**A SUMMARY OF ECONOMIC IMPACTS OF COMMERCIAL WHITEWATER RAFTING IN WEST VIRGINIA**

**A Summary of the Original Report Submitted the West Virginia Division of Natural Resources as Part of:**

**Design, management, and implementation of a Limits of Acceptable Change (LAC) process for a three-year study on the Gauley, New, Cheat, Shenandoah, and Tygart Rivers of West Virginia**

by:   
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**CONTENTS OF THIS DOCUMENT**

* [***INTRODUCTION***](http://www.wvdnr.gov/lenforce/white/rivermgt/ww_econ.shtm#INTRODUCTION)
* [***COMMERCIAL WHITEWATER EXPENDITURES***](http://www.wvdnr.gov/lenforce/white/rivermgt/ww_econ.shtm#COMMERCIAL WHITEWATER EXPENDITURES)
* [***ECONOMIC IMPACTS OF WHITEWATER RAFTING***](http://www.wvdnr.gov/lenforce/white/rivermgt/ww_econ.shtm#ECONOMIC IMPACTS OF WHITEWATER RAFTING)
* [***REFERENCES***](http://www.wvdnr.gov/lenforce/white/rivermgt/ww_econ.shtm#REFERENCES)

***INTRODUCTION***

The economy of West Virginia historically has been one dominated by resource extractive industries and manufacturing. As these industries have declined in recent decades, economic activity generated by commercial recreation and tourism has grown and has become a primary source of employment and income in many communities. Opportunities that attract tourists to West Virginia include those associated with the State's abundant wildland resources -- it's mountains, forests, and rivers. Many thousands of people take advantage of these opportunities each year by visiting West Virginia, and the economic impacts of these visitors are presumed to be substantial. Among the visitors are people who come both from within and outside the State for commercial whitewater rafting, and this report contains a summary of a 1995 survey of commercial whitewater boaters on the Cheat, New, and Gauley Rivers.

Socioeconomic information about commercial boaters was compiled from three separate surveys conducted in 1995 on the three rivers. Consequently, a relatively large sample was obtained to characterize commercial boaters in terms of their age, income, education level, state of residence, and size of their household ([Table 1](http://www.wvdnr.gov/lenforce/white/rivermgt/ww_econ.shtm#Table 1)). Additional data were collected with a survey designed specifically to assess direct spending behavior and economic impacts of the commercial whitewater industry. Data from this survey were used to characterize boater's trips to West Virginia and to document the amount and type of expenditures they made when visiting the State for whitewater rafting. Expenditure categories included spending directly related to rafting (e.g., outfitter fees, river trip videos and photographs, etc.), and expenditures for food, gas, lodging, and other miscellaneous items. In an attempt to identify potential economic impacts for local communities and for the State, boaters were asked to report their expenditures for three geographic regions: the local area within 50 miles of the river they ran; outside the local area but in other parts of West Virginia; and outside of West Virginia.

Since boaters were surveyed in the midst of their visit, they were asked to report expenditures made up to the time at which they were surveyed, plus any additional expenditures they expected to make during the remainder of their trip. It was expected that boaters could reliably and accurately report the amount of money they had already spent. On the other hand, their estimates of additional amounts they expected to spend probably are less accurate. Despite the potential for error in boaters' estimates of expected additional spending, these estimates were combined with the reports of dollars already spent to approximate total spending by individual boaters. Also, up to as many as 20% boaters indicated having already spent or expecting to spend money in most expenditure categories, but provided no dollar values. These boaters were not included in calculations of total expenditures presented in this report, although their expenditures potentially could contribute substantially to total spending. Also, because of item nonresponse, which averaged approximately 18% across the three rivers, data were missing in most expenditure categories. Consequently, it is not known if boaters who failed to provide a response did or did not spend in expenditure categories. Missing data also were excluded from expenditure estimates reported herein.

