

The Economic Impact of the Proposed Chattahoochee Valley Blueway Project

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Prepared by

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for

The Trust for Public Land

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Executive Summary

The Trust for Public Land is proposing the creation of a Blueway, or paddling trail, along the Chattahoochee River. The proposed Chattahoochee Valley Blueway (the Blueway) will highlight the river as the center of a recreation and natural resource program as well as a stimulus for eco-tourism and economic development in the Chattahoochee Valley region extending from West Point, Georgia to Phenix City, Alabama and Columbus, Georgia. The purpose of this study is to provide an objective estimate of the economic impacts that the region would experience as a result of the creation of the proposed Blueway.

An online survey was used to estimate expenditures and potential visits by users over a four-year market development period. As a result of marketing efforts, the customer base is expected to expand from a 23-county region closest to the Blueway in year one to a 6-hour drive time region in year four. The impact on economic output, the number of jobs, and personal income resulting from paddlesport expenditures was then estimated for the core 8-county region. This core group of counties includes Chambers, Lee, Randolph and Russell in Alabama and Harris, Heard, Muscogee, and Troup in Georgia. Impacts were presented for three expenditure scenarios; medium, low, and high. Throughout the analysis, care was taken not to overstate the claims of potential Blueway visitors and their associated expenditures. Consequently, the economic impact results presented here are most likely conservative estimates of the true impacts.

The estimated number of paddling trips and total economic impacts based upon the medium expenditure level are presented below. The total impacts shown are the result of direct, indirect, and induced effects.

Total Estimated Blueway Usage and Yearly Economic Impacts Based on the Medium Expenditure Level

	Year 1	Year 2	Year 3	Year 4
Number of Outings	7,331	12,866	16,305	18,636
Changes in Output	\$1,738,093	\$2,719,848	\$3,127,050	\$3,265,930
Changes in Employment	28.8	45.2	51.9	54.2
Changes in Personal Income	\$619,106	\$968,990	\$1,114,070	\$1,163,538

We estimated that the project will increase total economic output in the region by \$1.7 million in year 1 and by over \$3.2 million by year 4. The project is expected to support over 54 jobs annually in the region after the market has been developed. These impacts are expected to be recurring each year.

By year four, approximately 3 jobs would be created for every 1,000 paddlesport visits to the Blueway. Other studies regarding the impact of river recreation and paddlesports have found between 0.6 and 7.5 jobs created per 1,000 visitors. Thus, our results lie near the average.

We also estimated the one-time economic impact of the proposed \$1.34 million in construction and related expenditures related to the Blueway. These expenditures are expected to result in a short-term increase in economic output of nearly \$2.0 million, 15 additional jobs, and an increase of \$670,000 in personal income.

The creation of the Blueway provides a unique opportunity for local communities to develop and host festivals and special events. Festivals contribute to the cultural and economic development of a community and have a major impact on the development of tourism in host communities. A host community can create its own branded image through the use of festivals with specific themes. Festivals using the Blueway as a central theme can focus an enormous amount of attention on the community in a short period of time and can create an exceptionally positive community image.

The cities of West Point, Georgia, and Valley, Alabama view the proposed Blueway as a centerpiece of their redevelopment plans to revive their respective riverfronts. Plans for festivals at West Point's Riverfront Park and Valley's former textile mills are currently in their formative stages. Since these communities are located in close proximity to one another, a festival in one community will have spillover effects in the neighboring community. In order to account for these spillover effects, we examined the economic impact of a single festival on the two-county region which encompasses both communities (Chambers County, Alabama and Troup County, Georgia). The festival analyzed is a two-day festival attended by 150 paddlers and 300 non-paddling visitors. The results are presented below.

Impact of a Two-Day Festival on the Economies of Chambers and Troup Counties

	Total Economic Impact
Employment	2.6
Labor Income	\$37,749
Output	\$122,543

We estimate that the visitor expenditures associated with a two-day festival in the two-county region will support 2.6 jobs annually or, equivalently, 10.4 jobs during the summer months. The festival will result in a total economic output of over \$122,000 and a recurring addition to personal incomes of nearly \$37,750.

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Introduction

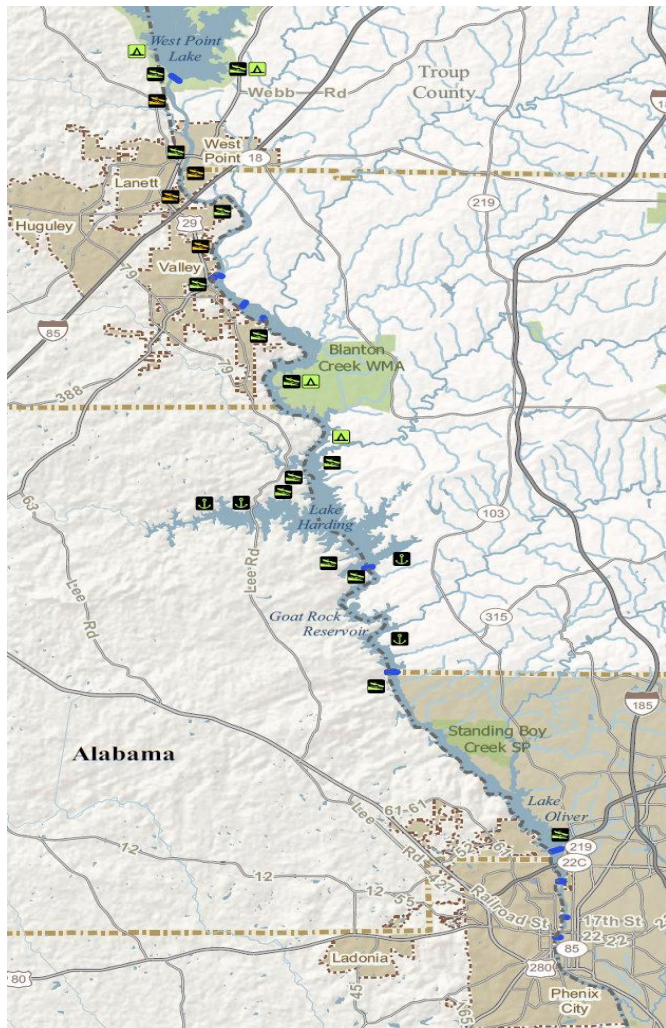
The Trust for Public Land is proposing the creation of a Blueway, or paddling trail, along the Chattahoochee River. The proposed Chattahoochee Valley Blueway (the Blueway) will highlight the river as the center of a recreation and natural resource program as well as a stimulus for eco-tourism and economic development in the Chattahoochee Valley region extending from West Point, Georgia to Phenix City, Alabama and Columbus, Georgia. The purpose of this study is to provide an objective estimate of the economic impacts that the region would experience as a result of the creation of the proposed Blueway.

The Blueway will highlight the Chattahoochee River as the centerpiece of a paddling trail that starts at West Point Dam and continues southward roughly 50 river miles through Lakes Harding, Goat Rock, Oliver and Highland and finish 50 miles downstream in Columbus, Georgia. An estimated 8-10 identified canoe/kayak launch locations would be scattered over the upstream section that precedes the recreational lakes, and would be designated access points that would be surrounded by parks, greenspaces, camping and fishing sites and other amenities along the river. Construction of easily accessible portages around the existing dams will act to create one long continuous 'blue thread' of a recreational paddling and recreation trail from West Point Dam and the three cities of Valley (AL), Lanett (AL), and West Point (GA) in the north and funneling southward to the whitewater paddling course in Columbus. Figure 1 illustrates the route of the Blueway and includes both the existing and the proposed facilities and access points.

In total the Blueway would create a series of 'blue' and 'green' infrastructure that would enhance outdoor recreation opportunities which is expected to attract outdoor enthusiasts and stimulate economic development in the region. The purpose of this study is to quantify these impacts.

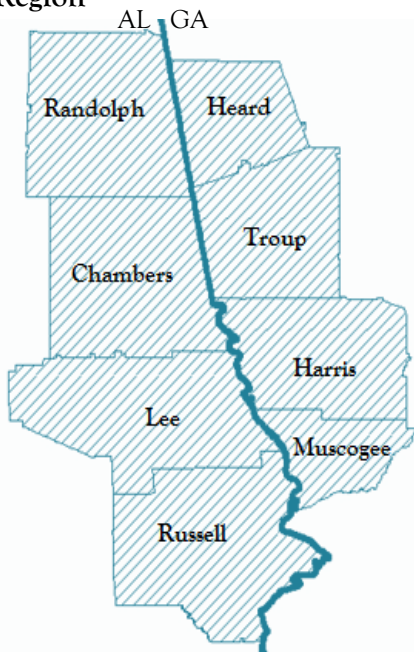
The economic impact analysis presented here quantifies changes in local economic activity as a result of the proposed project.

Figure 1. Chattahoochee Valley Blueway.
(Existing Facilities in Green, Proposed in Gold)



Our first step in this process is to define the geographic region that will experience the economic changes. We assume that the most likely affected region is the 8-county region in the immediate vicinity of the proposed Blueway; Randolph, Chambers, Lee, and Russell counties in Alabama, and Heard, Troup, Harris, and Muscogee counties in Georgia. Figure 2 provides a map of the affected counties.

Figure 2. Eight-County Economic Region



In addition to the affected economic region, we must define a geographic region that represents the customer base for the Blueway. We assume that the customer base will be developed over a span of four years. In the first year we expect the most likely users of the Blueway to be drawn from the 23 counties in Georgia and Alabama that are closest in proximity to the proposed project. Figure 3 illustrates both the 23-county customer base and the core 8-county economic region. In subsequent years, as a result of the marketing efforts of the Convention and Visitors Bureaus and Chambers of Commerce in the affected region, we expect the customer base to expand outward to include counties within a two-, four-, and six-hour drive time in years two, three, and four, respectively. These regions are presented in Figure 4.

Having defined the relevant regions of interest, the next step is to collect data regarding current expenditure patterns and create estimates of the likely number of trips to the completed Blueway. Expenditure and demographic data is collected using an online survey and is described in the next section.

A description of how we estimate potential trips to the Blueway is provided in the methodology section. Following this we detail how we combine the estimated number of trips with the expenditure profiles of paddlers in order to estimate the economic impact in terms of output, labor income, and number of jobs in the 8-county economic region. In the final section we compare our results to those of other economic impact studies of paddlesport recreation. Throughout the analysis, care was taken not to overstate the claims of potential Blueway visitors and their associated expenditures. Consequently, the economic impact results presented here are most likely conservative estimates of the true impacts.

