



# Charting a path

An economic impact study of trail development in Summers County

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### EXECUTIVE SUMMARY

Summers County is home to some of West Virginia's most treasured natural assets. Given the movement underway statewide to enhance and connect the Mountain State's trail systems, the county's proximity to other key tourism and recreation amenities presents enormous opportunity.

This report explores the potential economic impact of developing two trail systems in Summers County: the Mary Ingles Trail and the Great Eastern Trail. Dividing proposed construction into three phases, the proposed trail development outlined in Section 4 would have significant benefit for Summers County. Projected impacts from construction include:

- 49 jobs supported,
- \$5.6 million in economic output, and
- \$4.7 million in value added to the local economy.

Upon completion and full development, the trails could likely attract up to one million visitors per year within a twenty-year timeframe. Overnight user groups, including hikers, cyclists, hunters, boaters, anglers, and horse riders, would likely spend \$80–150 per day, resulting in up to \$49 million in local visitor spending.

### ABOUT DOWNSTREAM STRATEGIES

Downstream Strategies is a West Virginia-based consulting firm that offers specialized services in market feasibility and planning for outdoor recreation and trail projects. Recognized as leaders in innovative economic development solutions throughout Appalachia, a core component of our work focuses on helping communities reshape local economies through planning, implementing, and marketing regional recreation projects. With offices in Morgantown, Davis, and Lewisburg, we put our in-house expertise in land- and water-based trail planning, market analysis, survey design, and community engagement to use for clients in West Virginia and beyond.

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# 1. INTRODUCTION

Outdoor recreation is a booming industry in the United States. Each year, Americans spend nearly \$900 billion on outdoor recreation, and the industry supports 7.6 million jobs nationwide (Outdoor Industry Association, 2017a).

West Virginia's unique landscape and natural resources align with current market opportunities for trail-based economic development. As more and more success stories emerge of rural communities using trails as economic engines, momentum is growing across the state and region for investments in strategic trail development that promotes regional connectivity.

With its unique location within proximity to many of the state's most cherished—and most visited—destinations, leaders in Summers County seek to quantify potential economic impact from two potential trail expansion projects that have been proposed within the county's borders.

The Summers County Commission contracted Downstream Strategies to conduct a comprehensive economic impact study for proposed trail development within the county. Specifically, this study explores the potential development of the Great Eastern Trail and the Mary Ingles Trail, which would build upon existing trail segments to link several of the area's key recreation and tourism destinations: New River Gorge National River, Bluestone National Scenic River, Bluestone State Park, Pipestem State Park, the Appalachian Trail, and others.

Focusing on Summers County and Hinton in particular, this study examines:

- national, state, and local trends in the recreation economy;
- the number and types of users of the proposed trails within Summers County;
- the county's existing tourism infrastructure, identifying gaps that will need to be filled to accommodate increased tourism; and
- anticipated economic impacts from the construction and operation of the proposed Great Eastern Trail and the Mary Ingles Trail in Summers County and the surrounding area.

As a result, this report provides empirical data and practical implementation recommendations to help Summers County realize tourism gains in the county and surrounding region.

## 2. THE RECREATION ECONOMY

### 2.1 National trends

Outdoor recreation is one of the top and fastest-growing economic sectors nationally, driven by \$887 billion in consumer spending annually (Outdoor Industry Association, 2017a). According to recent Bureau of Economic Analysis data, the top outdoor recreation activities in terms of economic contribution nationally are shown below:

**Table 1: Economic value added from largest conventional outdoor recreation activities**

Rank	Activity	Value added to GDP
1	Boating/fishing	\$20.9 billion
2	RVing	\$16.9 billion
3	Motorcycling/ATVing	\$9.1 billion
4	Hunting/trapping/shooting	\$8.8 billion
5	Equestrian	\$7.8 billion
6	Snow activities	\$5.6 billion

Source: Bureau of Economic Analysis (2019)

In terms of sheer number of participants, the latest national Outdoor Participation Report shows the most popular outdoor activities nationally are running, fishing, biking, hiking, and camping.

