	289	101	390	633	175	27.87	4887.32	900	1.89	1701.00	3,186.32	
Drakes Ck	Carbon	02	02B	2007	235	82	317	515	143	27.87	3974.12	300	1.89	567.00	3,407.12	
Cowanshannock Ck	Armstrong	03	17E	2007	438	152	590	959	266	27.87	7407.08	2000	1.89	3780.00	3,627.08	
Dunbar Ck	Fayette	03	19D	2007	294	102	396	644	178	27.87	4971.88	700	1.89	1323.00	3,648.88	
Bushkill Ck	Pike/Monroe	06	01D	2007	486	169	655	1065	295	27.87	8218.82	2400	1.89	4536.00	3,682.82	
Oil Ck	Crawford	03	16E	2007	385	134	519	843	234	27.87	6510.79	1300	1.89	2457.00	4,053.79	
Lizard Ck	Carbon	04	02B	2007	464	161	625	1016	282	27.87	7846.77	2000	1.89	3780.00	4,066.77	
Scotch Rn	Columbia	02	05E	2007	328	114	442	718	199	27.87	5546.86	700	1.89	1323.00	4,223.86	
Lehigh R (White Haven)	Carbon/Luzerne	06	02A	2007	416	145	561	911	252	27.87	7035.04	1400	1.89	2646.00	4,389.04	
Hicks Rn	Elk	01	08A	2007	477	166	643	1045	289	27.87	8066.62	1700	1.89	3213.00	4,853.62	75th
Fishing Ck	Lancaster	02	07K	2007	416	145	561	911	252	27.87	7035.04	1,100	1.89	2079.00	4,956.04	
Richey Rn	Clarion/Venango	02	16G	2007	329	114	443	721	200	27.87	5563.77	300	1.89	567.00	4,996.77	
Medix Rn	Clearfield/Elk	02	08A	2007	429	149	578	940	260	27.87	7254.88	1000	1.89	1890.00	5,364.88	
Hokendauqua Ck	Northampton	02	02C	2007	530	184	714	1161	322	27.87	8962.91	1900	1.89	3591.00	5,371.91	
Treaster Rn	Mifflin	02	12A	2007	403	140	543	883	245	27.87	6815.19	700	1.89	1323.00	5,492.19	
Brush Ck	Indiana	02	18D	2007	447	156	603	979	271	27.87	7559.28	900	1.89	1701.00	5,858.28	
Cush Ck	Indiana	02	08B	2007	469	163	632	1027	285	27.87	7931.33	700	1.89	1323.00	6,608.33	

Table 4. Comparison of Opening Weekend Angler Fishing License Expenditures and Production Costs for stream sections stocked with adult trout where angler use counts were collected in 2007. (Multiple page table.)

Water Name	County	Sec Num	SSB	Survey Year	Projected Sum of Anglers Opening Day	Projected Sum of Second Day Anglers	Projected Sum of 1st Weekend Anglers	Total Angler Hours for 1st Weekend	Est. Angler Trips for 1st Weekend	Fishing License Expenditures	Opening Weekend Expenditures	Number of trout Stocked Perseason	Cost per Trout Stocked	Total Production Cost	Expenditures minus Cost	Percentile Rank
Roaring Bk	Lackawanna	03	05A	2007	478	166	644	1047	290	27.87	8083.53	700	1.89	1323.00	6,760.53	
Beaver Rn	Columbia	02	05E	2007	434	151	585	951	263	27.87	7339.44	300	1.89	567.00	6,772.44	
Buffalo Ck	Butler	02	18F	2007	627	218	845	1373	380	27.87	10603.29	1,200	1.89	2268.00	8,335.29	
Powell Ck	Dauphin	03	06C	2007	742	258	1000	1625	450	27.87	12548.07	1700	1.89	3213.00	9,335.07	
Chester Ck, W Br	Delaware	02	03G	2007	968	337	1305	2120	587	27.87	16369.99	2700	1.89	5103.00	11,266.99	90th
Yellow Ck	Bedford	04	11D	2007	789	275	1064	1728	479	27.87	13342.89	600	1.89	1134.00	12,208.89	
Delaware Ck	Juniata	02	12B	2007	806	280	1086	1766	489	27.87	13630.38	700	1.89	1323.00	12,307.38	
Cove Ck	Fulton	02	13B	2007	920	320	1240	2015	558	27.87	15558.25	1300	1.89	2457.00	13,101.25	
Chartiers Ck Ltl	Washington	02	20F	2007	1082	377	1459	2370	657	27.87	18297.86	2600	1.89	4914.00	13,383.86	
Whiteley Ck	Greene	02	19G	2007	1142	397	1539	2502	693	27.87	19312.53	1300	1.89	2457.00	16,855.53	
Fourmile Rn	Westmoreland	03	18C	2007	1494	520	2014	3273	907	27.87	25265.25	2200	1.89	4158.00	21,107.25	
Jordan Ck	Lehigh	06	02C	2007	2239	779	3018	4905	1359	27.87	37864.05	2000	1.89	3780.00	34,084.05	

Table 5. Comparison of Opening Weekend Angler Trip and Fishing License Expenditures Combined and Production Costs for stream sections stocked with adult trout where angler use counts were collected in 2007. (Multiple page table.)