Figure 3. 23-County Customer Region and 8-County Economic Region

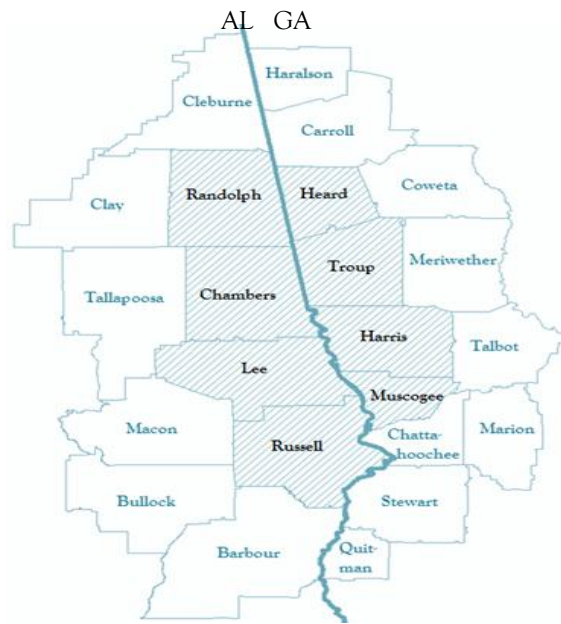
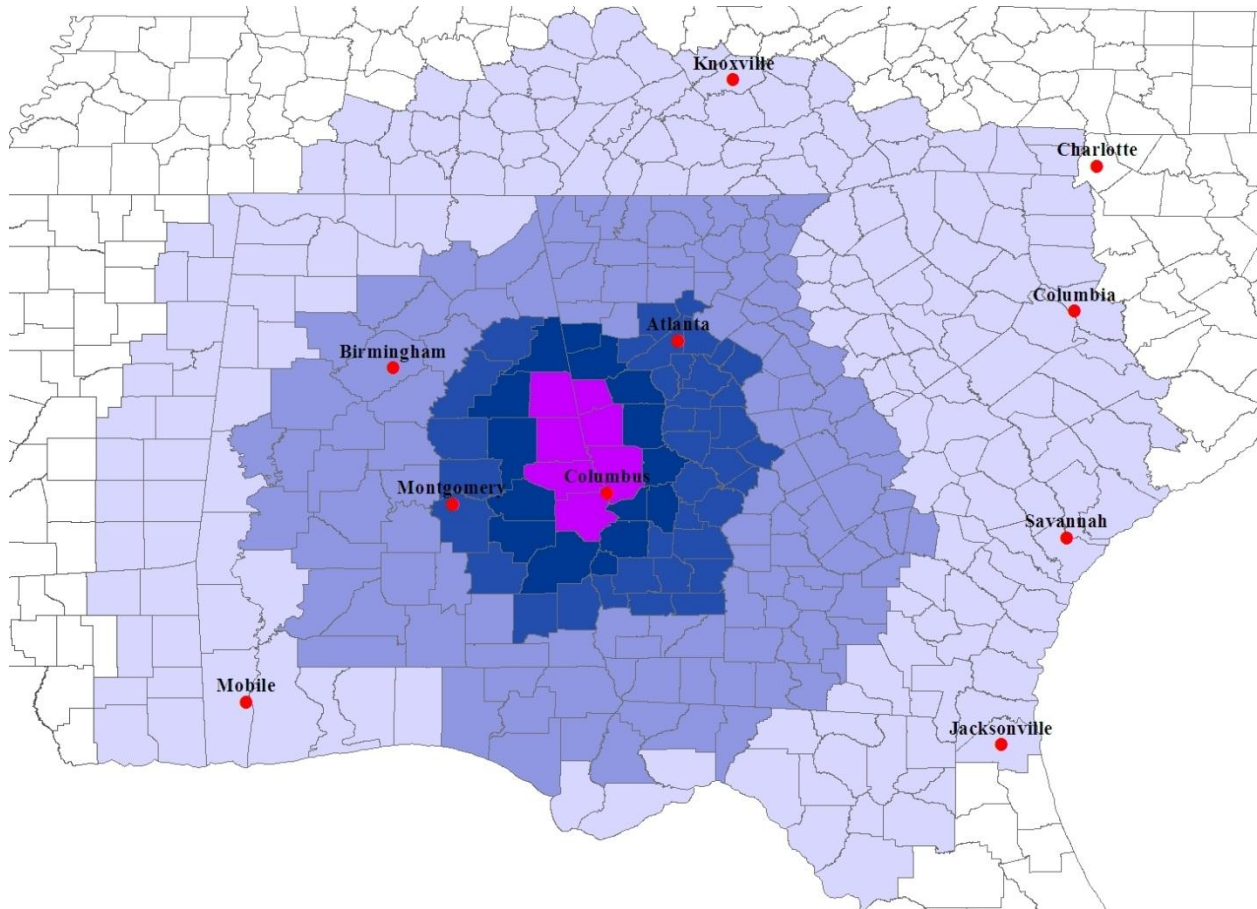


Figure 4. Market Regions for the Proposed Chattahoochee Valley Blueway



Region	Year Included in Customer Base
8-County Core Economic Region	Year 1
23-County Region	Year 1
2-hour Drive Time	Year 2
4-hour Drive Time	Year 3
6-hour Drive Time	Year 4

Description of the Data

Initially data was to be collected using both an in-person survey and an online survey instrument. However, this was complicated by the fact that existing access to paddling along the proposed Blueway route is limited and thus actual users of the route are difficult to find and survey in person. After numerous attempts at the in-person survey, we decided to focus on the online survey method.

In order to attract as many respondents as possible, fliers detailing the survey website were left on cars at boat ramps along the proposed Blueway route and at local retail outlets catering to paddlers and outdoor enthusiasts. However, the most productive way to attract knowledgeable respondents was to tap into the network of paddling clubs, river conservation organizations, and other recreation bulletin boards. Table A1 in Appendix 1 provides a list of the organizations that were contacted regarding the survey, many of whom posted a link to the survey on their website, mentioned the survey in their newsletters, or emailed their membership with the survey web address.

The survey was opened to the public on April 30, 2012 and data was collected as of June 4, 2012. A total of 122 respondents provided either partial or complete data. Data was collected regarding demographics, paddlesport activities and expenditures.¹ Table 1 below provides a demographic profile of the survey respondents.

Most of the respondents were male (75%) and over half were between ages 35-54. Respondents were overwhelmingly white (90%) and well-educated with 76% having at least a college education. Sixty percent of households reported incomes less than \$75,000.²

Table 2 describes the most popular recreation activities of the survey respondents. Respondents could indicate multiple activities. Kayaking was the most popular activity³ (81%) followed by camping (68%), hiking (67%). The other major forms of paddlesport, canoeing (53%) and rafting (23%), also ranked in the top ten. These results can be used to aid in the design of recreational facilities along the Blueway that would be the most popular among paddlers. For example, building campsites with hiking and cycling trails at the river access points might provide a bundle of recreation opportunities that would be highly valued by paddlers.

¹ A print copy of the online survey is provided in Appendix 2. Unfortunately, the print version does not clearly indicate the survey logic that directs respondents to various questions based upon their specific responses.

² This survey population is surprisingly similar to those paddlers surveyed as part of the 2008 Paddling Tourism Study in North Carolina (Beedle, 2008). In that study, 64.5% were male, 25.3% between the ages of 41 and 50, and 25.5% had incomes between \$50,000 and \$75,000.

³ This is supported by recent research by the Outdoor Foundation (2010) that found kayaking to be increasing in popularity while canoeing is declining. Avant, Siderelis and Thigpen (2000) also find that canoeing participation rates had dropped by 13.7% from 1994. However, a 2011 study by the Georgia River Network found canoe participation to outpace both forms of kayaking (Edmonds, 2011).

Table 1. Demographics of Survey Respondents

		Number	Percentage
Sex	Male	96	79%
	Female	25	21%
Age	18 - 24	8	8%
	25 - 34	13	13%
	35 - 44	25	24%
	45 - 54	26	25%
	55 - 64	18	17%
	65 and over	13	13%
Race / Ethnicity	White	106	90%
	Black or African American	3	3%
	Hispanic	1	1%
	Multiracial	5	4%
	Other	3	3%
Highest Education Level Completed	High School	6	5%
	Some College	35	30%
	College	41	35%
	Graduate School	35	30%
Household Income	Less than \$25,000	3	3%
	\$25,001 - \$50,000	28	24%
	\$50,001 - \$75,000	29	25%
	\$75,001 - \$100,000	20	17%
	\$100,001 - \$150,000	20	17%
	\$150,001 - \$200,000	8	7%
	Over \$200,000	8	7%

Table 2. Top Ten Recreational Activities of Survey Respondents

Activity	Number	Percentage
Kayaking	97	81%
Camping	81	68%
Hiking	80	67%
Swimming	69	58%
Fishing	66	55%
Canoeing	64	53%
Cycling	51	43%
Birdwatching	31	26%
Motorboating	28	23%
Rafting	27	23%

While Table 2 indicates that kayaking was the most popular recreational activity among the survey respondents, the table below indicates an important distinction among the type of kayaking. When asked about their most frequent paddlesport activity, 44% indicated flatwater kayaking, 35% indicated whitewater kayaking, and 20% indicated canoeing.

Table 3. Most Frequent Paddlesport Activity

Paddlesport	Number	Percentage
Flatwater Kayaking	51	44%
Whitewater Kayaking	40	35%
Canoeing	23	20%

Tables 2 and 3 indicate that kayaking, both whitewater and flatwater forms, are more popular than canoeing. This is an important finding that should help to guide construction of the access points along the Blueway. Access points and portages should be both kayak and canoe friendly.

The next table describes the frequency of paddling outings in general, those along the Chattahoochee River, and those along the proposed Blueway route.

Table 4. Paddlesport Participation in the Last 12 Months

Total Number of Outings	Number	Percentage
1 - 5	12	11%
6 - 10	16	14%
11 - 15	12	11%
16 - 20	11	10%
More than 20	61	53%
Number of Outings on the Chattahoochee River or its Tributaries	Number	Percentage
0	15	12%
1 - 5	40	33%
6 - 10	27	24%
11 - 15	5	5%
16 - 20	3	3%
More than 20	27	23%
Number of Outings on the Chattahoochee River Between West Point Dam and Columbus, Georgia	Number	Percentage
0	67	58%
1 - 5	19	17%
6 - 10	12	11%
11 - 15	2	2%
16 - 20	1	1%
More than 20	13	12%

Economic Impact of the Chattahoochee Valley Blueway

The table's entries indicate that respondents are very active participants in paddlesport activities with more than 50% of them having more than 20 outings in the past 12 months. They are also familiar with the Chattahoochee River; almost 90% had at least one outing on the Chattahoochee and over one-quarter of respondents had more than 16 outings on the Chattahoochee.

Respondents were less familiar with the portion of the river that encompasses the proposed Blueway. Less than half of respondents had an outing on this portion of the river in the past year. Only 12% of respondents were very active, indicating more than 20 outings in the past year, along the proposed Blueway route.