Local and statewide economic impacts of the commercial whitewater industry were estimated using the US Forest Service IMPLAN model, an input-output modeling system that facilitates estimation of direct, indirect, and induced economic effects within user defined impact regions. For the Cheat River, the local impact region was defined as Monongalia and Preston Counties; for the New and Gauley Rivers, the local impact region included Fayette, Nicholas, and Raleigh Counties. Typically, only the expenditures of visitors from outside the defined impact regions are included in economic impact estimates as their spending represents an infusion of outside dollars into the economy. However, no effort was made in this study to exclude the expenditures of resident boaters. Overall, West Virginians comprised 2.8% or fewer of boaters surveyed on the Cheat and Gauley Rivers, respectively, and about 7.5% of boaters surveyed on the New River. Of these West Virginians, less than 1% on each river were residents of the defined local impact regions.

***COMMERCIAL WHITEWATER EXPENDITURES***

Data collected in 1995 from commercial boaters on the Cheat, New, and Gauley Rivers suggest that total direct expenditures associated with rafting these rivers were approximately $49.4 million. Of these total trip expenditures, approximately $43.1 million were made within West Virginia, with $41.3 million of that taking place in local areas surrounding the three rivers. These estimates are considered somewhat conservative in that they included only survey respondents who provided dollar values for the expenditures they made during their trips.

A relatively large proportion of total expenditures made by commercial boaters -- 45% on the Cheat; 39% on the New; 53% on the Gauley -- was in the form of expenses directly related to the rafting trip. These expenses included outfitter fees for rafting and guiding services, clothing and/or equipment, videos and photographs, trip souvenirs, and other unspecified expenses. Average expenditures by individual boaters for these rafting expenses were $87.47 on the Cheat, $96.02 on the New, and $173.91 on the Gauley. Using these average estimates to extrapolate to the commercial boaters on each river, rafting expenses amounted to approximately $0.84 million on the Cheat; $11.6 million on the New; and $9.7 million on the Gauley. The commercial whitewater industry presumably distributes a large fraction of the revenue from fees and purchases of items such as videos and souvenirs into the local communities surrounding these rivers.

Commercial rafting customers spent comparable amounts at restaurants, retail stores, gas stations, motels and hotels, and night clubs and bars in the local area surrounding these rivers. Local spending was defined as expenditures made within 50 miles of the respective rivers, and accounted for an additional 35% to 41% of total direct spending of commercial rafters. Estimates of average local spending by individual boaters were $104.41 on the Cheat River, $151.31 on the New, and $148.00 on the Gauley. Expanded to the total population of commercial boaters on each of these rivers, local spending amounted to approximately $0.73 million on the Cheat; $12.1 million on the New; and $6.4 million on the Gauley.

Commercial boaters traveled an average of 269 to 436 miles one way to raft the Cheat, New, and Gauley Rivers, and came from several states. States most represented by boaters include New York, Ohio, Michigan, Virginia, Pennsylvania, Maryland, and Indiana. West Virginians made up only a small proportion of surveyed boaters: 2.5% on the Cheat; 7.5% on the New; and 2.8% on the Gauley. Data obtained from boaters suggest that they made substantial expenditures while traveling to and from West Virginia. However, most of that spending took place outside the state. In route, boaters reported spending between 8% and 16% of their total trip expenditure outside the borders of West Virginia. Only 3% to 4% of total expenditures occurred in other parts of the state while traveling to and from their rafting destination.

***ECONOMIC IMPACTS OF WHITEWATER RAFTING***

The expenditures reported above were used to estimate the economic impacts of commercial whitewater rafting in terms of effects on local communities and statewide. The infusion of dollars into an economy generates direct, indirect, and induced impacts within various economic sectors. Direct impacts reflect the value of goods and services purchased through initial direct expenditures; indirect impacts reflect the value of secondary purchases by businesses or service providers for operational needs; and induced impacts reflect the economic activity traced through employee earnings and resulting household spending. Total economic impacts simply are the sum of direct, indirect, and induced impacts. Impact measures for which impacts were estimated in this study include total output, personal income, employee compensation, tax revenue, and employment. With exception to employment impacts, which reflect full and part-time jobs created, all impacts are reported in dollars. The estimated sales tax revenue from the IMPLAN model was based on an assumption that some portion of gross income (i.e., employee compensation) is spent on sales taxes. As a result, sales tax estimates from IMPLAN do not include sales taxes collected on direct expenditures reported above. Consequently, the estimated tax revenue reported in the following pages includes the IMPLAN sales tax estimates plus the 6% West Virginia state sales taxes on direct expenditures.