Water Name	County	Sec Num	SSB	Survey Year	Projected Sum of Anglers Opening Day	Projected Sum of Second Day Anglers	Projected Sum of 1st Weekend Anglers	Total Angler Hours for 1st Weekend	Est. Angler Trips for 1st Weekend	Daily Trip & Fishing License Expenditures	Opening Weekend Expenditures	Number of Trout Stocked Preseason	Cost per Trout Stocked	Total Production Cost	Expenditures minus Cost	Percentile Rank
Long Rn	Tioga	02	09A	2007	70	24	94	153	42	71.03	3017.00	2100	1.89	3969.00	-952.00	
Decker Bk	Wayne	03	01B	2007	13	5	18	28	8	71.03	560.30	700	1.89	1323.00	-762.70	
Wyalusing Ck N Br	Susquehanna	03	04D	2007	23	8	31	50	14	71.03	991.30	800	1.89	1512.00	-520.70	
Kettle Ck	Potter	03	09B	2007	92	32	124	202	56	71.03	3965.21	2300	1.89	4347.00	-381.79	
North Ck	Cameron	02	08A	2007	39	14	53	85	24	71.03	1680.90	1000	1.89	1890.00	-209.10	
Green Spring Ck	Cumberland	03	07B	2007	9	3	12	20	5	71.03	387.90	300	1.89	567.00	-179.10	
Elk Ck	Sullivan	02	10B	2007	28	10	38	61	17	71.03	1206.80	600	1.89	1134.00	72.80	
Rocky Rn	Elk	02	17A	2007	26	9	35	57	16	71.03	1120.60	400	1.89	756.00	364.60	10th
Towanda Ck S Br	Bradford	02	04C	2007	48	17	65	105	29	71.03	2068.80	900	1.89	1701.00	367.80	
Havens Rn	McKean	02	16C	2007	44	15	59	96	27	71.03	1896.40	600	1.89	1134.00	762.40	
Fishing Ck, E Br	Potter	02	16C	2007	39	14	53	85	24	71.03	1680.90	300	1.89	567.00	1,113.90	
Lackawanna R	Lack/Susq/Wayne	01	05A	2007	169	59	228	370	103	71.03	7283.91	3100	1.89	5859.00	1,424.91	
Lake Ck	Monroe	02	01E	2007	61	21	82	134	37	71.03	2629.10	600	1.89	1134.00	1,495.10	
Jones Ck	Wayne	02	01C	2007	61	21	82	134	37	71.03	2629.10	400	1.89	756.00	1,873.10	
Bailey Rn	Potter	02	08A	2007	57	20	77	125	35	71.03	2456.70	300	1.89	567.00	1,889.70	
Wrights Ck	Luzerne	02	02A	2007	70	24	94	153	42	71.03	3017.00	300	1.89	567.00	2,450.00	
Sixmile Rn	Centre	02	08D	2007	88	31	119	193	53	71.03	3792.81	700	1.89	1323.00	2,469.81	
Sartwell Ck	McKean-Potter	02	16C	2007	80	28	108	175	49	71.03	3448.00	500	1.89	945.00	2,503.00	
Sherman Valley Rn	Bedford	02	11D	2007	105	37	142	230	64	71.03	4525.51	800	1.89	1512.00	3,013.51	25th
Tunkhannock Ck S Br	Lackawanna	02	04F	2007	136	47	183	298	83	71.03	5861.61	1500	1.89	2835.00	3,026.61	
Sixmile Rn	Centre	03	08D	2007	146	51	197	320	89	71.03	6292.61	1700	1.89	3213.00	3,079.61	
Ross Rn	Forest	02	16F	2007	101	35	136	221	61	71.03	4353.11	600	1.89	1134.00	3,219.11	
Double Rn	Sullivan	02	10B	2007	114	40	154	250	69	71.03	4913.41	300	1.89	567.00	4,346.41	
Red Ck	Schuylkill	02	03A	2007	123	43	166	269	75	71.03	5301.31	400	1.89	756.00	4,545.31	
Pine Rn	Mercer	02	20A	2007	136	47	183	298	83	71.03	5861.61	500	1.89	945.00	4,916.61	
Meshoppen Ck, W Br	Susque/Wyoming	02	04G	2007	183	64	247	401	111	71.03	7887.31	1,500	1.89	2835.00	5,052.31	
Sandy Ck, Ltl	Venango	03	16G	2007	135	47	182	296	82	71.03	5818.51	300	1.89	567.00	5,251.51	
Muddy Rn	Lancaster	02	07J	2007	145	50	195	318	88	71.03	6249.51	500	1.89	945.00	5,304.51	
Kern Rn	Snyder	02	06A	2007	140	49	189	307	85	71.03	6034.01	300	1.89	567.00	5,467.01	
Tunkhannock Ck	Susquehanna	02	04F	2007	223	78	301	488	135	71.03	9611.31	2,000	1.89	3780.00	5,831.31	
Trout Rn	Lancaster	02	07K	2007	149	52	201	326	90	71.03	6421.91	300	1.89	567.00	5,854.91	
Saucon Creek, S Br	Lehigh	02	02C	2007	158	55	213	346	96	71.03	6809.81	500	1.89	945.00	5,864.81	

Table 5. Comparison of Opening Weekend Angler Trip and Fishing License Expenditures Combined and Production Costs for stream sections stocked with adult trout where angler use counts were collected in 2007. (Multiple page table.)

Water Name	County	Sec Num	SSB	Survey Year	Projected Sum of Anglers Opening Day	Projected Sum of Second Day Anglers	Projected Sum of 1st Weekend Anglers	Total Angler Hours for 1st Weekend	Est. Angler Trips for 1st Weekend	Daily Trip & Fishing License Expenditures	Opening Weekend Expenditures	Number of Trout Stocked Preseason	Cost per Trout Stocked	Total Production Cost	Expenditures minus Cost	Percentile Rank
Kistler Ck	Lehigh	02	03B	2007	153	53	206	335	93	71.03	6594.31	300	1.89	567.00	6,027.31	
Mugser Rn	Columbia	02	05E	2007	171	60	231	375	104	71.03	7370.11	600	1.89	1134.00	6,236.11	
Montour Ck	Perry	02	07A	2007	164	57	221	359	100	71.03	7068.41	400	1.89	756.00	6,312.41	
Asaph Rn	Tioga	01	09A	2007	219	76	295	480	133	71.03	9438.91	1500	1.89	2835.00	6,603.91	
Sinn Ck Bennett Br	Clearfield	02	08A	2007	197	69	266	432	120	71.03	8490.71	800	1.89	1512.00	6,978.71	
Mill Ck	Montgomery	02	03F	2007	188	65	253	412	114	71.03	8102.81	500	1.89	945.00	7,157.81	50th
Bowery Rn	Lancaster	02	07K	2007	184	64	248	403	112	71.03	7930.41	400	1.89	756.00	7,174.41	
Climbers Rn	Lancaster	02	07K	2007	184	64	248	403	112	71.03	7930.41	300	1.89	567.00	7,363.41	
Mahoning Ck	Carbon/Schuylkill	02	02B	2007	210	73	283	460	127	71.03	9051.01	400	1.89	756.00	8,295.01	
Bachman Rn	Lebanon	02	07D	2007	241	84	325	528	146	71.03	10387.11	1100	1.89	2079.00	8,308.11	
Carbaugh Rn	Adams/Franklin	03	13C	2007	206	72	278	451	125	71.03	8878.61	300	1.89	567.00	8,311.61	
Middle Ck, S Br	Snyder	02	06A	2007	232	81	313	508	141	71.03	9999.21	700	1.89	1323.00	8,676.21	
Lehigh R (FE Walter)	Carbon/Luzerne	06	02A	2007	241	84	325	528	146	71.03	10387.11	900	1.89	1701.00	8,686.11	
Jacoby Ck	Northampton	02	01F	2007	232	81	313	508	141	71.03	9999.21	400	1.89	756.00	9,243.21	
Drakes Ck	Carbon	02	02B	2007	235	82	317	515	143	71.03	10128.51	300	1.89	567.00	9,561.51	
Long Rn	Clinton	01	09C	2007	276	96	372	605	167	71.03	11895.62	800	1.89	1512.00	10,383.62	
Ithan Ck	Delaware	02	03G	2007	289	101	390	633	175	71.03	12455.92	900	1.89	1701.00	10,754.92	
Dunbar Ck	Fayette	03	19D	2007	294	102	396	644	178	71.03	12671.42	700	1.89	1323.00	11,348.42	
Scotch Rn	Columbia	02	05E	2007	328	114	442	718	199	71.03	14136.82	700	1.89	1323.00	12,813.82	
Richey Rn	Clarion/Venango	02	16G	2007	329	114	443	721	200	71.03	14179.92	300	1.89	567.00	13,612.92	
Oil Ck	Crawford	03	16E	2007	385	134	519	843	234	71.03	16593.52	1300	1.89	2457.00	14,136.52	
Cowanshannock Ck	Armstrong	03	17E	2007	438	152	590	959	266	71.03	18877.83	2000	1.89	3780.00	15,097.83	
Lehigh R (White Haven)	Carbon/Luzerne	06	02A	2007	416	145	561	911	252	71.03	17929.62	1400	1.89	2646.00	15,283.62	
Fishing Ck	Lancaster	02	07K	2007	416	145	561	911	252	71.03	17929.62	1,100	1.89	2079.00	15,850.62	
Treaster Rn	Mifflin	02	12A	2007	403	140	543	883	245	71.03	17369.32	700	1.89	1323.00	16,046.32	75th
Lizard Ck	Carbon	04	02B	2007	464	161	625	1016	282	71.03	19998.43	2000	1.89	3780.00	16,218.43	
Bushkill Ck	Pike/Monroe	06	01D	2007	486	169	655	1065	295	71.03	20946.63	2400	1.89	4536.00	16,410.63	
Medix Rn	Clearfield/Elk	02	08A	2007	429	149	578	940	260	71.03	18489.93	1000	1.89	1890.00	16,599.93	
Hicks Rn	Elk	01	08A	2007	477	166	643	1045	289	71.03	20558.73	1700	1.89	3213.00	17,345.73	
Brush Ck	Indiana	02	18D	2007	447	156	603	979	271	71.03	19265.73	900	1.89	1701.00	17,564.73	
Beaver Rn	Columbia	02	05E	2007	434	151	585	951	263	71.03	18705.43	300	1.89	567.00	18,138.43	
Cush Ck	Indiana	02	08B	2007	469	163	632	1027	285	71.03	20213.93	700	1.89	1323.00	18,890.93	