In order to gain insights into a typical paddlesport outing by survey respondents, they were asked questions regarding the average number of days per outing and the average number of hours on the water per day. These results are presented in the two figures below.

Figure 5. Average Number of Days Per Paddlesport Outing.

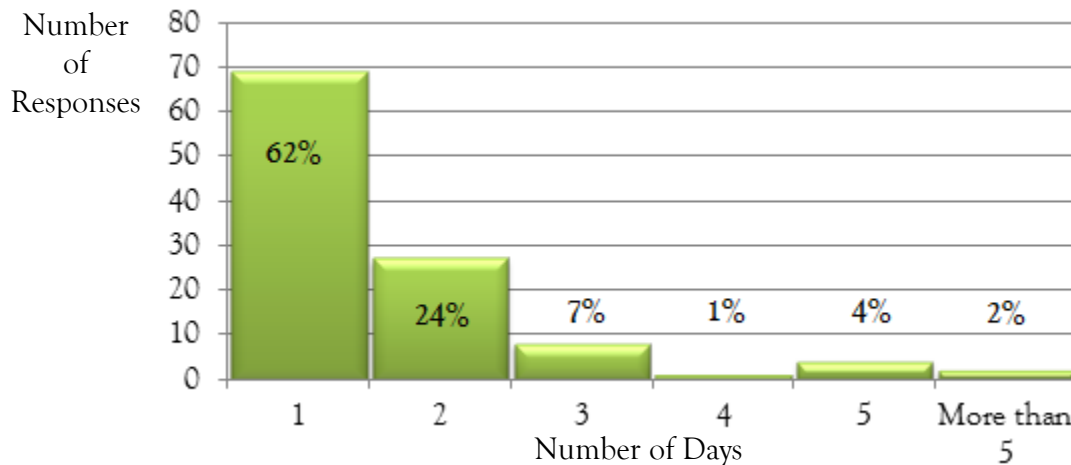
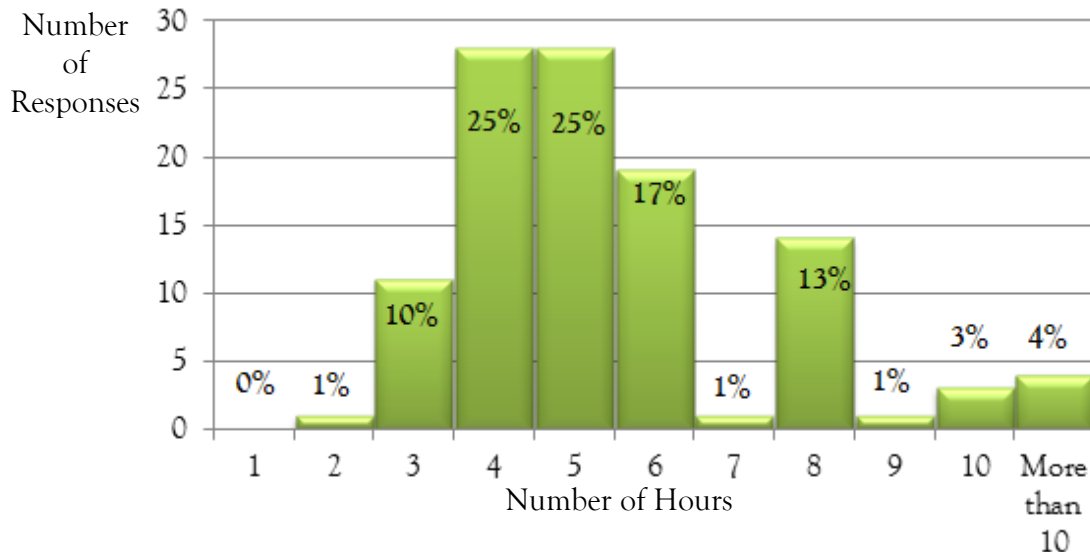


Figure 6. Average Number of Hours Per Day Per Paddlesport Outing.



Economic Impact of the Chattahoochee Valley Blueway

Most respondents (62%) indicate that their average outing lasts a single day. Only 16% of respondents indicate that their average outing lasts longer than two days. 50% of respondents indicate that they spend an average of 4 or 5 hours on the water per day. 21% of respondents spend over 7 hours on the water per day.

In order to estimate the economic impact of the proposed Blueway, the survey included questions regarding their expenditure patterns on an average paddlesport outing. These results are presented in Table 5.

The majority of respondents (65) indicate that they spend less than \$50 on transportation per outing. Most spend nothing on rental equipment or guided trip fees. All spend at least something on food. Over half spend something on other leisure or recreation activities per paddlesport outing. These expenditures are described in great detail in the next section where we discuss our methodology.

Finally, the survey included questions regarding the proposed Blueway. Tables 6 and 7 describe the respondent's familiarity with the proposed Blueway project and their potential usage of the Blueway if completed.

Over half of respondents were not at all familiar with the project; only 7% were very familiar. However, even though they may not have been informed regarding the project at the beginning of the survey, an overwhelming majority of respondents indicated that they would use the Blueway once completed. 47% indicated that they would make 4 or more outings per year on the Blueway if completed.

For those respondents who indicated paddling experience along the proposed Blueway route between West Point Dam and Columbus, we asked them to indicate on a map where they would most like to see an additional access point. The result was the map in Figure 7. The colors indicate the number of times the location was designated; ranging from blue to yellow to red as the number increases. The most popular locations are in or near Columbus. Other popular locations are in West Point, GA and Valley, AL.

At the end of the survey, respondents were asked to leave any other comments they had regarding the survey or the proposed Blueway. These responses are presented in Table A2 in Appendix 1.

Table 5. Average Expenditure Amounts per Paddlesport Outing by Category of Expenditure (Number of Responses).

Expenditure Category	\$0	\$1 - \$50	\$50 - \$100	\$101 - \$150	\$151 - \$200	\$201 - \$250	Over \$251
Transportation/Gas	1	65	31	9	1	0	3
Lodging	51	33	13	2	2	2	3
Rental Equipment/Guided Trip fees	82	10	3	2	0	0	2
Purchased Paddling Gear	40	32	10	4	2	2	11
Food	0	81	15	8	2	0	3
Other Leisure or Recreation Activities	34	47	8	4	2	2	2
Other Retail	38	48	5	3	2	2	2
Other	42	23	7	1	2	0	2

Table 6. Familiarity with the Proposed Chattahoochee Valley Blueway Project

	Number	Percentage
Not at All Familiar	62	54%
Somewhat Familiar	45	39%
Very Familiar	8	7%

Table 7. Potential Usage of the Proposed Chattahoochee Valley Blueway Project

		Number	Percentage
If the Blueway were completed, would you be more likely to paddle along this portion of the Chattahoochee River?	Yes	96	84%
	No	6	5%
	Maybe	12	11%
If the Blueway were completed, how many additional trips per year would you make to this portion of the river?	0	6	5%
	1	17	15%
	2	23	20%
	3	14	12%
	4 or More	54	47%

Methodology

The main purpose of this study is to estimate the economic impact that would be generated in the local region if the Blueway were constructed. One of the key components in the estimation of the economic impact is the expenditures that Blueway users make related to their paddling outings. However, since the Blueway has not yet been constructed we have to infer the expenditures of potential users using survey methods. We next briefly describe our methodology and then follow with a much more detailed explanation.

Estimating total potential expenditures arising from the construction of the Blueway involves several steps. First, using questions on the survey we construct an expenditure profile per trip for paddlers most likely to paddle along the proposed Blueway route. We find that expenditures vary significantly with age. As a result, we create separate expenditure profiles for six different age groups; 18-24, 25-34, 35-44, 45-54, 55-64, and over age 65. Additionally, for each age group, we create a high, medium, and low per-trip expenditure profile. This allows us to provide ranges for the economic impact estimates rather than providing a single value.

Once we have the per-trip expenditure profiles for each of the age groups, the next step is to estimate the potential number of trips by paddlers in each age group. To do this, we first need to define the potential geographic market area. We assume that the customer base will be developed over a span of four years. In the first year we expect the most likely users of the Blueway to be drawn from the 23 counties in Georgia and Alabama that are closest in proximity to the proposed project. In subsequent years, as a result of the marketing efforts of the Convention and Visitors Bureaus and Chambers of Commerce in the affected region, we expect the customer base to expand outward to include counties within a two-, four-, and six-hour drive time in years two, three, and four, respectively.

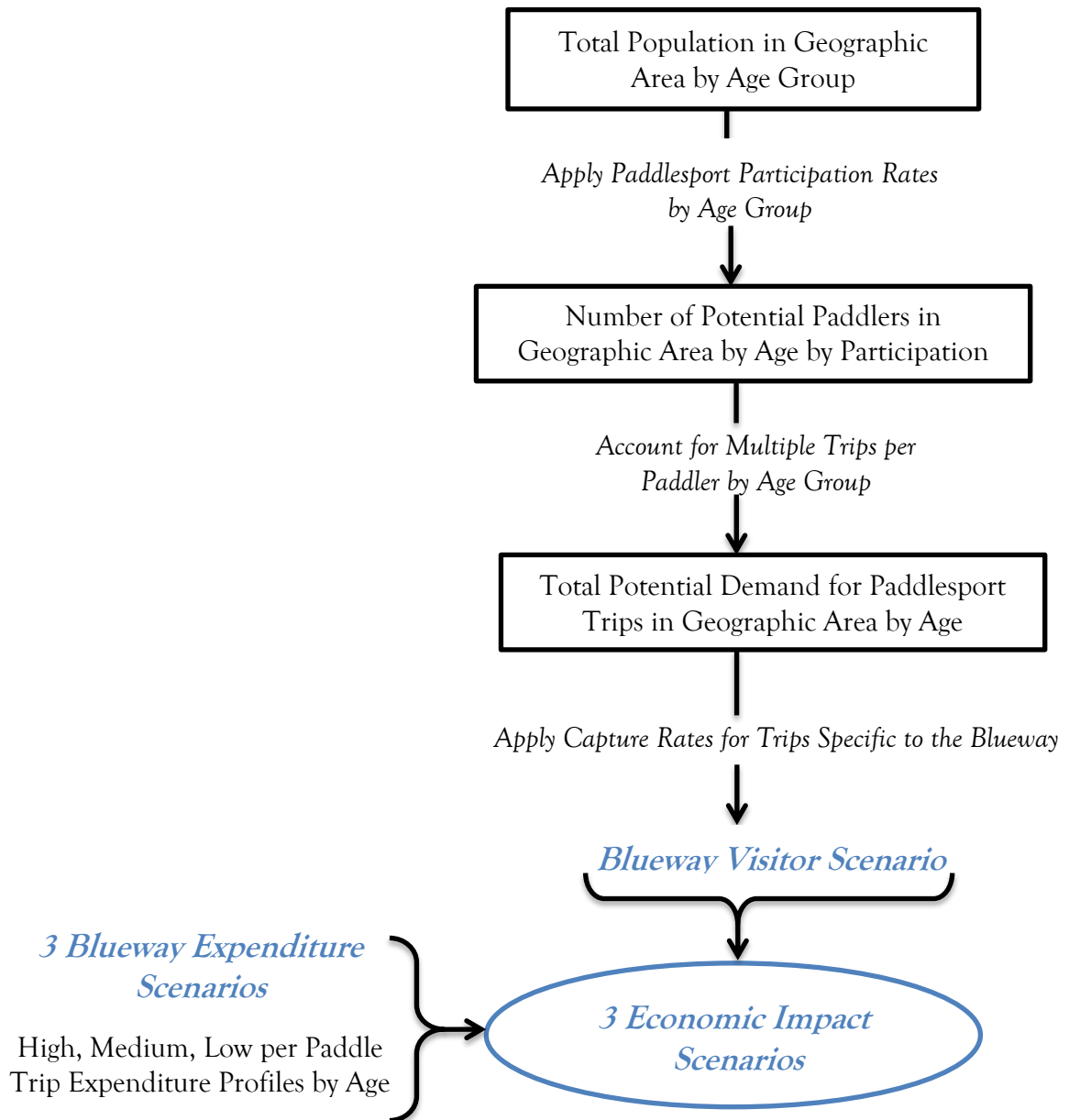
Given the geographic region, we determine the total population within each age group using data from the 2010 Census. We then estimate the number of potential *paddlers* in each age group by applying paddlesport participation percentages from previous paddling studies. Since these participation rates vary from study to study, we apply participation rates for each age group corresponding to the average of the lowest and highest reported rates. Finally, since multiple paddling trips per paddler are quite common, we apply data collected in our survey to create a total number of potential *paddling trips* per age group.