**Local Economic Impacts**

To assess the economic effects of commercial whitewater rafting on local economies, data on the expenditures of commercial boaters within 50 miles of the river they paddled was collected. As indicated earlier, most boaters were nonresidents of West Virginia and likely had little knowledge of local place names or county boundaries. However, in the IMPLAN model counties or states often are used as the most convenient and practical unit to define local impact regions. In this study, the counties surrounding respective study rivers were defined as local impact regions for the estimation of economic impacts. Also, impacts are reported in two formats: (1) unitary impacts per 1,000 commercial user days; and (2) cumulative impacts for the total 1995 population of commercial boaters on each river -- 12,746 on the Cheat; 160,142 on the New; and 65,438 on the Gauley.

On the Cheat River, each 1,000 commercial user days were estimated to generate approximately $160,800 in total output, $61,000 in personal income, $41,700 in employee compensation, $10,000 in tax revenue, and 4.5 jobs within Preston and Monongalia counties ([Table 2](http://www.wvdnr.gov/lenforce/white/rivermgt/ww_econ.shtm#Table 2)). Extrapolated to the entire commercial boater population on the Cheat River in 1995, local economic impacts were estimated at about $2.1 million in goods and services in Preston and Monongalia counties as indicated by the total output impact ([Table 3](http://www.wvdnr.gov/lenforce/white/rivermgt/ww_econ.shtm#Table 3)). Personal income, which includes compensation to employees and the income of proprietors, was estimated at approximately $777,000, while employee compensation alone was $530,000. In terms of employment, an estimated 56.9 full- and part-time jobs were created as a result of the Cheat River rafting industry. Finally, approximately $128,000 in various tax revenue was generated.

Local impacts stemming from commercial whitewater rafting on the New and Gauley Rivers were substantially higher than on the Cheat as a result of larger numbers of users and higher average expenditure levels of those users. Each 1,000 commercial boaters on the New River generated about $187,700 of total output, $73,600 in personal income, $52,800 in employee compensation, $12,100 in taxes, and 4.6 jobs in the local impact region ([Table 2](http://www.wvdnr.gov/lenforce/white/rivermgt/ww_econ.shtm#Table 2)). Expanded to the entire population of 160,142 commercial boaters in 1995, the New River rafting industry generated approximately $30.1 million in total output, $11.8 million in personal income, $8.5 million in employee compensation, $1.9 million in tax revenue, and 736.4 jobs for Fayette, Raleigh, and Nicholas counties of West Virginia ([Table 3](http://www.wvdnr.gov/lenforce/white/rivermgt/ww_econ.shtm#Table 3)).

Because of substantially higher per person spending levels, per 1,000 user economic impacts on the Gauley River are markedly higher than on the Cheat and New Rivers. Each 1,000 commercial users on the Gauley generated an estimated $319,100 in total output, $127,300 of personal income, $87,500 in employee compensation, $20,100 in taxes, and 7.9 local jobs ([Table 2](http://www.wvdnr.gov/lenforce/white/rivermgt/ww_econ.shtm#Table 2)). For the 65,438 commercial boaters on the Gauley River in 1995, these unitary impact estimates translate into local impacts in Fayette, Raleigh, and Nicholas counties of $20.9 million in total output, $8.3 million in personal income, $5.7 million in employee compensation, $1.3 million in taxes, and 513.5 jobs ([Table 3](http://www.wvdnr.gov/lenforce/white/rivermgt/ww_econ.shtm#Table 3)).

**Statewide Economic Impacts**

It was reported earlier that up to 4% of customer expenditures were made outside of local areas surrounding each study river but still within West Virginia. Adding the economic impacts of these additional in-state expenditures to the local spending estimates made it possible to approximate the contribution of each respective river to the state economy. Additionally, by summing across rivers it was possible to estimate the cumulative impact of the commercial whitewater industry on the three rivers on the state economy ([Table 4](http://www.wvdnr.gov/lenforce/white/rivermgt/ww_econ.shtm#Table 4)). Statewide impacts estimated for each study river were only 10% to 13% higher than the local impacts reported above. One reason for this is that a large proportion of boater expenditures were in economic sectors containing businesses providing services (outfitters, restaurants, lodging, etc.) in local areas and along travel routes. These businesses tend to be highly labor intensive and generally contribute to higher induced economic impacts (e.g., household incomes of local labor force). As well, expenditures made in these businesses typically leak out of local economies at relatively low rates.