Table 5. Comparison of Opening Weekend Angler Trip and Fishing License Expenditures Combined and Production Costs for stream sections stocked with adult trout where angler use counts were collected in 2007. (Multiple page table.)

Water Name	County	Sec Num	SSB	Survey Year	Projected Sum of Anglers Opening Day	Projected Sum of Second Day Anglers	Projected Sum of 1st Weekend Anglers	Total Angler Hours for 1st Weekend	Est. Angler Trips for 1st Weekend	Daily Trip & Fishing License Expenditures	Opening Weekend Expenditures	Number of Trout Stocked Preseason	Cost per Trout Stocked	Total Production Cost	Expenditures minus Cost	Percentile Rank
Hokendauqua Ck	Northampton	02	02C	2007	530	184	714	1161	322	71.03	22843.03	1900	1.89	3591.00	19,252.03	
Roaring Bk	Lackawanna	03	05A	2007	478	166	644	1047	290	71.03	20601.83	700	1.89	1323.00	19,278.83	
Buffalo Ck	Butler	02	18F	2007	627	218	845	1373	380	71.03	27023.74	1,200	1.89	2268.00	24,755.74	
Powell Ck	Dauphin	03	06C	2007	742	258	1000	1625	450	71.03	31980.24	1700	1.89	3213.00	28,767.24	
Yellow Ck	Bedford	04	11D	2007	789	275	1064	1728	479	71.03	34005.95	600	1.89	1134.00	32,871.95	90th
Delaware Ck	Juniata	02	12B	2007	806	280	1086	1766	489	71.03	34738.65	700	1.89	1323.00	33,415.65	
Chester Ck, W Br	Delaware	02	03G	2007	968	337	1305	2120	587	71.03	41720.86	2700	1.89	5103.00	36,617.86	
Cove Ck	Fulton	02	13B	2007	920	320	1240	2015	558	71.03	39652.05	1300	1.89	2457.00	37,195.05	
Chartiers Ck Ltl	Washington	02	20F	2007	1082	377	1459	2370	657	71.03	46634.26	2600	1.89	4914.00	41,720.26	
Whiteley Ck	Greene	02	19G	2007	1142	397	1539	2502	693	71.03	49220.27	1300	1.89	2457.00	46,763.27	
Fourmile Rn	Westmoreland	03	18C	2007	1494	520	2014	3273	907	71.03	64391.49	2200	1.89	4158.00	60,233.49	
Jordan Ck	Lehigh	06	02C	2007	2239	779	3018	4905	1359	71.03	96501.03	2000	1.89	3780.00	92,721.03	

Table 6. Comparison of Number of Trout Stocked per Opening Weekend Angler Trip for stream sections stocked with adult trout where angler counts were collected in 2007

Water Name	County	Sec Num	SSB	Year	Projected Sum of Anglers Opening Day	Projected Sum of Second Day Anglers	Projected Sum of 1st Weekend Anglers	Total Angler Hours for 1st Weekend	Est. Angler Trips for 1st Weekend	Number of Trout Stocked Preseason	Number of Trout Stocked per Angler Trip	Percentile Rank
Beaver Rn	Columbia	02	05E	2007	434	151	585	951	263	300	1	
Yellow Ck	Bedford	04	11D	2007	789	275	1064	1728	479	600	1	
Delaware Ck	Juniata	02	12B	2007	806	280	1086	1766	489	700	1	
Jordan Ck	Lehigh	06	02C	2007	2239	779	3018	4905	1359	2000	1	
Richey Rn	Clarion/Venango	02	16G	2007	329	114	443	721	200	300	2	
Whiteley Ck	Greene	02	19G	2007	1142	397	1539	2502	693	1300	2	
Drakes Ck	Carbon	02	02B	2007	235	82	317	515	143	300	2	
Cove Ck	Fulton	02	13B	2007	920	320	1240	2015	558	1300	2	10th
Carbaugh Rn	Adams/Franklin	03	13C	2007	206	72	278	451	125	300	2	
Roaring Bk	Lackawanna	03	05A	2007	478	166	644	1047	290	700	2	
Fourmile Rn	Westmoreland	03	18C	2007	1494	520	2014	3273	907	2200	2	
Cush Ck	Indiana	02	08B	2007	469	163	632	1027	285	700	2	
Climbers Rn	Lancaster	02	07K	2007	184	64	248	403	112	300	3	
Jacoby Ck	Northampton	02	01F	2007	232	81	313	508	141	400	3	
Treaster Rn	Mifflin	02	12A	2007	403	140	543	883	245	700	3	
Mahoning Ck	Carbon/Schuylkill	02	02B	2007	210	73	283	460	127	400	3	
Buffalo Ck	Butler	02	18F	2007	627	218	845	1373	380	1200	3	
Kistler Ck	Lehigh	02	03B	2007	153	53	206	335	93	300	3	
Brush Ck	Indiana	02	18D	2007	447	156	603	979	271	900	3	25th
Trout Rn	Lancaster	02	07K	2007	149	52	201	326	90	300	3	
Scotch Rn	Columbia	02	05E	2007	328	114	442	718	199	700	4	
Kern Rn	Snyder	02	06A	2007	140	49	189	307	85	300	4	
Bowery Rn	Lancaster	02	07K	2007	184	64	248	403	112	400	4	
Sandy Ck, Ltl	Venango	03	16G	2007	135	47	182	296	82	300	4	
Powell Ck	Dauphin	03	06C	2007	742	258	1000	1625	450	1700	4	
Medix Rn	Clearfield/Elk	02	08A	2007	429	149	578	940	260	1000	4	
Dunbar Ck	Fayette	03	19D	2007	294	102	396	644	178	700	4	
Chartiers Ck Ltl	Washington	02	20F	2007	1082	377	1459	2370	657	2600	4	
Montour Ck	Perry	02	07A	2007	164	57	221	359	100	400	4	
Double Rn	Sullivan	02	10B	2007	114	40	154	250	69	300	4	
Fishing Ck	Lancaster	02	07K	2007	416	145	561	911	252	1100	4	
Mill Ck	Montgomery	02	03F	2007	188	65	253	412	114	500	4	