Following the above steps allows us to estimate the total potential demand for paddling trips by individuals in the proposed area of study each year. Even though the proposed Blueway promises to create a unique paddling experience, it will compete with other paddling venues for market share. As the market expands outward, competition from other venues will increase. In order to incorporate this competition in our model, we assume that the Blueway will capture only a portion of the entire market and that this portion will decrease as the market expands geographically.

Based on our capture rate assumptions, we estimate that once the customer base has been fully developed to include the 6-hour drive time region, slightly over 18,000 paddling trips will be made to the Blueway each year.

Figure 8 illustrates the general methodology that was used to estimate the Blueway's customer base and associated expenditures that will be used as inputs to our economic impact analysis.

Figure 8. Methodology Flowchart.



Care was taken to create a set of expenditure and visitor data from the survey that applied specifically to potential Blueway use instead of paddling in general. Below we describe our methodology and assumptions in greater detail.

In order to focus on the population of paddlers most likely to use the Blueway we narrowed the respondents to those that indicated they would be likely to use the proposed Blueway if, in fact, it was constructed. The table below describes the potential usage by respondents if the Blueway were completed.

Table 8. Survey Responses to the Question: “If the Blueway were completed, how many additional trips per year would you make to this portion of the river?”

Number of Additional Trips	Responses
0	6
1	16
2	23
3	14
4 or More	54

Of the 107 survey responses that indicated potential use of the Blueway, 91 surveys had complete expenditure data that could be used in the analysis. A summary of the expenditure data was presented in Table 5. An examination of the data indicated that expenditures related to a paddling outing varied significantly across age groups. Rather than ignoring this age dispersion, six separate expenditure profiles were created corresponding to the following age groups: 18-24, 25-34, 35-44, 45-54, 55-64, and over age 65. Table 9 indicates the number of respondents in each category that provided complete data.

Table 9. Number of Likely Blueway Paddlers with Complete Expenditure Data By Age

Age Group	Number of Respondents
18-24	6
25-34	10
35-44	23
45-54	24
55-64	15
Over 65	13

In addition, in order to account for the variation of expenditures within each age group, low, medium, and high expenditure profiles were created within each age category. Low expenditure amounts were calculated using the lower bound of the expenditure category, high expenditure using the upper bound, and medium expenditure the midpoint. For example, in Table 5, if a response fell in the \$101 - \$150 range, the low expenditure amount was assumed to be \$101, the high \$150, and the medium \$125. Table 10 presents each of these three per-trip expenditure

Table 10. Expenditures (\$) Per Trip to the Blueway By Age and By Type of Expenditure.

Age Group	Expenditure Level	Expenditure Category								Total
		Transportation/Gas	Lodging	Rental Equipment/ Guided Trip Fees	Paddling Gear	Food	Other Leisure or Recreation Activities	Other Retail	Other	
18-24	Medium	75.00	8.33	12.50	162.83	50.00	8.33	41.67	8.33	367.00
	Low	51.00	0.33	8.50	150.83	26.00	0.33	33.67	0.33	271.00
	High	100.00	16.67	16.67	175.33	75.00	16.67	50.00	16.67	467.00
25-34	Medium	40.00	40.00	5.00	62.70	45.00	45.00	25.00	22.50	285.20
	Low	16.00	30.40	0.20	55.50	21.00	25.80	5.80	10.50	165.20
	High	65.00	50.00	10.00	70.20	70.00	65.00	45.00	35.00	410.20
35-44	Medium	50.04	23.96	18.52	47.91	42.43	25.04	32.65	22.87	263.43
	Low	27.09	13.52	15.39	35.39	20.52	13.57	20.13	15.57	161.17
	High	73.96	34.83	21.78	60.96	65.26	37.00	45.70	30.48	369.96
45-54	Medium	46.88	31.29	7.29	39.63	39.58	40.63	29.17	20.88	255.33
	Low	23.88	21.29	4.29	27.63	15.58	25.63	17.17	14.88	150.33
	High	70.83	41.71	10.42	52.13	64.58	56.25	41.67	27.13	364.71
55-64	Medium	85.13	56.73	26.73	61.80	81.80	56.73	41.73	10.00	420.67
	Low	64.33	43.93	23.53	50.60	61.00	40.73	27.33	3.60	315.07
	High	106.80	70.07	30.07	73.47	103.47	73.40	56.73	16.67	530.67
Over 65	Medium	51.92	46.15	1.92	28.85	51.92	21.15	26.92	32.69	261.54
	Low	27.92	24.00	0.08	15.92	27.92	8.23	12.15	23.46	139.69
	High	76.92	69.23	3.85	42.31	76.92	34.62	42.31	42.31	388.46

levels, broken out by type of expenditure, by age group, for likely users of the completed Blueway. This is the main input into the input-output model used to assess the economic impact.

With regard to the medium expenditure profiles, the 55-64 age group spent the most per outing (\$420.67) and the 45-54 age group spent the least (\$255.33).⁴ Transportation was the largest expenditure category for age above 35 while expenditures on paddling gear were the largest category for ages below 35. In general, expenditures on rental equipment or guided trip fees were the category with the lowest expenditures.

The next step in the analysis is to determine the extent of the potential demand for the Blueway by estimating the number of potential paddlers in each age group. First, however, we must limit our analysis to a particular geographic region. We assume that the market area will be developed over a span of four years. In the first year we expect that the most likely users of the Blueway will be those from the local area; a 23 county region, 10 counties in Alabama and 13 in Georgia, which are closest in proximity to the proposed project. In subsequent years, as a result of the marketing efforts of the region's Convention and Visitors Bureaus and Chambers of Commerce, we expect the market area to expand outward to include counties within a two-, four-, and six-hour drive time in years two, three, and four, respectively. These market regions were described in Figure 4.

The 2010 Census provides population counts by age group for each of the counties in the study area. Obviously, not all of these are paddlers. In order to determine the number of potential paddlers, we rely on previous research studies that provide estimates of participation rates for different types of paddling. Just as the expenditures were shown to differ by age group, so too do the participation rates. In order to account for the differences in participation rates across studies, we use the highest and lowest published rates to create an average participation rate for each age group. These rates are described in Table 11. The average participation rate will be applied to our populations in order to estimate the number of paddlers.

⁴ These expenditure levels are similar to several other studies. In a study regarding whitewater boating on the West River in Jamaica, Vermont, Crane Associates (2008) found average per trip spending to be \$262. The 2008 Paddling Tourism Study of the North Carolina State Trails Program (Beedle, 2008) found that average trip expenditures ranged from \$144 to \$503 per trip depending on distance travelled. Other studies have found \$255 per trip (Chatooga River, GA, Moore and Siderelis, 2003), \$185.50 per trip (Timber Coulee/West Fork Kickapoo stream complex in Wisconsin; Anderson, Hewitt, and Marcouiller, 2001), between \$116.86 and \$216.62 (North Carolina Coastal Paddlers; Avant, Siderelis and Thigpen, 2000), between \$343 and \$416 (Northern Forest Canoe Trail, Pollock, et al, 2007).

Table 11. High ,Low and Average Paddlesport Participation Rates by Age Group.

Age Group	Low Participation Rate ⁵	High Participation Rate ⁶	Average Participation Rate
18-24	4.45%	7.0%	5.725%
25-34	3.16%	8.0%	5.58%
35-44	3.42%	9.0%	6.21%
45-54	3.21%	8.0%	5.605%
55-64	1.77%	9.0%	5.385%
Over 65	1.20%	2.3%	1.75%

Table 12 below describes the total population by age group as the market develops over time. In the first year, the population of interest resides in the 23-county region. In year 2, the population of interest includes those within a 2-hour drive time of the Blueway⁷ which includes the 23-county region. In year 3 the market area extends to a 4-hour drive time which includes those within the 2-hour drive time. Finally, in year 4 the market extends to the population within a 6-hour drive time which encompasses all previous regions.

Table 12. Total Population in Each Market Region by Age Group.

Age Group	Population			
	Year 1 23-County Region	Year 2 2-hour Drive Time	Year 3 4-hour Drive Time	Year 4 6-hour Drive Time
18-24	116,517	519,468	1,238,397	2,561,453
25-34	130,630	718,944	1,649,201	3,282,419
35-44	131,702	727,656	1,713,693	3,376,098
45-54	140,226	722,690	1,741,260	3,603,180
55-64	116,205	561,376	1,375,981	2,969,878
Over 65	122,647	533,390	1,375,152	3,151,534

The number of paddlers is found by multiplying the population in the market regions in Table 12 by the appropriate participation rate in Table 11. These results are presented in Table 13.

⁵ Calculated using numbers reported in American Canoe Association, July 2010.

⁶ All but the Over 65 high participation rate comes from Responsive Management, Duda, et al., (2009). The Over 65 high participation rate comes from The Outdoor Foundation, 2009.