Based on the cumulative statewide estimates, each 1,000 commercial river users who raft the Cheat, New, or Gauley Rivers generates about $248,700 in total output, $96,000 of personal income, $69,600 in employee compensation, $15,200 in tax revenue, and 6.0 jobs in West Virginia ([Table 4](http://www.wvdnr.gov/lenforce/white/rivermgt/ww_econ.shtm#Table 4)). Expanded to the total number of commercial user days on these three rivers in 1995, total statewide impacts are estimated at $59.3 million in total output, $22.9 million in personal income, $16.6 million in employee compensation, $3.6 million in taxes, and 1,415.8 jobs ([Table 4](http://www.wvdnr.gov/lenforce/white/rivermgt/ww_econ.shtm#Table 4)).

**Multipliers**

Multipliers were calculated for each impact measure as the ratio of total impacts to direct impacts for both local regions and statewide ([Table 5](http://www.wvdnr.gov/lenforce/white/rivermgt/ww_econ.shtm#Table 5)). Impact multipliers are sensitive to the amount and type of visitor expenditures and the structure of the local and state economy. In the present study, local impact multipliers ranged from approximately 1.25 for employment to about 1.6 for employee compensation, and were relatively consistent across rivers ([Table 5](http://www.wvdnr.gov/lenforce/white/rivermgt/ww_econ.shtm#Table 5)). For the monetary impact measures of total output, personal income, and employee compensation multipliers ranged from 1.39 to 1.55.

Cumulative and per river statewide multipliers were slightly higher than local multipliers. Statewide economies are larger, more diverse, and typically experience less leakage than the economies of local regions. Cumulative statewide multipliers ranged from 1.32 for employment to 1.57, 1.46, and 1.59 for total output, personal income, and employee compensation, respectively. The multipliers calculated for the impact estimates reported in this study are consistent with those published by the U.S. Department of Commerce for West Virginia. For example, total output multipliers for West Virginia are expected to range from 1.1 to 2.2 (U.S. Department of Commerce, 1992).

**Comparison to Previous Studies**

The findings reported in this study for boater expenditures and the resulting economic impacts of whitewater rafting appear to be relatively consistent with previous studies. DeHart (1990) estimated total direct spending of approximately 35,000 commercial boaters on the Gauley River in 1989 at over $9 million. It is presumed that these estimates were for local expenditures. Average boater spending in 1989 was estimated at about $300, which included $128 for outfitter fees, $50 for lodging, $37 for meals, $16 for gifts and souvenirs, $11 for other recreation or entertainment, $10 for photographs and videos, and $4 for equipment. In the present study, total local spending, including rafting expenses, of Gauley boaters was approximately $16 million among 65,438 boaters. Also, the magnitude of expenditures in the various categories reported by DeHart (1990) were distributed similarly.

English and Bowker (1996) reported statewide economic impacts from and 1993 study of the Gauley and four other whitewater rivers. On a per 1,000 nonresident boater basis, they estimated total output impacts at $209,500, personal income impacts of $115,000, and employment impacts at 5.14 jobs from commercial rafting on the Gauley River. Extrapolated to the population of nonresident boaters, total statewide impacts in 1993 were about $8.5 million in total output, $4.7 million in personal income, and 271 jobs (English and Bowker, 1996). These impacts are somewhat smaller than estimates reported in this study for at least two reasons. First, it appears that English and Bowker (1996) may have underestimated boater spending within West Virginia. For example, they report total average spending within West Virginia by nonresident boaters of $148.74, with average in-state spending for activities -- including outfitter fees -- of only $73.40. These are substantially lower that average spending estimates reported in this study and by DeHart (1990). Second, English and Bowker (1996) appear also to have underestimated the proportion of nonresident boaters on the Gauley River. In their study, they estimated 80% of boaters on the Gauley were from outside West Virginia. However, this and other studies (e.g., USDI 1993) indicate that the nonresident proportion of commercial boaters to be greater than 95%.