Table 6. Comparison of Number of Trout Stocked per Opening Weekend Angler Trip for stream sections stocked with adult trout where angler counts were collected in 2007

Water Name	County	Sec Num	SSB	Year	Projected Sum of Anglers Opening Day	Projected Sum of Second Day Anglers	Projected Sum of 1st Weekend Anglers	Total Angler Hours for 1st Weekend	Est. Angler Trips for 1st Weekend	Number of Trout Stocked Preseason	Number of Trout Stocked per Angler Trip	Percentile Rank
Chester Ck, W Br	Delaware	02	03G	2007	968	337	1305	2120	587	2700	5	
Long Rn	Clinton	01	09C	2007	276	96	372	605	167	800	5	
Middle Ck, S Br	Snyder	02	06A	2007	232	81	313	508	141	700	5	
Ithan Ck	Delaware	02	03G	2007	289	101	390	633	175	900	5	
Saucon Creek, S Br	Lehigh	02	02C	2007	158	55	213	346	96	500	5	
Red Ck	Schuylkill	02	03A	2007	123	43	166	269	75	400	5	50th
Lehigh R (White Haven)	Carbon/Luzerne	06	02A	2007	416	145	561	911	252	1400	6	
Oil Ck	Crawford	03	16E	2007	385	134	519	843	234	1300	6	
Muddy Rn	Lancaster	02	07J	2007	145	50	195	318	88	500	6	
Mugser Rn	Columbia	02	05E	2007	171	60	231	375	104	600	6	
Hicks Rn	Elk	01	08A	2007	477	166	643	1045	289	1700	6	
Hokendauqua Ck	Northampton	02	02C	2007	530	184	714	1161	322	1900	6	
Pine Rn	Mercer	02	20A	2007	136	47	183	298	83	500	6	
Lehigh R (FE Walter)	Carbon/Luzerne	06	02A	2007	241	84	325	528	146	900	6	
Sinn Ck Bennett Br	Clearfield	02	08A	2007	197	69	266	432	120	800	7	
Wrights Ck	Luzerne	02	02A	2007	70	24	94	153	42	300	7	
Lizard Ck	Carbon	04	02B	2007	464	161	625	1016	282	2000	7	
Bachman Rn	Lebanon	02	07D	2007	241	84	325	528	146	1100	8	
Cowanshannock Ck	Armstrong	03	17E	2007	438	152	590	959	266	2000	8	
Bushkill Ck	Pike/Monroe	06	01D	2007	486	169	655	1065	295	2400	8	
Bailey Rn	Potter	02	08A	2007	57	20	77	125	35	300	9	
Ross Rn	Forest	02	16F	2007	101	35	136	221	61	600	10	
Sartwell Ck	McKean-Potter	02	16C	2007	80	28	108	175	49	500	10	
Jones Ck	Wayne	02	01C	2007	61	21	82	134	37	400	11	
Asaph Rn	Tioga	01	09A	2007	219	76	295	480	133	1500	11	75th
Sherman Valley Rn	Bedford	02	11D	2007	105	37	142	230	64	800	13	
Fishing Ck, E Br	Potter	02	16C	2007	39	14	53	85	24	300	13	
Sixmile Rn	Centre	02	08D	2007	88	31	119	193	53	700	13	
Meshoppen Ck, W Br	Susque/Wyoming	02	04G	2007	183	64	247	401	111	1500	14	
Tunkhannock Ck	Susquehanna	02	04F	2007	223	78	301	488	135	2000	15	
Lake Ck	Monroe	02	01E	2007	61	21	82	134	37	600	16	
Tunkhannock Ck S Br	Lackawanna	02	04F	2007	136	47	183	298	83	1500	18	

Table 6. Comparison of Number of Trout Stocked per Opening Weekend Angler Trip for stream sections stocked with adult trout where angler counts were collected in 2007

Water Name	County	Sec Num	SSB	Year	Projected Sum of Anglers Opening Day	Projected Sum of Second Day Anglers	Projected Sum of 1st Weekend Anglers	Total Angler Hours for 1st Weekend	Est. Angler Trips for 1st Weekend	Number of Trout Stocked Preseason	Number of Trout Stocked per Angler Trip	Percentile Rank
Sixmile Rn	Centre	03	08D	2007	146	51	197	320	89	1700	19	
Havens Rn	McKean	02	16C	2007	44	15	59	96	27	600	22	
Rocky Rn	Elk	02	17A	2007	26	9	35	57	16	400	25	
Lackawanna R	Lack/Susq/Wayne	01	05A	2007	169	59	228	370	103	3100	30	
Towanda Ck S Br	Bradford	02	04C	2007	48	17	65	105	29	900	31	90th
Elk Ck	Sullivan	02	10B	2007	28	10	38	61	17	600	35	
Kettle Ck	Potter	03	09B	2007	92	32	124	202	56	2300	41	
North Ck	Cameron	02	08A	2007	39	14	53	85	24	1000	42	
Long Rn	Tioga	02	09A	2007	70	24	94	153	42	2100	49	
Green Spring Ck	Cumberland	03	07B	2007	9	3	12	20	5	300	55	
Wyalusing Ck N Br	Susquehanna	03	04D	2007	23	8	31	50	14	800	57	
Decker Bk	Wayne	03	01B	2007	13	5	18	28	8	700	89	

Table 7. Comparison of Estimated Opening Weekend Angler Trips in 2007 with Past Surveys