⁷ Drive times were calculated from both the northern end of the Blueway (Lanett, AL) and the southern end (Columbus, GA).

Table 13. Paddlesport Participants per Year by Age Group.

Age Group	Paddlesport Participants			
	Year 1 23-County Region	Year 2 2-hour Drive Time	Year 3 4-hour Drive Time	Year 4 6-hour Drive Time
18-24	6,671	29,740	70,898	146,643
25-34	7,289	40,117	92,025	183,159
35-44	8,179	45,187	106,420	209,656
45-54	7,860	40,507	97,598	201,958
55-64	6,258	30,230	74,097	159,928
Over 65	2,146	9,334	24,065	55,152

The age group with the largest population in the region is 45-54 year olds. However, due to differences in participation rates we estimate that 35-44 year olds will be the age group with the most paddlers. The fewest paddlers will come from the oldest age group.

The final step in estimating the potential demand for the Blueway is to account for multiple trips per paddler.⁸ Using data from the survey regarding the number of additional trips to the proposed Blueway and cross-tabulating this with the age of respondent, we estimate the following potential number of outings for each age group by year. This is presented in Table 14.⁹

Table 14. Average Number of Paddling Trips Per Year if Blueway Completed.

Age Group	Number of Trips
18-24	3.3
25-34	3.7
35-44	3.5
45-54	3.0
55-64	2.6
Over 65	2.2

Multiplying the number of trips per year in Table 14 by the number of paddlesport participants in Table 13 gives us an estimate of the total potential demand in the region for paddlesport outings in the market area. These estimates are presented in Table 15.

⁸ A 2009 study by The Outdoor Foundation and a 2011 study by the Georgia River Network (Edmonds 2011) found that overall paddlers make an average of 10 outings per year.

⁹ We count the response “4 or More” to be equal to 4. This will bias our results downward.

Table 15. Estimated Total Potential Demand for Paddlesport Outings by Age and by Year

Age Group	Paddlesport Participants			
	Year 1 23-County Region	Year 2 2-hour Drive Time	Year 3 4-hour Drive Time	Year 4 6-hour Drive Time
18-24	22,014	98,142	233,963	483,922
25-34	26,969	148,433	340,493	677,688
35-44	28,627	158,155	372,470	733,796
45-54	23,580	121,521	292,794	605,874
55-64	16,271	78,598	192,652	415,813
Over 65	4,721	20,535	52,943	121,334

Table 15 gives the total potential demand for paddlesport trips in the region. As discussed previously, since there are competing paddling venues, it is unlikely that all of this demand will be captured by the Blueway. In order to incorporate this competition in our model, we assume that the Blueway will capture 6% of the potential market in the closest 23-county region, 1.1% of the additional paddlers included in the 2-hour drive time region, 0.4% of those additional paddlers in the 4-hour drive time region, and only 0.15% of those added when the region is extended to a 6-hour drive time.¹⁰ While these percentages may seem low, they are being applied to very large populations, especially the population within the 6-hour drive time. Applying even a small percentage to such a large population yields a significant number of paddlesport trips to the Blueway. The table below applies the market capture rates to the total potential demand and describes our estimates of the number of additional trips annually along the Blueway by age group as the market develops.

Table 16. Estimated Additional Number of Actual Annual Trips Along the Proposed Blueway Per Year of Market Development.

Age Group	Paddlesport Participants			
	Year 1 23-County Region	Year 2 2-hour Drive Time	Year 3 4-hour Drive Time	Year 4 6-hour Drive Time
18-24	1,321	2,158	2,701	3,076
25-34	1,618	2,954	3,722	4,228
35-44	1,718	3,143	4,000	4,542
45-54	1,415	2,492	3,177	3,647
55-64	976	1,662	2,118	2,453
Over 65	283	457	587	690
Total	7,331	12,866	16,305	18,636

¹⁰ The capture rates were chosen to satisfy two criteria. First, the rates should result in approximately 50 outings per day by the time the market has fully developed in year four. Second, the number of paddlers attracted to the Blueway should decline as the market expands outward.

The estimated number of actual Blueway paddling trips by age group presented in Table 16 can now be combined with the estimated expenditure by age group in Table 10 in order to provide estimates of the economic impacts of the proposed Blueway on the region. Before presenting these results, we provide a brief description of how our model estimates these impacts.

The Economic Impact Model

In any geographic region, households, businesses, and governments are linked by their economic activities. Households purchase final goods and services from businesses in output markets; businesses purchase intermediate goods from other businesses in input markets; households offer their labor services to businesses in exchange for wage income in resource markets. As a result of these linkages, a change in one part of an economy can have repercussions throughout the rest of the region. In this study, we will use an input-output analysis to quantify the effects of paddlesport spending patterns on overall employment, output, and personal income in the regional economy.

The first stage of an input-output analysis is the development of a model describing the local economy. The model examines the flow of resources, inputs, goods and services, and their accompanying payments through the economy's various sectors and industries. The second stage of input-output analysis is the construction of a predictive model detailing how a change in an economic variable reverberates throughout the region. The predictive stage of the analysis involves the estimation of a series of *multipliers*, which are used to quantify these economic effects. We use the IMPLAN software package to develop both the descriptive input-output model and the predictive model which estimates the regional multipliers.

The Descriptive Model

Economic linkages in a local economy depend on the industries that constitute that region's economic base. In order to describe the flow of payments from purchasers to the suppliers of goods within a local economy, a regional economic account is created which describes the production process of each of the local industries. The IMPLAN software contains estimates of the production processes for 440 separate industry and economic sectors. By combining industry-level data specific to our region with the IMPLAN production process information, we are able to estimate the flows of payments within the region.

For example, industry A generally purchases a specific ratio of intermediate goods from industries B and C. Industry A's linkages throughout the local economy will depend upon whether the intermediate goods B and C are available within the region. Some of these intermediate goods may only be available from businesses outside the local economy. It is therefore important to model the production process in light of the regional economic base in order to completely

describe the local economic linkages. Purchasing patterns for within-region and out-of-region expenditures are accounted for within the IMPLAN model.

The descriptive model of the local economy includes both the regional economic account and social accounting data. The regional economic account allows for the tracking of purchases of final and intermediate goods in the economy as described above and the social accounting data detail other flows of money between economic sectors. Examples include payments by businesses to households in the form of wage income, which, in turn, may be spent at businesses as consumption expenditures. A final descriptive model of the local economy traces the economic transactions and flows by combining the regional economic accounts with the social accounting data.

The Predictive Model

An economic stimulus, such as the creation of a new paddlesport opportunity, will change the demand for the area's recreational services, which will alter the recreation industry's demand for intermediate goods and resources. These suppliers, in turn, will increase their purchases of inputs as a result of increased demand for their products. This multiplier process continues until leakages out of the region—such as imports, savings, or taxes—slow and eventually stop the cycle. The predictive model consists of a series of *multipliers* that describe the economic effects of a stimulus. IMPLAN calculates the multipliers by a process known as matrix inversion. This can be thought of as sending an economic stimulus through the descriptive model then recording all of the resulting changes.

Multipliers are used to predict the direct, indirect, and induced effects of a change in economic activity. The *direct* (or first-round) *effect* refers to the initial change within the industry. For example, when provider A increases local purchases, its suppliers (B and C) will respond by increasing their output. The *indirect effect* refers to additional changes in the county economy caused by the initial stimulus. As provider A purchases more goods from firms B and C, they, in turn, expand their purchases of intermediate goods from industries D and E. The sum of all the second- and higher-round effects is the indirect effect. Finally, the *induced* (or household spending) *effect* refers to changes in economic activity caused by changes in household income resulting from the original stimulus. Expansions in the region's industries lead to increased employment and/or income for workers in those industries. Those households will, in turn, purchase more goods and services, a portion of which are produced locally, further stimulating the local economy. The total impact of an economic stimulus includes the direct, indirect, and induced effects.

Economic Impact Results

The estimated visitor and expenditure data derived above can now be used as inputs to the IMPLAN model in order to estimate the economic impact of the Blueway on the core 8-county economic region of interest. Along with the assumptions described previously, additional assumptions regarding the expenditures are required. First, we assume that the portion

Economic Impact of the Chattahoochee Valley Blueway

expenditures acquired by merchants within the core-economic region declines as the market expands geographically. Specifically, we assume that merchants in the core region acquire 100% of trip expenditures from those within the immediate 23-county region, 75% of expenditures from those added in the 2-hour drive time region, 50% of those added in the 4-hour region, and 25% of those added in the 6-hour region. Second, we assume that all of this expenditure is “new” expenditure that would not be made within the region if the Blueway were not built.

Output Impacts

The output multipliers predict how the additional recreational expenditures by Blueway users will stimulate the overall economic activity within the region. The expenditure values (3 scenarios) from Table 10 and the visitation numbers from Table 16 can be combined with the regional impact multipliers using the IMPLAN program. The resulting impacts on the region’s economic output for each of the expenditure scenarios are reported in Table 17.

Table 17. Estimated Annual Impacts of Paddle-Trip Expenditures on Economic Output in the Regional Economy Resulting from the Chattahoochee Valley Blueway.

			Year 1	Year 2	Year 3	Year 4
Expenditure Scenario	Medium	Direct Effects	\$1,112,856	\$1,740,971	\$2,001,555	\$2,090,443
		Indirect Effects	\$313,256	\$490,575	\$564,081	\$589,144
		Induced Effects	\$311,981	\$488,302	\$561,415	\$586,344
		Total Impact	\$1,738,093	\$2,719,848	\$3,127,050	\$3,265,930
	Low	Direct Effects	\$729,508	\$1,139,383	\$1,309,855	\$1,368,135
		Indirect Effects	\$203,971	\$319,042	\$366,858	\$383,195
		Induced Effects	\$202,991	\$317,214	\$364,703	\$380,931
		Total Impact	\$1,136,470	\$1,775,639	\$2,041,416	\$2,132,261
	High	Direct Effects	\$1,512,319	\$2,367,858	\$2,722,342	\$2,843,125
		Indirect Effects	\$427,139	\$669,324	\$769,601	\$803,758
		Induced Effects	\$425,557	\$666,591	\$766,403	\$800,399
		Total Impact	\$2,365,015	\$3,703,772	\$4,258,347	\$4,447,282