**Table 2: Most Popular Outdoor Activities by Participation Rate**

Rank	Activity	Percent of Americans participating	Total participants nationally
1	Running, jogging, and trail running	19%	55.9 million
2	Freshwater, saltwater, and fly fishing	17%	49.1 million
3	Road biking, mountain biking, and BMX	16%	47.5 million
4	Hiking	15%	44.9 million
5	Car, backyard, backpacking, and RV camping	14%	41.8 million

Source: The Outdoor Foundation (2018)

**Interpreting the numbers:** When comparing the most economically impactful sectors with the most popular forms of outdoor recreation, a notable trend emerges. Running and hiking, considered together, have double the participation rates of the next most popular activities, yet they do not fall among the most economically impactful forms of outdoor recreation.

Why? Simply put, the top contenders in Table 1 are all gear-intensive activities in which participants must acquire boats, skis, RVs, horses, and other essential gear in order to participate. As a result, these activities far outweigh minimalist sports such as hiking and running, in which participants only need a good pair of shoes to hit the trail.

The best available projections of long-term trends in national outdoor recreation participation come from the Federal Interagency Council on Outdoor Recreation, which uses data from the latest National Survey on Recreation and the Environment to project changes in recreation participation through 2030. Their latest report found that skiing, hiking, birding, and horseback riding were among the activities likely to increase the most by 2030, while hunting, fishing, snowmobiling, and off-road vehicle driving were expected to see declines nationally. (White et al., 2016)

**Takeaways for Summers County:** Summers County already offers ample opportunity for visitors and residents to participate in the top five most popular forms of recreation: running, fishing, biking, hiking, and camping. As a popular location for fishing tournaments, the county is also already taking advantage of the #1 most lucrative sector of recreation nationally. While all forms of outdoor recreation are beneficial and potentially impactful, Summers County can target the biggest economic return by focusing on gear-intensive recreational uses, such as fishing, biking, horseback riding, etc.

## 2.2 State trends

While recreation and tourism are both dominant industries in West Virginia, recreation is by far the more dominant of the two in the state economy.

**Table 3: State-level impacts of recreation and tourism in West Virginia**

Category	Recreation impacts	Tourism impacts
Consumer spending	\$9 billion	\$4.6 billion
Direct jobs	91,000 jobs	45,400 jobs
Salaries and wages	\$2.4 billion	\$1.2 billion
State/local tax revenue	\$660 million	\$534.5 million

Sources: Dean Runyan Associates (2019), Outdoor Industry Association (2017b)

After several years of decline, tourism and travel-related spending across the state have risen in 2017 and 2018. In terms of spending, visitors spend the most on:

1. food and restaurants,
2. local transportation and gas, and
3. lodging.

Yet, the most recent available data show that most tourism-related employment is concentrated in two broad sectors: 1) lodging and food, and 2) arts, entertainment, and retail. (Dean Runyan Associates, 2019)

## 2.3 County-level trends

From a recreation and tourism perspective, there are three major draws to Summers County and the immediate area: parks, kayak angling, and special events.

### 2.3.1 Parks

Summers County boasts an incredible density of public lands within and adjacent to its boundaries.

In 2018, **94,800 visitors** spent **\$19.6 million** in Summers County (Dean Runyan Associates, 2019).