Water Name	County	Sec Num	SSB	Est. Opening Weekend Angler Trips			Difference in		Change (%)
				2007	2006	2005	Est. Angler Trips	Percentile Rank	
Lackawanna R	Lack/Susq/Wayne	01	05A	103	702		-599		-85.3
Sixmile Rn	Centre	03	08D	89		470	-381		-81.1
Lehigh R (White Haven)	Carbon/Luzerne	06	02A	252	444		-192		-43.2
Medix Rn	Clearfield/Elk	02	08A	260		385	-125		-32.5
Sinn Ck Bennett Br	Clearfield	02	08A	120		221	-101		-45.7
Kettle Ck	Potter	03	09B	56		153	-97	10th	-63.4
Towanda Ck S Br	Bradford	02	04C	29	117		-88		-75.2
North Ck	Cameron	02	08A	24	96		-72		-75.0
Oil Ck	Crawford	03	16E	234		303	-69		-22.8
Middle Ck, S Br	Snyder	02	06A	141	208		-67		-32.2
Chartiers Ck Ltl	Washington	02	20F	657		719	-62		-8.6
Montour Ck	Perry	02	07A	100	152		-52		-34.2
Mugser Rn	Columbia	02	05E	104	149		-45		-30.2
Bushkill Ck	Pike/Monroe	06	01D	295		339	-44	25th	-13.0
Decker Bk	Wayne	03	01B	8	50		-42		-84.0
Lehigh R (FE Walter)	Carbon/Luzerne	06	02A	146	186		-40		-21.5
Wrights Ck	Luzerne	02	02A	42	75		-33		-44.0
Muddy Rn	Lancaster	02	07J	88	113		-25		-22.1
Green Spring Ck	Cumberland	03	07B	5		29	-24		-82.8
Mahoning Ck	Carbon/Schuylkill	02	02B	127	149		-22		-14.8
Kistler Ck	Lehigh	02	03B	93	114		-21		-18.4
Beaver Rn	Columbia	02	05E	263	279		-16		-5.7
Ithan Ck	Delaware	02	03G	175	183		-8		-4.4
Tunkhannock Ck	Susquehanna	02	04F	135	139		-4		-2.9
Bailey Rn	Potter	02	08A	35	37		-2		-5.4
Rocky Rn	Elk	02	17A	16	12		4		33.3
Cove Ck	Fulton	02	13B	558		552	6	50th	1.1
Saucon Creek, S Br	Lehigh	02	02C	96	87		9		10.3
Fishing Ck, E Br	Potter	02	16C	24	13		11		84.6
Scotch Rn	Columbia	02	05E	199	188		11		5.9
Mill Ck	Montgomery	02	03F	114	101		13		12.9
Jones Ck	Wayne	02	1C	37		21	16		76.2
Sartwell Ck	McKean/Potter	02	16C	49	32		17		53.1

Kern Rn	Snyder	02	06A	85	61		24	39.3
Bachman Rn	Lebanon	02	07D	146	120		26	21.7
Bowery Rn	Lancaster	02	07K	112	83		29	34.9
Red Ck	Schuylkill	02	03A	75	46		29	63.0
Carbaugh Rn	Adams/Franklin	03	13C	125	83		42	50.6
Fishing Ck	Lancaster	02	07K	252	208		44	21.2
Sandy Ck Ltl	Venango	03	16G	82		34	48	141.2
Trout Rn	Lancaster	02	07K	90	41		49	75th 119.5
Long Rn	Clinton	01	09C	167	117		50	42.7
Climbers Rn	Lancaster	02	07K	112	42		70	166.7
Chester Ck, W Br	Chester/Delaware	02	03G	587	505		82	16.2
Lizard Ck	Carbon	04	2B	282		196	86	43.9
Meshoppen Ck, W Br	Susque/Wyoming	02	04G	111	17		94	552.9
Jacoby Ck	Northampton	02	01F	141	42		99	235.7
Drakes Ck	Carbon	02	02B	143	29		114	393.1
Hokendauqua Ck	Northampton	02	2C	322		202	120	90th 59.4
Roaring Bk	Lackawanna	03	05A	290		135	155	114.8
Richey Rn	Clarion/Venango	02	16G	200		39	161	412.8
Powell Ck	Dauphin	03	6C	450		252	198	78.6
Treaster Rn	Mifflin	02	12A	245		23	222	965.2
Jordan Ck	Lehigh	06	2C	1359		1097	262	23.9

Range - -599 - 262

Median - 6

Mean - -3

54.2 mean
5.9 median
54%
increased
46%
decreased

Table 8. Comparison of Estimated Opening Weekend Angler Trips in 2007 with Past Surveys on Regional Opening Day Waters

Water Name	County	Sec Num	SSB	Est. Opening Weekend Angler Trips			Difference in		Change (%)
				2007	2006	2005	Est. Angler Trips	Percentile Rank	
Montour Ck	Perry	02	07A	100	152		-52		-34.2
Muddy Rn	Lancaster	02	07J	88	113		-25		-22.1
Green Spring Ck	Cumberland	03	07B	5		29	-24	10th	-82.8
Mahoning Ck	Carbon/Schuylkill	02	02B	127	149		-22		-14.8
Kistler Ck	Lehigh	02	03B	93	114		-21		-18.4
Ithan Ck	Delaware	02	03G	175	183		-8	25th	-4.4
Saucon Creek, S Br	Lehigh	02	02C	96	87		9		10.3
Mill Ck	Montgomery	02	03F	114	101		13		12.9
Bachman Rn	Lebanon	02	07D	146	120		26		21.7
Bowery Rn	Lancaster	02	07K	112	83		29		34.9
Red Ck	Schuylkill	02	03A	75	46		29	50th	63.0
Carbaugh Rn	Adams/Franklin	03	13C	125	83		42		50.6
Fishing Ck	Lancaster	02	07K	252	208		44		21.2
Trout Rn	Lancaster	02	07K	90	41		49		119.5
Climbers Rn	Lancaster	02	07K	112	42		70		166.7
Chester Ck, W Br	Chester/Delaware	02	03G	587	505		82	75th	16.2
Lizard Ck	Carbon	04	2B	282		196	86		43.9
Jacoby Ck	Northampton	02	01F	141	42		99		235.7
Hokendauqua Ck	Northampton	02	2C	322		202	120	90th	59.4
Powell Ck	Dauphin	03	6C	450		252	198		78.6
Jordan Ck	Lehigh	06	2C	1359		1097	262		23.9

Range - -52 - 262
 Median - 29
 Mean - 48

37.2 mean
 21.7 median
 71%
 increased
 29%
 decreased

Table 9. Comparison of Estimated Opening Weekend Angler Trips in 2007 with Past Surveys on Regional Opening Day Border County Waters

Water Name	County	Sec Num	SSB	Est. Opening Weekend Angler Trips			Difference in		Change (%)
				2007	2006	2005	Est. Angler Trips	Percentile Rank	
Mahoning Ck	Carbon/Schuylkill	02	02B	127	149		-22	10th	-14.8
Kistler Ck	Lehigh	02	03B	93	114		-21		-18.4
Saucon Creek, S Br	Lehigh	02	02C	96	87		9	25th	10.3
Red Ck	Schuylkill	02	03A	75	46		29		63.0
Carbaugh Rn	Adams/Franklin	03	13C	125	83		42	50th	50.6
Lizard Ck	Carbon	04	2B	282		196	86		43.9
Jacoby Ck	Northampton	02	01F	141	42		99		235.7
Hokendauqua Ck	Northampton	02	2C	322		202	120	75th	59.4
Powell Ck	Dauphin	03	6C	450		252	198	90th	78.6
Jordan Ck	Lehigh	06	2C	1359		1097	262		23.9