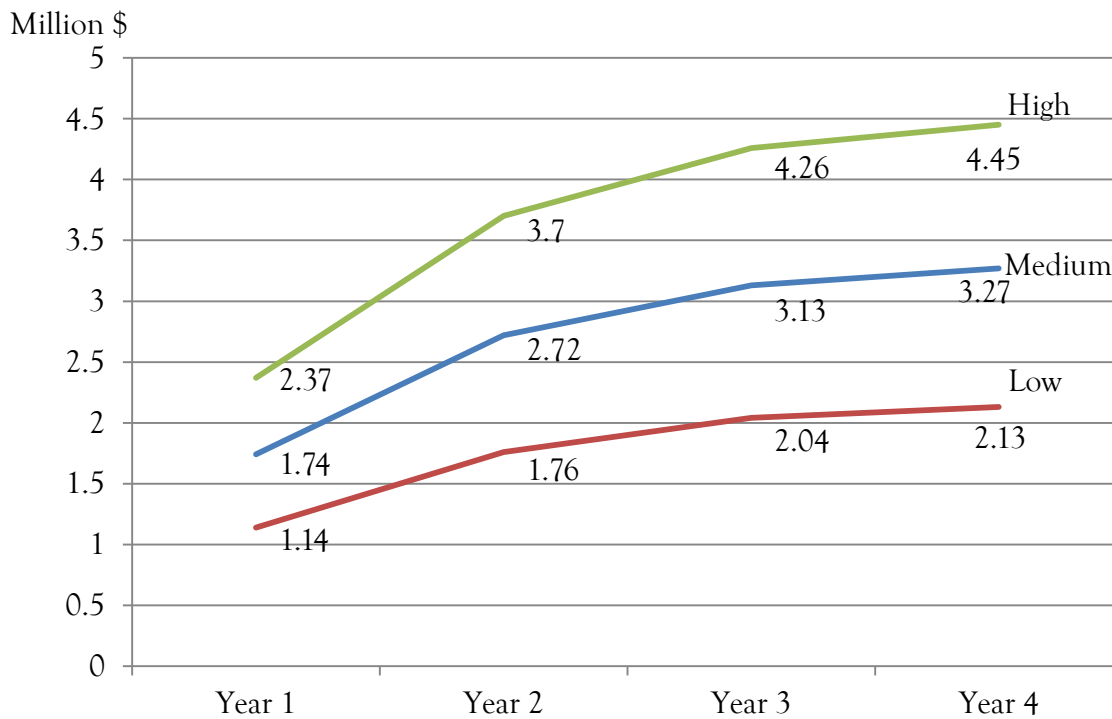
Examining the Medium Expenditure scenario, the additional spending by Blueway users is expected to increase output in the region by \$1.1 million directly in the first year. As the sectors that receive these direct dollars expand, they purchase goods and services from other local businesses. In order to meet the increased demand for their products, these supplying businesses, in turn, increase their purchases of goods and services from their suppliers. The sum of these repercussions throughout the local economy is the indirect effect of the spending by Blueway paddlers. The initial \$1.1 million in direct spending in year 1 creates an additional \$313,256 indirect effect on regional output in year 1. The third effect of Blueway paddler spending arises from changes in household income. The increases in overall business activity from both the direct and indirect effects will lead to additional increases in employment and household incomes in the

region. These induced effects represent the changes in spending in the economy due to higher levels of employment and higher incomes. The initial \$1.1 million in direct spending in year 1 sparks nearly \$312,000 in additional household spending in the region in year 1.

The sum of the direct, indirect, and induced effects provide an estimate of the total impact of Blueway paddler spending on the region's economic output. Overall, economic activity in the region is expected to increase by over \$1.7 million in the first year, over \$2.7 million in year 2, over \$3.1 million in the third year, and grow to an annually recurring impact of almost \$3.3 million once the marketing efforts have taken full effect in year 4.

The graph below illustrates the total economic impacts on the regional output for each of the expenditure scenarios.

Figure 9. Estimated Annual Impacts on Output by Expenditure Scenario



Employment Impacts

Employment multipliers are used to predict how the additional spending by Blueway paddlers will affect overall employment within the region. The resulting employment can be attributed to the direct effect (initial workers hired), the indirect effect (increase in employment in industries along the supply chain), and the induced effect (increase in employment due to increased household income and expenditure). These results are presented in Table 18.

Table 18. Estimated Annual Impacts on Employment (# Jobs) in the Regional Economy Resulting from the Chattahoochee Valley Blueway.

			Year 1	Year 2	Year 3	Year 4
Expenditure Scenario	Medium	Direct Effects	23.6	37.0	42.5	44.4
		Indirect Effects	2.5	3.9	4.5	4.7
		Induced Effects	2.7	4.3	4.9	5.2
		Total Impact	28.8	45.2	51.9	54.2
	Low	Direct Effects	15.1	23.7	27.2	28.5
		Indirect Effects	1.6	2.5	2.9	3.0
		Induced Effects	1.8	2.8	3.2	3.3
		Total Impact	18.5	29.0	33.3	34.8
	High	Direct Effects	32.4	50.8	58.4	61.0
		Indirect Effects	3.4	5.3	6.1	6.4
		Induced Effects	3.7	5.9	6.7	7.0
		Total Impact	39.5	62.0	71.3	74.5

Examining the Medium Expenditure scenario, we estimate that the \$1.1 million spent by Blueway paddlers in year 1 will directly support 23.6 jobs in the region in the first year. An additional 2.5 workers will be employed as a result of the increases in output along the various supply chains in year 1. Increased local income and employment resulting from Blueway paddler spending will support an additional 2.7 jobs in the initial year. In sum, Blueway paddling expenditures are expected to support over 28.8 jobs in the region in its first year. This is expected to grow to over 45 jobs in year 2, nearly 52 jobs in year 3, and support a total of over 54 annually recurring jobs once the marketing efforts are completed in year 4.

The graph in Figure 10 illustrates the total economic impacts on the number of jobs in the region for each of the expenditure scenarios.

Personal Income Impacts

Income multipliers are used to predict how Blueway paddling expenditures will affect overall personal income within the region. Under the Medium Expenditure scenario we estimate that the \$1.1 million in additional spending in year 1 will generate over \$420,000 in income directly, nearly \$103,000 indirectly, and another \$95,000 through induced effects in the first year of the project. We estimate that the project will increase personal incomes by a total of almost \$620,000 in year 1, almost \$1 million in the second year, \$1.1 million in year 3, and by almost \$1.2 million in year 4. The regional income impacts are presented in Table 19 for each of the three expenditure scenarios.

Figure 10. Estimated Annual Impacts on the Number of Jobs by Expenditure Scenario

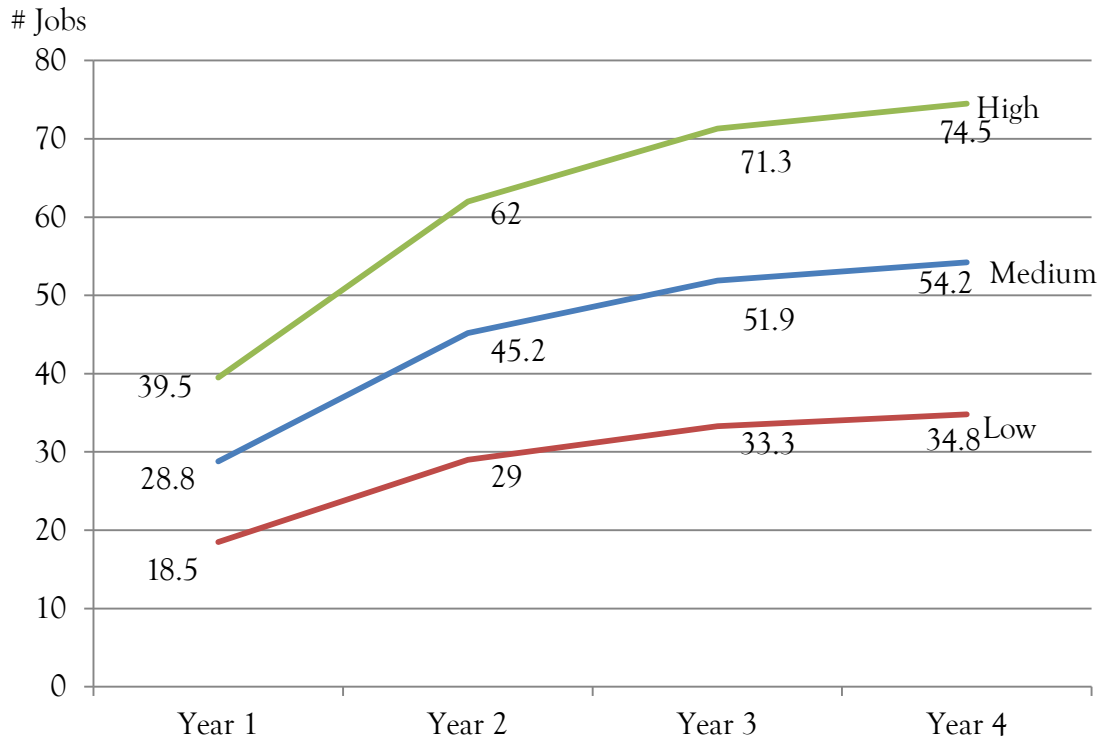
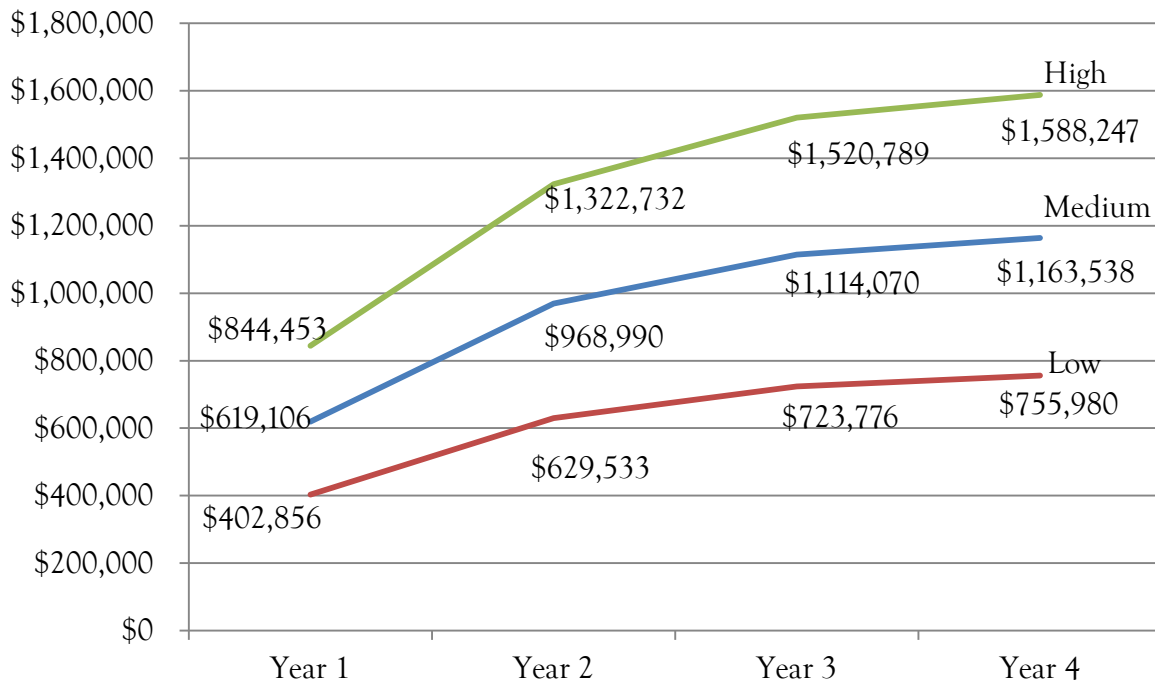


Table 19. Estimated Annual Impacts on Personal Income in the Regional Economy Resulting from the Chattahoochee Valley Blueway.