- **New River Gorge National River:** The New River Gorge National River encompasses more than 72,000 acres across Raleigh, Fayette, and Summers counties. Following a 53-mile corridor along the New River, the park extends from the city of Hinton on the south to the upstream limit of Hawks Nest State Park on the north. With abundant recreation opportunities, the park brings 1.2 million visitors to southern West Virginia each year. Sandstone Falls is the park’s major draw within Summers County, though the Sandstone Falls Boardwalk falls on the Raleigh County side of the river. Other New River Gorge amenities within Summers County include Camp Brookside Environmental Education Center, the Sandstone Visitor Center, the three-mile Gwinn Ridge Trail, and the Meadow Creek Campground and boat launch. (NPS, 2011)
- **Bluestone National Scenic River:** The Bluestone National Scenic River is a ten-mile corridor of the Bluestone River in Summers and Mercer counties extending from Pipestem State Park to Bluestone State Park. Managed by the National Park Service (NPS), the park offers day use access to this scenic stretch of river for hikers, mountain bikers, boaters, and horse riders. (NPS, 2020c)
- **Pipestem Resort State Park:** Pipestem Resort State Park is a full-service resort perched on the east rim of the Bluestone River Gorge in Summers and Mercer counties. With a lodge, cabins, camping, and numerous outdoor adventure activities onsite, Pipestem is one of West Virginia’s top performing state parks in terms of economic impact and visitor spending. (WVSP, 2020c)
- **Bluestone State Park:** Bluestone State Park is a lakeside wilderness park located at the northern terminus of the Bluestone National Scenic River. Cabins and camping are available onsite to access the park’s swimming, fishing, and hiking opportunities. (WVSP, 2020a)
- **Bluestone Wildlife Management Area (WMA):** The Bluestone WMA covers over 17,000 acres along the New River from the state line with Virginia to the Bluestone Dam. Known for its seven waterfront camping areas, the WMA offers boating, fishing, hunting, hiking, and horseback riding opportunities on and around Bluestone Lake. (Bluestone WMA, 2016)
- **Camp Creek State Park:** Located in neighboring Mercer County, Camp Creek State Park is known for its waterfalls and opportunities for camping, fishing, swimming, hiking, biking, and horseback riding. According to proposed trail plans, Camp Creek State Park would be directly linked to Pipestem Resort State Park via the Great Eastern Trail. (WVSP, 2020b)
- **Little Beaver State Park:** Located in neighboring Raleigh County, Little Beaver State Park is known for its trail systems and 18-acre lake where anglers can drop a line year-round. Visitors to this park enjoy paddle boarding, kayaking, paddle-boating, biking, hiking, and picnicking. (WVSP, 2020d)

These public parks are the most significant driver of recreation and tourism to Summers County.

Table 4 shows a rough comparison of visitation and economic impact from state and national park visitors within Summers and Mercer counties in Fiscal Year (FY) 2015. These data show that Pipestem Resort State Park is the leading park in terms of both total visitation and total visitor spending

**Table 4: Estimated state and national park impacts within Summers and Mercer Counties**

State park	Total visitors	Total visitor spending	Percent spending by overnight users	Percent spending by non-residents
Bluestone National Scenic River	36,733	\$1,546,001	0%	88%
Bluestone State Park	196,585	\$6,379,463	33%	42%
Bluestone WMA	198,000	Unknown	Unknown	Unknown
Camp Creek State Park	141,319	\$3,817,083	16%	43%
Little Beaver State Park	210,315	\$5,374,317	6%	42%
Pipestem Resort State Park	344,283	\$15,313,671	56%	59%
New River Gorge National River	100,000	\$4,020,800	Unknown	88%

Note: All data sources are from FY 2015. Sources: Magnini and Uysal (2015), NPS (2015), USACE (2020)

While the New River Gorge National River attracts over 1 million visitors annually, the vast majority of those are concentrated in neighboring Fayette County, with many fewer venturing into Summers County. Based on NPS traffic counts in Summers County<sup>1</sup> and the agency’s own estimation, this report conservatively estimates that **at least eight percent (or approximately 100,000 individuals) of all New River Gorge National River visitors come to Summers County per year**. Using this estimate, roughly \$4 million of the New River Gorge National River’s \$55 million visitor spending is likely contributed to Summers County. (NPS, 2020a; NPS, 2020b)

Interestingly, these data show that state parks bring in considerably more visitors and greater economic impact to Summers County and the immediate area. This includes a higher percentage of local visitors, with a smaller percentage of visitors staying overnight. Conversely, NPS units attract significantly higher percentages of non-local visitors.

**Local versus non-local visitors?** All visitors are good for the local economy, but what types are the most impactful? Many recent studies across the country are demonstrating the influence that non-local visitors—those who travel away from home and stay overnight at a destination—have on recreation and tourism economies. For example, recent studies of the Great Allegheny Passage trail in Pennsylvania and Maryland have found that overnight trail visitors spend *six times more per day* than the average day visitor. (The Progress Fund, 2016)

### 2.3.2 Kayak angling

At the heart of Summers County lie its mighty rivers: the New, the Bluestone, and the Greenbrier. Converging in the center of the county near Hinton, these rivers present unparalleled recreation opportunities for boaters, anglers, and swimmers alike.

In recent years, however, kayak angling has grown into a niche opportunity in Summers County. Four major kayak angling organizations now host regular fishing tournaments on the New, Bluestone, and Greenbrier within the county, as outlined below in Table 5.

<sup>1</sup> NPS monitors traffic counts at three locations in Summers County, which have yielded a combined total average of 101,095 traffic counts over the last ten years (NPS, 2020b).