Range - -22 - 262
 Median - 42
 Mean - 80

53.2 mean
 43.9 median
 80% increased
 20% decreased

Table 10. Comparison of Estimated Opening Weekend Angler Trips in 2007 with Past Surveys on Traditional Opening Day Waters

Water Name	County	Sec Num	SSB	Est. Opening Weekend Angler Trips			Difference in		
				2007	2006	2005	Est. Angler Trips	Percentile Rank	Change (%)
Lackawanna R	Lack/Susq/Wayne	01	05A	103	702		-599		-85.3
Sixmile Rn	Centre	03	08D	89		470	-381		-81.1
Lehigh R (White Haven)	Carbon/Luzerne	06	02A	252	444		-192		-43.2
Medix Rn	Clearfield/Elk	02	08A	260		385	-125	10th	-32.5
Sinn Ck Bennett Br	Clearfield	02	08A	120		221	-101		-45.7
Kettle Ck	Potter	03	09B	56		153	-97		-63.4
Towanda Ck S Br	Bradford	02	04C	29	117		-88		-75.2
North Ck	Cameron	02	08A	24	96		-72		-75.0
Oil Ck	Crawford	03	16E	234		303	-69	25th	-22.8
Middle Ck, S Br	Snyder	02	06A	141	208		-67		-32.2
Chartiers Ck Ltl	Washington	02	20F	657		719	-62		-8.6
Mugser Rn	Columbia	02	05E	104	149		-45		-30.2
Bushkill Ck	Pike/Monroe	06	01D	295		339	-44		-13.0
Decker Bk	Wayne	03	01B	8	50		-42		-84.0
Lehigh R (FE Walter)	Carbon/Luzerne	06	02A	146	186		-40		-21.5
Wrights Ck	Luzerne	02	02A	42	75		-33		-44.0
Beaver Rn	Columbia	02	05E	263	279		-16	50th	-5.7
Tunkhannock Ck	Susquehanna	02	04F	135	139		-4		-2.9
Bailey Rn	Potter	02	08A	35	37		-2		-5.4
Rocky Rn	Elk	02	17A	16	12		4		33.3
Cove Ck	Fulton	02	13B	558		552	6		1.1
Fishing Ck, E Br	Potter	02	16C	24	13		11		84.6
Scotch Rn	Columbia	02	05E	199	188		11		5.9
Jones Ck	Wayne	02	1C	37		21	16		76.2
Sartwell Ck	McKean/Potter	02	16C	49	32		17	75th	53.1
Kern Rn	Snyder	02	06A	85	61		24		39.3
Sandy Ck Ltl	Venango	03	16G	82		34	48		141.2
Long Rn	Clinton	01	09C	167	117		50		42.7
Meshoppen Ck, W Br	Susque/Wyoming	02	04G	111	17		94		552.9
Drakes Ck	Carbon	02	02B	143	29		114	90th	393.1
Roaring Bk	Lackawanna	03	05A	290		135	155		114.8
Richey Rn	Clarion/Venango	02	16G	200		39	161		412.8
Treaster Rn	Mifflin	02	12A	245		23	222		965.2

Range - -599 - 222
 Median - -16
 Mean - -35

65 mean
 -5.7 median
 42% increased
 58% decreased

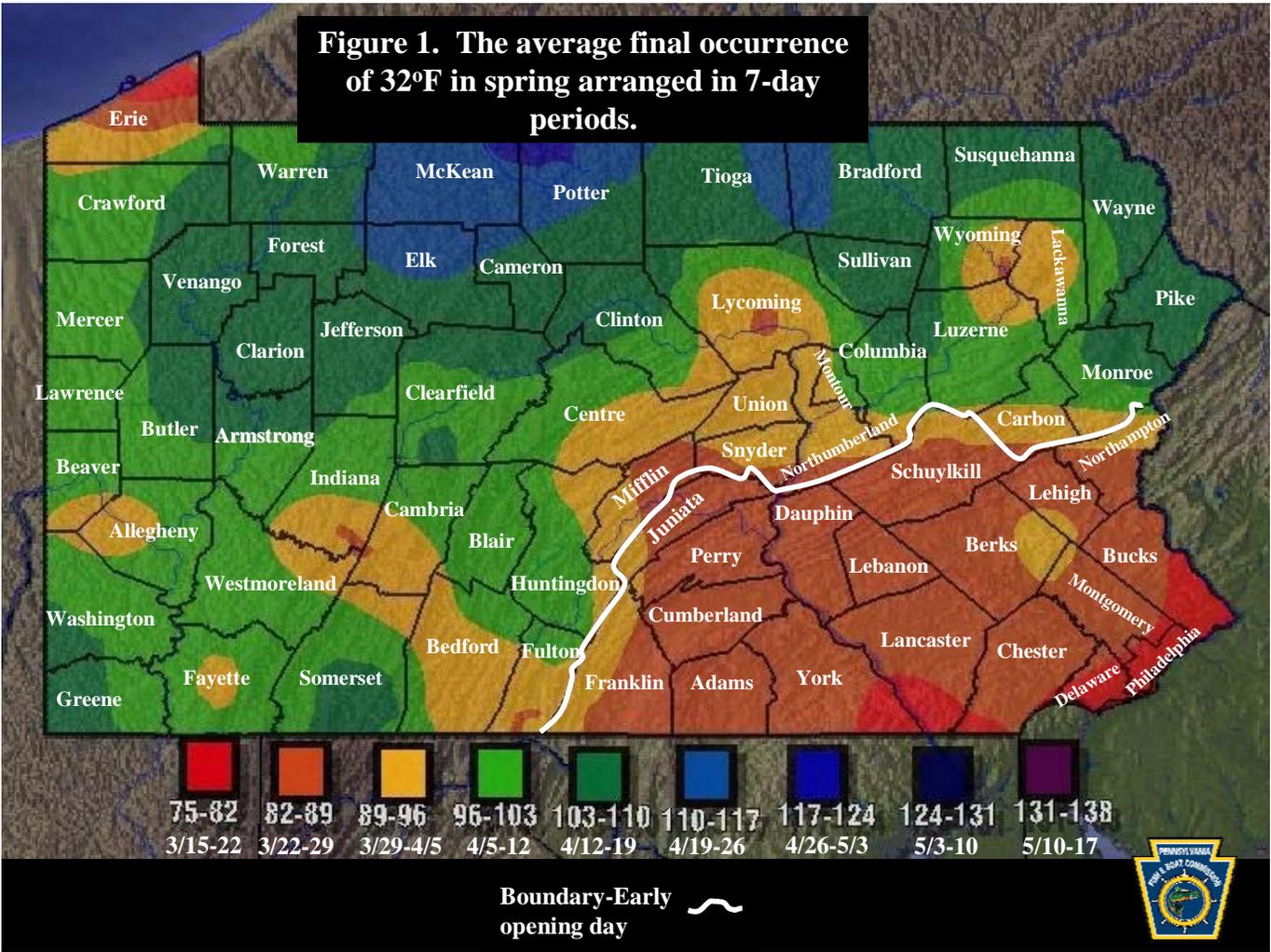
Table 11. Comparison of Estimated Opening Weekend Angler Trips in 2007 with Past Surveys on Traditional Opening Day Border County Waters