			Year 1	Year 2	Year 3	Year 4
Expenditure Scenario	Medium	Direct Effects	\$420,717	\$658,350	\$756,896	\$790,497
		Indirect Effects	\$102,971	\$161,295	\$185,468	\$193,711
		Induced Effects	\$95,418	\$149,345	\$171,706	\$179,331
		Total Impact	\$619,106	\$968,990	\$1,114,070	\$1,163,538
	Low	Direct Effects	\$273,899	\$427,885	\$491,917	\$513,798
		Indirect Effects	\$66,872	\$104,629	\$120,314	\$125,674
		Induced Effects	\$62,085	\$97,020	\$111,544	\$116,507
		Total Impact	\$402,856	\$629,533	\$723,776	\$755,980
	High	Direct Effects	\$573,711	\$898,515	\$1,033,027	\$1,078,840
		Indirect Effects	\$140,588	\$220,344	\$253,363	\$264,610
		Induced Effects	\$130,154	\$203,873	\$234,400	\$244,797
		Total Impact	\$844,453	\$1,322,732	\$1,520,789	\$1,588,247

The graph below illustrates the total economic impacts on the region’s personal income for each of the expenditure scenarios.

Figure 11. Estimated Annual Impacts on Personal Income by Expenditure Scenario



In addition to the recurring economic benefit arising from visitors to the Blueway, the associated construction expenditures will result in a one-time economic benefit. Given information provided by the Trust for Public Land we assume that an additional 8 boat ramps will be constructed for a total cost of \$640,000, access routes and portages around the Georgia Power dams will cost \$500,000, and the planning and permitting associated with the new construction will be approximately \$200,000. The result of construction associated with the Blueway will be a one-time infusion of \$1,340,000 into the 8-county economic region. Table 20 describes the estimated economic impact associated with these expenditures.

Table 20. Estimated One-Time Economic Impacts Due to the Construction Associated with the Chattahoochee Valley Blueway.

	Output	# Jobs	Personal Income
Direct Effects	\$1,340,000	9.5	\$453,954
Indirect Effects	\$319,673	2.5	\$111,905
Induced Effects	\$339,722	3.0	\$103,811
Total Impact	\$1,999,395	14.9	\$669,670

The initial \$1.34 million in direct construction related spending is estimated to generate an additional \$319,000 indirectly in response to spending along the supply chain, and an additional \$339,722 due to increased household spending. In total, we estimate that the initial expenditure of \$1.34 million will result in nearly \$2.0 million in total economic output in the region.

We estimate that the \$1.34 million spent on Blueway construction will directly support 9.5 jobs in the region. An additional 2.5 workers will be employed as a result of the indirect economic effects. Increased local income and employment resulting from the construction activities will support an additional 3.0 jobs. In sum, construction expenditures are expected to support a short-term increase of almost 14.9 jobs in the region.

Finally, we predict that the construction spending will result in over \$450,000 in income directly, over \$110,000 indirectly, and another \$104,000 through induced effects.

To complete our analysis we examine the economic impact arising from festivals and special events. The creation of the Blueway provides a unique opportunity for local communities to develop these activities. Festivals contribute to the cultural and economic development of a community and have a major impact on the development of tourism in host communities. A host community can create its own branded image through the use of festivals with specific themes. Festivals using the Blueway as a central theme can focus an enormous amount of attention on the community in a short period of time and can create an exceptionally positive community image.

The cities of West Point, Georgia, and Valley, Alabama view the proposed Blueway as a centerpiece of their redevelopment plans to revive their respective riverfronts. Plans for festivals at West Point's Riverfront Park and Valley's former textile mills are currently in their formative stages. Since these communities are located in close proximity to one another, a festival in one community will have spillover effects in the neighboring community. In order to account for these spillover effects, we examine the economic impact of a single festival on the two-county region which encompasses both communities (Chambers County, Alabama and Troup County, Georgia). Below we describe a typical festival and estimate its economic impact.

We assume a two-day festival attended by 150 paddlers and 300 non-paddling visitors. Paddlers are assumed to be attracted to the festival from the various geographic locations as described in Table 21 and have expenditure profiles similar to those described above.

Table 21. Place of Residence of Paddlers Attending Festival

Residence of Festival Paddler	Percentage of All Festival Paddlers
23-County Region	40%
Between 23-County Region and 2-hour Drive Time	30%
Between 2-hour and 4-hour Drive Time	20%
Between 4-hour and 6-hour Drive Time	10%

Of the 300 non-paddling visitors, we assume that 85% of them stay in local facilities, 7% stay locally with friends, and 8% are day visitors.¹¹ The table below describes the assumed expenditure profiles per day for each of these types of visitors.

Table 22. Per-Day Expenditure Profiles of Non-Paddling Festival Visitors

Expenditure Category	Visitor Type		
	Stay in Local Facilities	Stay With Friends	Day Visitor
Accommodations	\$36.91	---	---
Food/Drink	\$44.60	\$27.88	\$16.59
Entertainment	\$30.76	\$15.89	\$9.46
Retail	\$29.22	\$33.46	\$19.91
Transportation	\$10.76	\$16.73	\$9.96
Miscellaneous	\$1.54	\$11.16	\$6.64
Total	\$153.78	\$105.11	\$62.56

We assume that the expenditures made by the festival paddlers and festival visitors are “new” expenditures in the two-county region that would not have been made otherwise. The total economic impact of these expenditures on local employment, labor income, and output are presented in the table below.

Table 23. Impact of a Two-Day Festival on the Economies of Chambers and Troup Counties

	Total Economic Impact
Employment	2.6
Labor Income	\$37,749
Output	\$122,543

We estimate that the visitor expenditures associated with a single two-day festival that attracts 150 paddlers and 300 non-paddling visitors will support 2.6 jobs annually in the two-county region including Chambers and Troup counties. The festival will result in a total economic output of over \$122,000 and a recurring addition to personal incomes of nearly \$37,750.

Concluding Comments

The purpose of this study is to provide an objective estimate of the economic impacts that the region would experience as a result of the creation of the proposed Chattahoochee Valley Blueway. An online survey was used to estimate expenditures and potential visits by users over a four year market development period. The impact on economic output, the number of jobs, and personal

¹¹ These percentages and the expenditure profiles are derived from the visitor analysis for the proposed whitewater project in Columbus, GA (Daniels, 2010).

income resulting from these expenditures was then estimated for the core 8-county region. Impacts were presented for three expenditure scenarios; medium, low, and high.

The estimated total economic impacts based upon the medium expenditure level are repeated in the table below. The total impacts shown are the result of direct, indirect, and induced effects.

Table 24. Total Estimated Blueway Usage and Yearly Economic Impacts Based on the Medium Expenditure Level

	Year 1	Year 2	Year 3	Year 4
Number of Outings	7,331	12,866	16,305	18,636
Changes in Output	\$1,738,093	\$2,719,848	\$3,127,050	\$3,265,930
Changes in Employment	28.8	45.2	51.9	54.2
Changes in Personal Income	\$619,106	\$968,990	\$1,114,070	\$1,163,538

We estimated that the project will increase total economic output in the region by \$1.7 million in year 1 and by over \$3.2 million by year 4. The project is expected to support over 54 jobs annually in the region after the market has been developed. These impacts are expected to be recurring each year.

By year four, the results indicate that approximately 3 jobs would be created for every 1,000 paddlesport visits to the Blueway. Other studies regarding the impact of river recreation and paddlesports have found between 0.6 and 7.5 jobs created per 1,000 visitors. Thus, our results lie near the average.¹²

We also estimated the one-time economic impact of the proposed \$1.34 million in construction and related expenditures related to the Blueway. These expenditures are expected to result in a short-term increase in economic output of nearly \$2.0 million, 15 additional jobs, and an increase of \$670,000 in personal income.

Finally, we examined the economic impact of festivals and special events on the local economies of Chambers County, AL and Troup County, GA. We analyzed a two-day festival attracting 150 paddlers and 300 non-paddling visitors. We estimated that the visitor expenditures associated with a festival of this type will support 2.6 jobs annually or, equivalently, 10.4 jobs during the summer months. A single festival will result in a total economic output of over \$122,000 and a recurring addition to personal incomes of nearly \$37,750 in the two-county region.

¹² See Sims (2002) for a summary of several river recreation economic impact studies.

Appendix 1

Table A1. Groups Contacted Regarding Proposed Blueway

Alabama Clean Water Partnership	Georgia Wilderness Society
Alabama River Association	Lake Harding Association
Alabama Rivers Alliance	Middle Chattahoochee River Stewards
Alabama Scenic River Trail	Middle Chattahoochee Water Coalition
Altamaha River Keeper	MWR at Fort Benning
Callaway Gardens	Outdoor Recreation at Fort Benning
Chattahoochee Paddling Club	Outside World
Chattahoochee Trace Project	Oxbow Meadows Environmental Learning Center
Chattahoochee River Warden	River South
City of Valley	Savannah River Keeper
City of West Point	Southeast Paddlers
Columbus Paddle Club	Troup County Chamber of Commerce
Flint River Keeper	Troup County Strategic Planning Board
Georgia Canoeing Association	Upper Chattahoochee Riverkeeper
Georgia Conservancy	US Army Corps of Engineers
Georgia Power	West Point Lake Coalition
Georgia River Bassinet	westpointadventurerace.com
Georgia River Network	

Table A2. Comments by Survey Respondents (Grammar not Corrected).