McClung (1996) reported on the economic impacts of business and tourism travel in West Virginia in 1995. Overall statewide economic impacts of tourism related travel were estimated at about $2.3 billion in total output, 42,000 jobs, and $799 million in payroll (employee compensation). Based on the estimated economic impacts generated by commercial whitewater rafting on the Cheat, New, and Gauley Rivers, it appears that the rafting industry accounts for approximately 2.6% of the total economic output from tourism, 3.4% of tourism related employment, and 2.1% of the payroll or employee compensation from the tourism industry.

**Accuracy of Impact Estimates**

The estimates of commercial boater expenditures and corresponding economic impacts reported herein are considered somewhat conservative. As noted in the introduction, only boaters who provided dollar values for their expenditures were used to calculate average and total direct spending estimates, which in turn were used to estimate local and statewide economic impacts. The total expenditures of commercial boaters may have been underestimated by excluding those who reported spending money but failed to provide dollar values, and those for whom data were missing. For example, including boaters who provided no dollar values for their expenditures alone would have increased total expenditure estimates by 9.4% on the Cheat River, 18.7% on the New River, and 3.0% on the Gauley River, assuming they spent the average of boaters who provided dollar values. The local and statewide economic impacts of these rivers also would have increased proportionally.

Also excluded from the expenditure and impact estimates reported in this study are boaters who rafted the Tygart and Shenandoah Rivers. Commercial rafting on the Tygart occurs at relatively low levels (e.g., less than 500 visitors annually) and likely contributes little to the local and statewide economies. On the other hand, approximately 19,000 people raft the Shenandoah River annually. However, the Shenandoah is located at the junction of West Virginia, Virginia, and Maryland and is in very close proximity to major metropolitan areas such as Washington DC and Baltimore. As a result this river serves a market of mostly single-day visitors who make a large proportion of their expenditures outside of West Virginia. Also, outfitter fees for a rafting trip on the Shenandoah River at the time of this study were approximately $40 to $45 per person.

***REFERENCES***

DeHart, J. (1989). Spending behavior of whitewater recreationists, Gauley River, West Virginia. Unpublished report.

English, D. B. K., and J. M. Bowker. (1996). Economic impacts of guided whitewater rafting: A study of five rivers. Water Resources Bulletin 32(6): 1319-28.

McClung, G. W. (1996). West Virginia Travel Economic Impact 1995. Report to the WV Division of Tourism.

U. S. Department of Commerce. (1992). Regional Multipliers: A User Handbook for the Regional Input-Output Modeling System (RIMS II). Washington, D.C.: U.S. Dept. of Commerce, Bureau of Economic Analysis.

U. S. Department of the Interior. (1993). Draft General Management Plan/Environmental Impact Statement/Land Protection Plan for the Gauley River National Recreation Area. Denver, CO: U. S. National Park Service, Denver Service Center.

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| **Table 1. Characteristics of commercial boaters on the Cheat, New, and Gauley Rivers, 1995** | | | | |
| Variable | Categories | Cheat River | New River | Gauley River |
| **Gender** | Male | 51% | 54% | 73% |
| Female | 35% | 37% | 23% |
| Missing | 14% | 9% | 4% |
| **Age** | Less than 20 | 16% | 30% | 10% |
| 20 to 29 | 42% | 33% | 34% |
| 30 to 39 | 27% | 19% | 35% |
| 40 to 49 | 11% | 13% | 17% |
| 50 to 59 | 4% | 4% | 3% |
| 60 to 69 | 1% | 1% | 1% |
| 70 or More | 0% | <1% | 0% |
| **Income**  **Level** | Less than $10,000 | 4% | 6% | 3% |
| $10,000 to $19,999 | 5% | 5% | 4% |
| $20,000 to $29,999 | 10% | 7% | 14% |
| $30,000 to $39,000 | 14% | 12% | 16% |
| $40,000 to $49,000 | 12% | 11% | 13% |
| $50,000 to $74,999 | 21% | 17% | 15% |
| $75,000 to $99,999 | 7% | 9% | 11% |
| $100,000 to $149,999 | 6% | 7% | 7% |
| $150,000 or More | 3% | 6% | 9% |
| Missing | 19% | 19% | 8% |
| **Household**  **Size** | One Individual | 23% | 15% | 30% |
| Two People | 25% | 21% | 28% |
| Three People | 13% | 14% | 15% |
| Four People | 14% | 22% | 12% |
| More than Four People | 8% | 18% | 10% |
| Missing | 16% | 12% | 5% |
| **Education**  **Level** | Some High School | 2% | 12% | 2% |
| High School Graduate | 11% | 14% | 12% |
| Vocational/Technical | 4% | 3% | 8% |
| Some College | 14% | 17% | 14% |
| College Graduate | 36% | 28% | 43% |
| Graduate Study | 20% | 15% | 18% |
| Missing | 14% | 12% | 3% |