**Table 5: Kayak angling events in Summers County**

Group	Local tournaments per year	Number of participants	Participant type
Mountain State Kayak Anglers	1–2	75–125	Non-local
West Virginia Kayak Anglers	1–2	50–60	Non-local
Southern West Virginia Kayak Anglers	1–2	50–75	Non-local
Summers County Kayak Bass Anglers	5–7	40–50	Local

Sources: Downstream Strategies (2020)

Of these four organizations, Summers County Kayak Bass Anglers host the most events, which tend to consist of day-long fishing tournaments on weekends for a mostly local audience of participants.

While the other three organizations host fewer events in Summers County each year, they draw larger crowds of participants from across the state. With their boats and gear in tow, these non-local participants stay an average of two nights per tournament, eat in local restaurants, and buy gear and essentials at local tackle shops. While kayak angling events have risen precipitously in recent years, most experts expect this trend of rising popularity to continue.

### **2.3.3 Special events**

The final significant tourism and recreation draw in Summers County is the series of special events held in the county, primarily in and around Hinton, each year. Special events include John Henry Days (July), the West Virginia Water Festival (July/August), Festival of the Rivers (September), and Hinton Railroad Days (October).

The Hinton Railroad Days occur on two weekends every October coinciding with the New River Train Excursion, a special fall foliage train that runs from Huntington to Hinton. These two weekends comprise one of the county’s biggest events, yet since the New River Train Excursion is a round-trip journey starting and ending in Huntington, virtually none of the visitors stay overnight in the area.

## 3. IMPROVING TRAILS IN SUMMERS COUNTY

Throughout history, the rivers in Summers County have long served as major transportation routes. Two major trail development projects have been proposed within Summers County, which would route major long-distance trail systems along the New and Bluestone rivers. These trails, described below, would bring in new visitors, expand participation in existing recreation opportunities, and greatly increase visitor spending in Summers County, as detailed in Section 2.

### 3.1 Mary Ingles Trail

In 1755, Mary Ingles was taken captive in a Shawnee raid and taken from her home near present-day Blacksburg, Virginia, hundreds of miles away to the Ohio River. After a harrowing escape, Ingles followed the Ohio, Kanawha, and New rivers back to her home valley.

For decades, history enthusiasts have sought to create a trail tracing Mary Ingles' historic journey across West Virginia, including the key section along the New River in Summers County to the Virginia state line. Now, as more and more success stories emerge from trail towns across the region, interest is mounting to leverage the Mary Ingles and Great Eastern trails as economic engines for Summers and neighboring counties.

**Proposed route:** The proposed route would extend from Summers County's southernmost point near the Virginia line and the seven-mile Mary Ingles Trail segment in Giles County, Virginia, and follow the New River for approximately 50 miles across the entire extent of Summers County, where it would continue to follow the New to the Kanawha River. This route's southern section would traverse approximately 20 miles of river within the Bluestone WMA and 25 miles within the New River Gorge National River from Hinton north on the Raleigh County side of the river. Between these sections, the trail would cross approximately five miles of other property.

### 3.2 Great Eastern Trail

The Great Eastern Trail (GET) is a long-distance hiking trail envisioned to extend from Alabama to New York. Running parallel to the Appalachian Trail, the GET was designed as an alternative thru-hiking route to reduce traffic and deterioration on the Appalachian Trail. While some sections of the GET in Alabama, Georgia, Virginia, Maryland, and Pennsylvania have already been built, the trail has a sizable gap crossing southern West Virginia. The TuGuNu Hiking Club has taken the lead on building out the GET across southern West Virginia.

**Proposed route:** The West Virginia section of the GET would begin in Matewan, traverse west across Mingo and Wyoming counties, passing through public lands including R.D. Bailey WMA and Twin Falls State Park. Crossing into Mercer County, the GET would travel through Camp Creek State Park and Forest and connect to Pipestem Resort State Park. From there, it would follow the existing ten-mile Bluestone Turnpike Trail through the Bluestone National Scenic River all the way to Bluestone State Park and the confluence with the New River at what is known as Bluestone Lake.