About time folks payed attention to low-impact, non-motor driven water sports
I belong to the Middle Chattahoochee River Stewards we can be contacted via facebook.
River from campground?
Sounds good, hopefully, the portage sites will be improved.
Great idea!
I am not likely to paddle on the lakes.
The Chattahoochee is gaining national recognition for its paddle recreation potential. Upstream users want to drain it dry, ie Glades Reservoir project in Hall County.
I would like to fish from a canoe or kayak on some of these sections.
This is a great idea and I promise it will bring huge economic gains for the area bc we have already started to travel down there and spend money and use the current whitewater in Columbus
Don't limit commercial or public access
Fantastic idea! Water quality downriver of ATL is a problem of course.
My most recent kayak purchase was a touring kayak, which is designed to travel long distances hauling gear, such a tents, etc, I would love to have a 50 mi trip available essentially right in my backyard. I take my daughters and their friends along with us (we have 7 kayaks and 1 canoe in all), and the biggest regular issue is finding bathrooms at the put-ins and take-outs
Having easy access to some of the main tributaries where they join the Chattahoochee would be nice. Also having park and play places on the whitewater section where you can park at the play spots and get out at the same locations would be nice too.
The more good water access, the better.
do it..
I see it as a great idea.
there is a ramp at river ridge subdivision on lake oliver on the alabama side that used to be public. it would be nice to have that back !
Wish they could do this North of West Point lake! there should be a canoe trail from helen to the coast!
Lots of dams to portage in this section. more access points are always good, but bike path along side of the river would be radically cool
this would be awesome.
If it were to take place I am from the Valley area and there are three obsolete dams between West Point and Lake Harding, Turkey Island, Langdale, and Riverview, these need to be gone soon. Also for more representation advertise area's that would be good for hosting slalom kayak and canoe competitions.
This would likely result in my family from out of town visiting more as they just completed rafting the Colorado and my sister in law is an avid kayaker
Great project! We must develop greater awareness of the need to protect the Chattahoochee and the Blueway is a great way to give more people the opportunity to see the river firsthand and develop more appreciation for it's tremendous impact on our area.

Appendix 2

Thank you for your willingness to participate in our survey regarding recreational use along the Chattahoochee River. The survey should not take more than 10 minutes of your time. The purpose of our study is to estimate the economic impact of recreational usage along the mid-section of the Chattahoochee. After some basic demographic questions, the survey contains questions regarding your river related recreation activities and expenditures. The last portion contains questions regarding a proposed river paddling project. The answers you provide will help to inform our community of the importance of the river as a driver for economic growth.

Your participation is entirely voluntary. You may answer as much or as little as you prefer. All individual information will be confidential. Your name will not be recorded. You must be 18 years of age or older to participate.

If you have questions about the survey please contact The Butler Center for Business and Economic Research at Columbus State University: butlercenter@columbusstate.edu (706) 507-8173

Q1 Sex:

- Male
- Female

Q2 Age:

Q3 City, State, Zip:

Q4 Race/Ethnicity

- White
- Black or African American
- Hispanic
- Asian/Pacific Islander
- Multiracial
- Other

Q5 Highest Education Level Completed:

- Some High School
- High School
- Some College
- College
- Graduate School

Q6 Please indicate your annual household income.

- less than \$25,000
- \$25,000 - \$50,000
- \$50,001 - \$75,000
- \$75,001 - \$100,000
- \$100,001 - \$150,000
- \$150,001 - \$200,000
- more than \$200,000

Q7 Which of the following recreational activities did you participate in during the last 12 months?
(check all that apply)

- Canoeing
- Kayaking
- Rafting
- Motorboating
- Fishing
- Swimming
- Water Skiing
- Jet Skiing
- Camping
- Cycling
- Hiking
- Birdwatching
- Other
- None

Q39 Which paddlesport did you participate in most often during the last 12 months?

- Canoeing
- Flatwater Kayaking
- Rafting
- Other
- Whitewater Kayaking

Q40 How often did you participate in any form of paddlesports in the past 12 months?

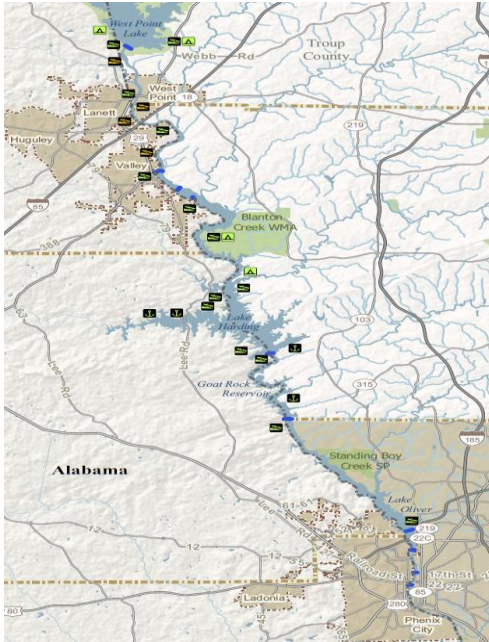
{could answer any number between 0 and 20 or more than 20}

Q64 How familiar are you with the Chattahoochee Valley Blueway project?

- Not at all
- Somewhat
- Very

Economic Impact of the Chattahoochee Valley Blueway

Q65 The Chattahoochee Valley Blueway is a proposed 50 mile paddling course extending from the West Point Dam in the north to the Riverwalk and Whitewater course in Columbus in the south. The vision is to add an additional eight to ten access points with camping and recreational facilities along the route and to create convenient slipways and portages around the existing dams and spillways, ultimately creating a 50 mile contiguous paddling course with a variety of water experiences. The map below describes the route. Existing facilities are shown in green, proposed facilities are shown in yellow.



Q66 If the Blueway were completed, would you be more likely to paddle along this portion of the Chattahoochee River?

- Yes
- Maybe
- No

Q67 If the Blueway were completed, how many additional trips per year would you make to this portion of the river?

- 0
- 1
- 2
- 3
- 4 or more

Q68 If you have any comments regarding the survey or the Blueway please provide them below.
Thank you for your time.

Q11 How many of these outings were on the Chattahoochee River or its tributaries?

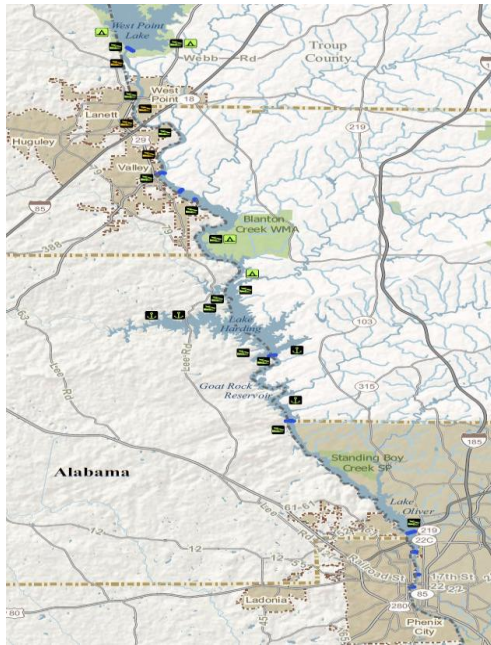
{could answer any number between 0 and 20 or more than 20}

Q17 How many of these outings were on the Chattahoochee River between West Point Dam and Columbus, Georgia?

{could answer any number between 0 and 20 or more than 20}

Answer If How many of these outings were on the Chattahoochee River... 0 Is Not Selected

Q75 The map below illustrates the Chattahoochee River between West Point Dam and Columbus, Georgia. Existing and proposed boat launch facilities are shown by the icons. Using the cursor, please indicate where you would place one additional access point.



Q12 Regardless of where you paddle, what is the average number of days per outing?

- 1
- 2
- 3
- 4
- 5
- More than 5

Q18 On average, during each paddling outing, how many hours do you spend on the water per day?

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- More than 10

Q45 Please check the appropriate boxes below to indicate the average amount of money you spend per paddlesport outing.

	\$0	\$1-\$50	\$51-\$100	\$101-\$150	\$151-\$200	\$201-\$250	\$251+
Transportation/Gas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lodging	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rental	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Equipment/Guided Trip Fees							
Purchased Paddling Gear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Food	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other Leisure or Recreation Activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other Retail	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QP1 When did you last purchase a canoe, kayak, or raft?

- 0 - 12 months ago
- 12 - 24 months ago
- 24 - 36 months ago
- More than 3 years ago
- Never purchased

Q48 How much have you spent on gear for paddlesports in the past 12 months?

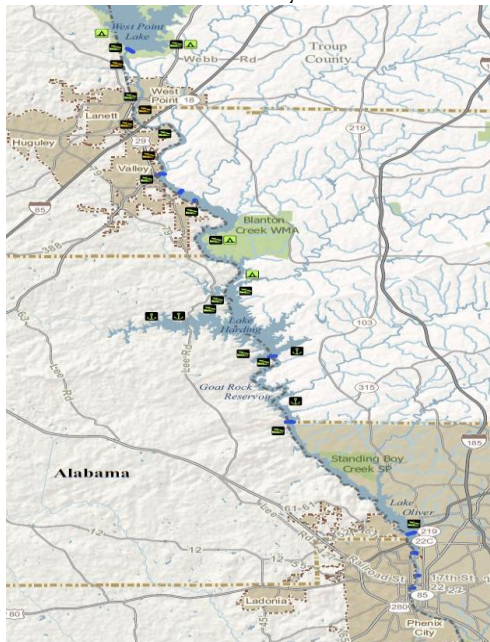
- \$0

- Less than \$100
- \$100 - \$250
- \$251 - \$500
- \$501 - \$750
- \$751 - \$1000
- More than \$1000

Q69 How familiar are you with the Chattahoochee Valley Blueway project?

- Not at all
- Somewhat
- Very

Q70 The Chattahoochee Valley Blueway is a proposed 50 mile paddling course extending from the West Point Dam in the north to the Riverwalk and Whitewater course in Columbus in the south. The vision is to add an additional eight to ten access points with camping and recreational facilities along the route and to create convenient slipways and portages around the existing dams and spillways, ultimately creating a 50 mile contiguous paddling course with a variety of water experiences. The map below describes the route. Existing facilities are shown in green, proposed facilities are shown in yellow.



Q71 If the Blueway were completed, would you be more likely to paddle along this portion of the Chattahoochee River?

- Yes
- Maybe
- No

Q72 If the Blueway were completed, how many additional trips per year would you make to this portion of the river?

- 0
- 1
- 2
- 3
- 4 or more

Q73 If you have any comments regarding the survey or the Blueway please provide them below. Thank you for your time.

Q19 What was the amount of your last canoe, kayak, or raft purchase?

- Less than \$100
- \$100 - \$250
- \$251 - \$500
- \$501 - \$750
- \$751 - \$1000
- More than \$1000

Q20 How much have you spent on gear for paddlesports in the past 12 months?

- \$0
- Less than \$100
- \$100 - \$250
- \$251 - \$500
- \$501 - \$750
- \$751 - \$1000
- More than \$1000

Q41 How many of these outings were on the Chattahoochee River?

{could answer any number between 0 and 20 or more than 20}

Q42 How many of these outings were on the Chattahoochee River between West Point Dam and Columbus, Georgia?

{could answer any number between 0 and 20 or more than 20}

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