Water Name	County	Sec Num	SSB	Est. Opening Weekend Angler Trips			Difference in		
				2007	2006	2005	Est. Angler Trips	Percentile Rank	Change (%)
Lehigh R (White Haven)	Carbon/Luzerne	06	02A	252	444		-192		-43.2
Middle Ck, S Br	Snyder	02	06A	141	208		-67	10th	-32.2
Mugser Rn	Columbia	02	05E	104	149		-45	25th	-30.2
Bushkill Ck	Pike/Monroe	06	01D	295		339	-44		-13.0
Lehigh R (FE Walter)	Carbon/Luzerne	06	02A	146	186		-40		-21.5
Wrights Ck	Luzerne	02	02A	42	75		-33	50th	-44.0
Beaver Rn	Columbia	02	05E	263	279		-16		-5.7
Cove Ck	Fulton	02	13B	558		552	6		1.1
Scotch Rn	Columbia	02	05E	199	188		11	75th	5.9
Kern Rn	Snyder	02	06A	85	61		24		39.3
Drakes Ck	Carbon	02	02B	143	29		114	90th	393.1
Treaster Rn	Mifflin	02	12A	245		23	222		965.2

Range - -192 - 222
 Median - -33
 Mean - -5

101.2 mean
 -13 median
 42% increased
 58% decreased

Figure 1. The average final occurrence of 32°F in spring arranged in 7-day periods.



Percentage of Opening day anglers from the 18-County Area

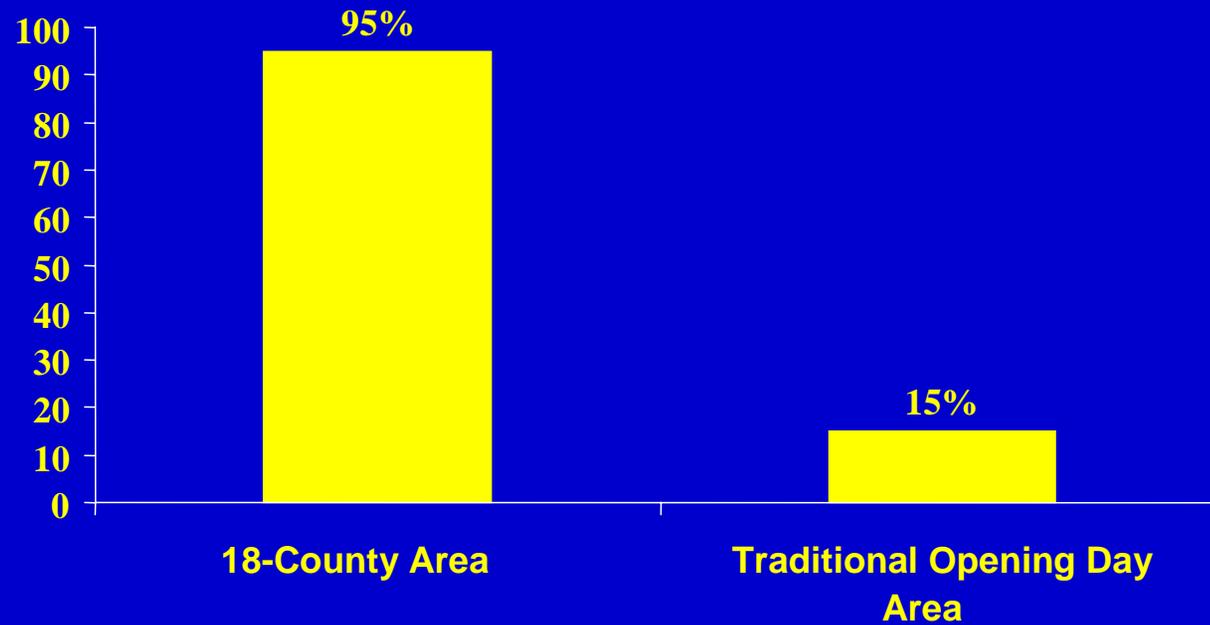


Figure 2. Opening day anglers from the 18-County Area.

Percentage of Border County stream anglers from the 18-County Area on Opening Day

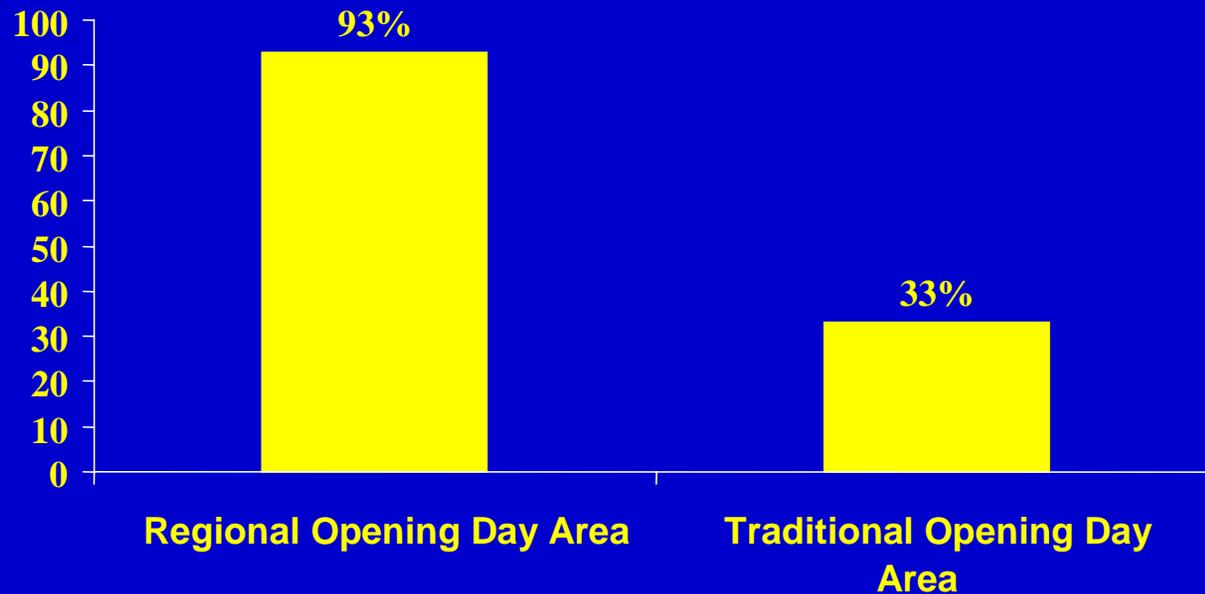


Figure 3. Border County stream opening day anglers from the 18-County Area.