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| **Table 2. Summary of local and statewide economic impacts per 1,000 commercial boaters**   **(thousands of 1995 dollars and number of jobs)** | | | | | | | | |
| **Economic Sector** |  | **Cheat River** | | **New River** | | **Gauley River** | | **Cumulative Statewid**e |
|  | **Local** | **Statewide** | **Local** | **Statewide** | **Local** | **Statewide** |
| **Total Output** | Direct | 108.3 | 112.6 | 127.2 | 134.8 | 216.6 | 225.3 | 158.4 |
|  | Indirect | 20.7 | 24.3 | 23.4 | 29.7 | 38.3 | 47.5 | 34.3 |
|  | Induced | 31.8 | 39.7 | 37.1 | 47.4 | 64.2 | 80.1 | 56.0 |
|  | Total | 160.8 | 176.6 | 187.7 | 211.9 | 319.1 | 352.9 | 248.7 |
| **Personal Income** | Direct | 43.6 | 46.5 | 52.6 | 55.4 | 91.8 | 94.6 | 65.7 |
|  | Indirect | 6.3 | 7.6 | 7.4 | 9.2 | 11.9 | 14.7 | 10.7 |
|  | Induced | 11.1 | 14.0 | 13.6 | 16.7 | 23.6 | 28.2 | 19.7 |
|  | Total | 61.0 | 68.1 | 73.6 | 81.3 | 127.3 | 137.5 | 96.0 |
| **Employee Compensation** | Direct | 26.8 | 30.9 | 34.9 | 37.9 | 57.2 | 60.5 | 43.7 |
|  | Indirect | 5.3 | 6.4 | 6.2 | 7.7 | 10.0 | 12.3 | 8.9 |
|  | Induced | 9.6 | 12.1 | 11.7 | 14.4 | 20.3 | 24.4 | 17.0 |
|  | Total | 41.7 | 49.4 | 52.8 | 60.0 | 87.5 | 97.2 | 69.6 |
| **Tax Revenue** | Sales | 8.5 | 9.0 | 10.2 | 10.8 | 16.9 | 17.8 | 12.7 |
|  | Personal Income | 0.9 | 1.1 | 1.2 | 1.4 | 2.0 | 2.2 | 1.6 |
|  | Corp. Net Income and Franchise | 0.6 | 0.6 | 0.7 | 0.8 | 1.2 | 1.3 | 0.9 |
|  | Total | 10.0 | 10.7 | 12.1 | 13.0 | 20.1 | 21.3 | 15.2 |
| **Employment** | Direct | 3.6 | 3.2 | 3.6 | 3.8 | 6.1 | 6.4 | 4.5 |
|  | Indirect | 0.3 | 0.4 | 0.4 | 0.4 | 0.6 | 0.7 | 0.5 |
|  | Induced | 0.6 | 0.6 | 0.7 | 0.8 | 1.2 | 1.4 | 1.0 |
|  | Total | 4.5 | 4.2 | 4.6 | 5.0 | 7.9 | 8.5 | 6.0 |