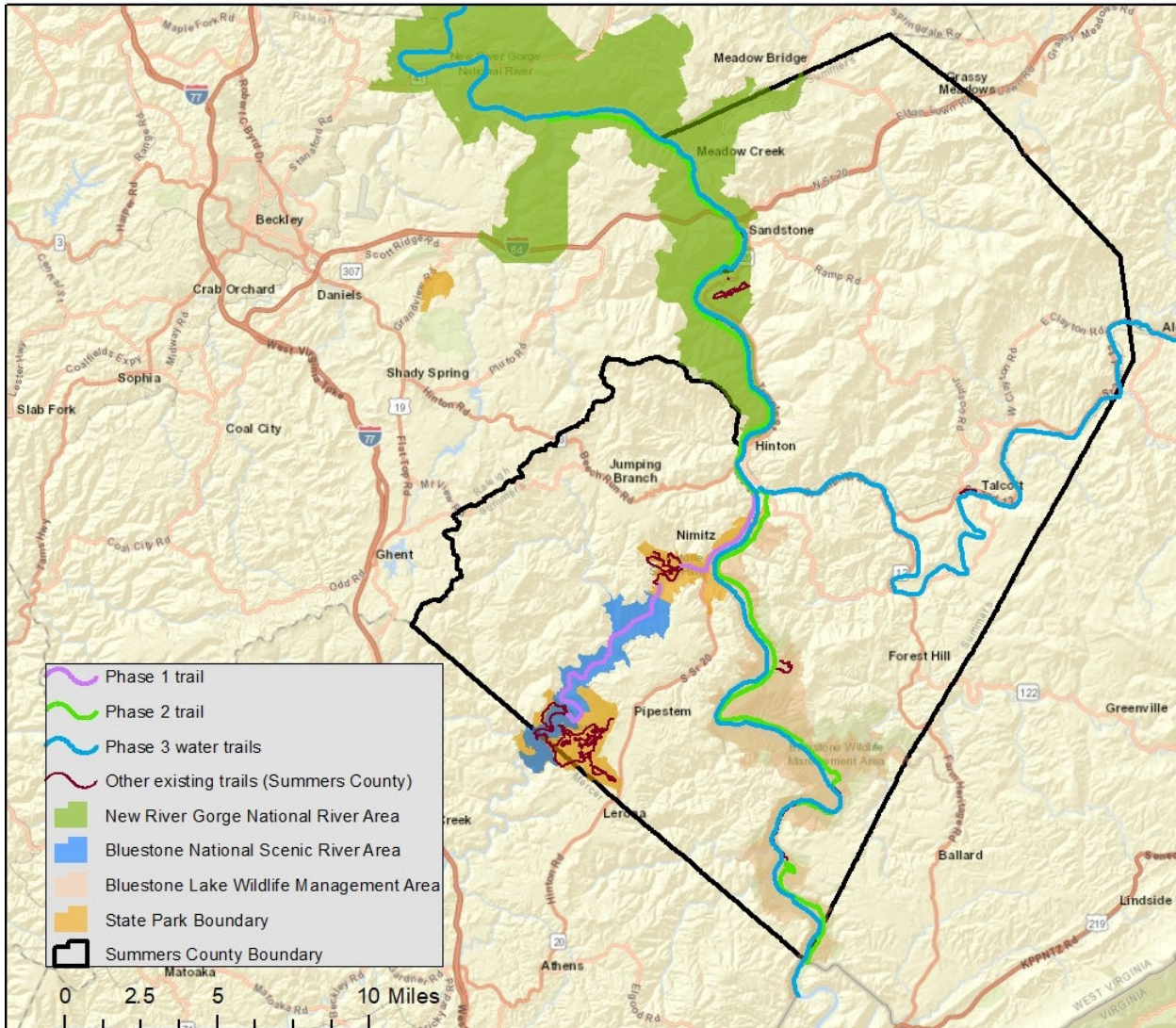
The GET route would then converge with the Mary Ingles Trail in Hinton, following the New River south to the Virginia line where it would join briefly with the Appalachian Trail.

### 3.3 Water trails

There are many miles of existing water trails in Summers County with a total of 15 put-in and take-out locations. Several of these river access points could be greatly improved and more boat launches could be added.

- **Greenbrier River Water Trail:** The Greenbrier River meanders through 173 scenic miles of southern West Virginia before reaching the New River at Hinton. It is a popular boating destination for individuals seeking a leisurely float through some of the region’s most scenic flatwater. There are currently five put-in and take-out locations along the river’s course in Summers County.
- **New River Water Trail:** The New River is a world-renowned whitewater paddling destination that flows directly through the center of Summers County. Along this route, there are 10 put-in and take-out locations.