Percentage of anglers that fished the water they normally visit on the Opening Day of season

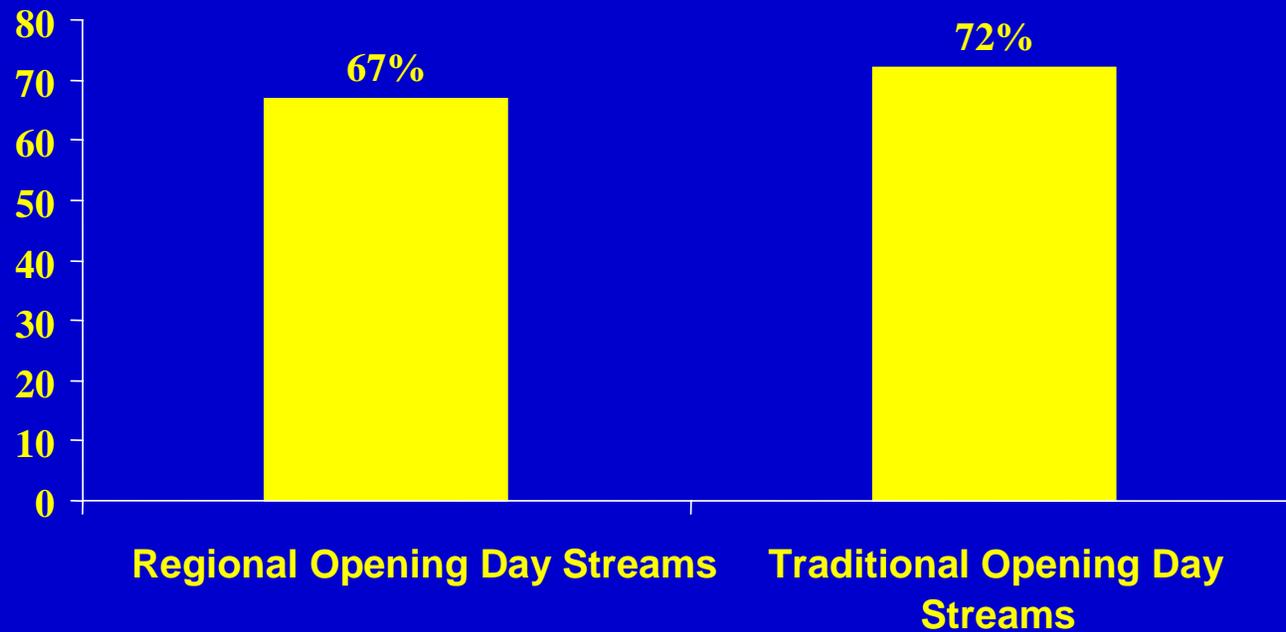


Figure 4. Anglers that fished the same water they normally visit on opening day.

Percentage of Border County anglers that fished the water they normally visit on the Opening Day of season

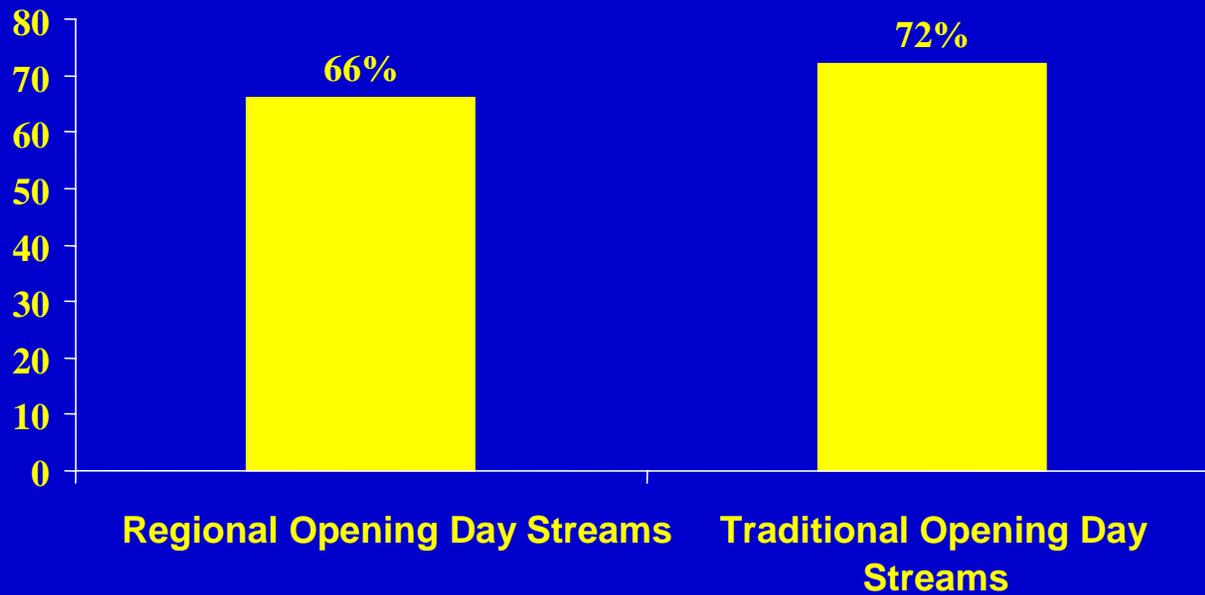


Figure 5. Border County anglers that fished the same water they normally visit on opening day.

Angler opinions on Two Regional Opening Days of Trout Season



Figure 6. Angler opinions on two regional opening days of trout season.

Border County stream angler opinions on Two Regional Opening Days of Trout Season



Figure 7. Border County stream angler opinions on two regional opening days of trout season.

2007 Opening Day Angler Use Form

Water Name _____

Section Number _____

WCO _____

Saturday March 31, 2007

Saturday April 14, 2007

Count Start Time

Count Finish Time

Number of Anglers

Cloud Cover

Precip

Temperature

Flow

Weather Code _____

Appendix 2. Weather and stream flow conditions and their corresponding codes.

Code – Cloud Cover	Code – Precipitation	Code – Temperature	Code – Stream Flow
0 Sunny (no cloud cover)	0 No precipitation	(write in measured Air temperature)	1 Significant portions of riffle exposed
1 partly sunny (occasional cloud cover)	1 Intermittent rain		2 Some riffle area exposed
2 Partly cloudy (partial continuous cloud cover)	2 Continuous rain		3 Normal stream flow
3 Cloudy (total cloud cover - gray)	3 Intermittent rain with thunder and lightening		4 Above normal, but not bank full
	4 Continuous rain with thunder and lightening		5 Bank full flow
	5 Intermittent Snow		
	6 Continuous Snow		

2007 Opening Day Interview Form

Water _____

Section Number _____

WCO _____

Saturday March 31, 2007

Saturday April 14, 2007

Zip Code _____

County or State
(If not from PA) _____

1. Where (name of water) do you normally fish on the opening day of trout season in Pennsylvania? _____
2. Beginning in 2007, an earlier opening day of trout season (March 31) applies to waters in an 18 county area of southeastern and south central Pennsylvania. The traditional time period for opening day (April 14) applies to waters over the remainder of the state. Do you agree or disagree with having two regional opening days of trout season in Pennsylvania?

Agree _____

Disagree _____

Neutral _____