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| **Table 3. Summary of local economic impacts by study river (thousands of 1995 dollars and number of jobs)** | | | | |
| **Economic Sector** |  | **Cheat River** | **New River** | **Gauley River** |
| **Local Impact Region (Counties)** |  | **Preston and Monongalia** | **Fayette, Raleigh, and Nicholas** | **Fayette, Raleigh, and Nicholas** |
| **Total Output** | Direct | 1,380 | 20,370 | 14,173 |
| Indirect | 264 | 3,752 | 2,509 |
| Induced | 405 | 5,942 | 4,200 |
| Total | 2,049 | 30,064 | 20,882 |
| **Personal Income** | Direct | 556 | 8,422 | 6,010 |
| Indirect | 80 | 1,184 | 780 |
| Induced | 141 | 2,184 | 1,544 |
| Total | 777 | 11,790 | 8,334 |
| **Employee**    **Compensation** | Direct | 342 | 5,585 | 3,743 |
| Indirect | 67 | 991 | 652 |
| Induced | 122 | 1,878 | 1,327 |
| Total | 530 | 8,454 | 5,723 |
| **Tax Revenue** | Sales | 109 | 1,636 | 1,108 |
| Personal Income | 12 | 193 | 131 |
| Corp. Net Income and Franchise | 7 | 108 | 76 |
| Total | 128 | 1,937 | 1,315 |
| **Employment (Jobs)** | Direct | 45.6 | 571.2 | 399 |
| Indirect | 3.9 | 55.5 | 37 |
| Induced | 7.4 | 109.7 | 77.5 |
| Total | 56.9 | 736.4 | 513.5 |

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| **Table 4. Summary of statewide economic impacts by study river (thousands of 1995 dollars and number of jobs)** | | | | | |
| **Economic Sector** |  | **Cheat River** | **New River** | **Gauley River** | **Cumulative Statewide Impact** |
| **Total Output** | Direct | 1,435 | 21,581 | 14,746 | 37,762 |
| Indirect | 310 | 4,755 | 3,106 | 8,172 |
| Induced | 506 | 7,588 | 5,243 | 13,336 |
| Total | 2,251 | 33,924 | 23,095 | 59,270 |
| **Personal Income** | Direct | 593 | 8,871 | 6,190 | 15,654 |
| Indirect | 97 | 1,480 | 962 | 2,539 |
| Induced | 178 | 2,668 | 1,844 | 4,690 |
| Total | 868 | 13,019 | 8,996 | 22,883 |
| **Employee Compensation** | Direct | 394 | 6,068 | 3,961 | 10,423 |
| Indirect | 81 | 1,238 | 804 | 2,122 |
| Induced | 154 | 2,312 | 1,597 | 4,063 |
| Total | 629 | 9,617 | 6,362 | 16,608 |
| **Tax Revenue** | Sales | 114 | 1,739 | 1,162 | 3,015 |
| Personal Income | 14 | 220 | 145 | 379 |
| Corp. Net Income and Franchise | 8 | 120 | 83 | 210 |
| Total | 136 | 2,079 | 1,390 | 3,604 |
| **Employment (Jobs)** | Direct | 40.4 | 606.8 | 421.8 | 1,069.0 |
| Indirect | 4.4 | 67.7 | 44.5 | 116.7 |
| Induced | 8.7 | 130.9 | 90.4 | 230.1 |
| Total | 53.5 | 805.4 | 556.7 | 1,415.8 |

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| **Table 5. Type III multipliers (Total Impacts / Direct Impacts)** | | | | | | | |
| **Economic Sector** | **Cheat River** | | **New River** | | **Gauley River** | | **Cumulative Statewide** |
| **Local** | **Statewide** | **Local** | **Statewide** | **Local** | **Statewide** |
| **Total Output** | 1.48 | 1.57 | 1.48 | 1.57 | 1.47 | 1.57 | 1.57 |
| **Personal Income** | 1.40 | 1.46 | 1.40 | 1.47 | 1.39 | 1.45 | 1.46 |
| **Employee Compensation** | 1.55 | 1.60 | 1.51 | 1.58 | 1.53 | 1.61 | 1.59 |
| **Employment** | 1.25 | 1.32 | 1.29 | 1.33 | 1.29 | 1.33 | 1.32 |