**Figure 1: Phased development map**



Sources: Bureau of Economic Analysis (2020) and Downstream Strategies (2020)

## 4. PROJECTED ECONOMIC IMPACTS

When a trail project is built, its economic impacts reverberate throughout the community.

While the trail is under construction, workers and skilled laborers will be hired to build the trail and its ancillary facilities. Such job creation results in dollars spent in the local economy in the form of wages and salaries, as well as on supplies and materials purchased at local businesses. This spending results in an increase in new business development and overall economic activity within the community.

The following analysis examines the potential economic impact of trail developments in Summers County, looking first into the impacts expected *during* construction, followed by impacts *after* the trail is built and being used.

### 4.1 Impacts during construction

Each of the three proposed phases of construction will provide job creation and support opportunities for the state's operating engineers and other equipment operators and subsequently provide support to the local economies in which these people live.

The proposed trail developments would likely require skilled operators of heavy equipment including motor graders, bulldozers, scrapers, compressors, pumps, derricks, shovels, tractors, or front-end loaders for moving and grading earth, erecting structures, and pouring concrete and other hard surface pavement. West Virginia has the second-highest concentration of operating engineers and other equipment operators in the country, with nearly 10 out of every 1,000 jobs in West Virginia falling into this category. (US BLS, 2018)

However, the ultimate impact of trail development on the local economy is largely dependent on the final cost of construction. More dollars spent on construction means more dollars provided to employees, which translates to more dollars trickling into the local economy.

#### 4.1.1 Methods

After reviewing cost estimates from various sources, Downstream Strategies used detailed estimates derived from the Iowa Department of Transportation, which were used in the Northwestern Indiana Regional Planning Commission's 2010 Regional Pedestrian & Bicycle Plan (NIRPC, 2010). These estimates were then adjusted for West Virginia's landscape conditions and inflation. The Bureau of Economic Analysis' Regional Input-Output Modeling System (RIMS II) was then used to quantify the potential impacts of project spending on the local economy, using RIMS multipliers derived for the state of West Virginia.

The RIMS II system allows users to project the overall impact of an economic activity. For example, building a trail or a road results in other "rounds of spending" beyond the initial construction: the construction will require heavy inputs of asphalt, concrete, or other surface materials, which in turn leads to more production of those materials. Increased production translates into increased wages for workers, who may then spend more in the local economy with their increased earnings. As a result, using RIMS II, the construction projections for the three phases of construction include estimates for economic output as well as value added to the local economy. (Bureau of Economic Analysis, 2020)

#### Phase 1: Bluestone Turnpike Trail improvements

Phase 1 of trail development will be the completion of the necessary improvements along the Bluestone Turnpike Trail, which will ultimately connect Hinton to Pipestem Resort State Park via

trails through Bluestone State Park and the Bluestone National Scenic River Area. Any upgrades to the existing Bluestone Turnpike Trail within Bluestone National Scenic River are contingent on funding, compliance, and establishment of a formal agreement.

As shown in Table 6, the improvements over this nearly nine-mile section of trail are expected to cost just less than \$750,000.<sup>2</sup> This number, however, is dwarfed by economic impacts expected during construction. Economic modeling of the proposed Phase 1 budget suggests the project would result in a total economic output of just less than \$1.3 million, provide nearly \$330,000 to employees, support over six jobs, and improve local GDP by over \$660,000.

**Table 6: Phase 1 impacts**

Item	Cost	Output	Employee earnings	Jobs	Value added
Turnpike trail enhancements	\$750,000	\$1.3 million	\$330,000	6	\$660,000

Sources: Bureau of Economic Analysis (2020), Downstream Strategies (2020), and E. L. Robinson Engineering (2019)

### Phase 2: New River trail construction

Phase 2 of trail development will be the construction of the Mary Ingles trail on the eastern side of the New River south of Hinton through the Bluestone Lake WMA to the existing Mary Ingles Trail system in Giles County, Virginia, and on the western side of the New River north of Hinton to Glade Creek on the Raleigh County side of the river.

Table 7 below summarizes the anticipated project cost and economic output for differing types of trail surface used for this 50-mile section of trail. For example, the least expensive option would be a natural surface trail, which would cost \$1.2 million; however, this option would also result in by far the smallest economic output (nine jobs, \$450,000 in earnings, and \$1.8 million total economic output).

By contrast, a ten-foot-wide granular trail surface would be the most expensive option (\$12.1 million), yet it would bring the highest overall economic impact (101 jobs, \$4.7 million in wages, and \$17.5 million in total economic output).

**Table 7: Phase 2 impacts per surface type**

Trail surface	Width	Cost	Output	Employee earnings	Jobs	Value added
Natural surface	5 ft	\$1.2 million	\$1.8 million	\$450,000	9	\$904,000
Wood chips	5 ft	\$3.6 million	\$5.2 million	\$1,320,000	27	\$2,673,000
Granular	5 ft	\$7.0 million	\$10.2 million	\$2,730,000	59	\$5,309,000
Granular	10 ft	\$12.1 million	\$17.5 million	\$4,700,000	101	\$9,139,000

Source: NIRPC (2010), Bureau of Economic Analysis (2020)

**Comparing trail surfaces:** Natural surface trails generally offer the best “bang” for the County’s buck since they can accommodate most users at the most cost-effective price. Granular trail surfaces are needed to accommodate horse riders; however, given the significant added expense, granular surface paving should be limited to trails that will be used specifically for horse riders.

<sup>2</sup> Based on estimates provided by E.L. Robinson Engineering (2019).

### Phase 3: Trail center and river access improvements

Phase 3 of trail development will be focused entirely on development and improvement of accessory facilities, including:

- building or improving 10 boat launches, and
- constructing a river-front trail center near downtown Hinton.

Based on calculations, project partners can reasonably expect to spend around \$1.4 million on Phase 3 improvements. As is the case in the first two phases of trail development, the local impact of Phase 3, summarized in Table 8, far outweighs its costs.

**Table 8: Phase 3 impacts**

Item	Cost	Output	Employee earnings	Jobs	Value added
River access points (10)	\$400,000	\$695,000	\$176,000	3	\$357,000
Trail center	\$1,000,000	\$1,758,000	\$619,000	13	\$978,000

Source: NIRPC (2010), Bureau of Economic Analysis (2020)

## 4.2 Impacts after construction

Once construction is completed, a trail’s economic impact shifts from trail *builders* to trail *users*, who spend money at local restaurants, stores, lodging facilities, and other businesses.

To assess these economic impacts, the following sections outline the types of different trail users who would use improved trails in Summers County.

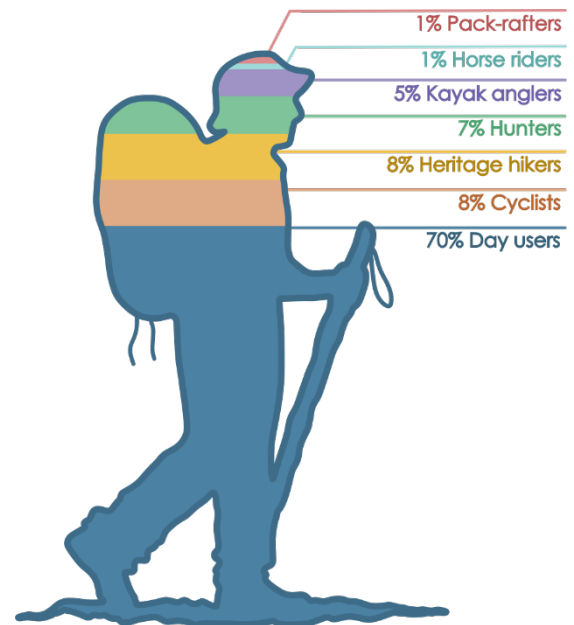
### 4.2.1 Trail user profiles

Through the development of the land- and water-based trails proposed in this study, Summers County can expect to attract a diverse portfolio of users, including hikers, bicyclists, anglers, boaters, and horseback riders.

Based on a review of available data and research into comparable trail systems, Summers County trails are likely to be used by the following main user types: day users, cyclists, heritage hikers, hunters, kayak anglers, horse riders, and pack-rafters. Table 9 shows a detailed comparison of each user type, including their estimated daily spending.

**Day users** are individuals who live within an hour’s drive of the trails. Day users represent all age groups and all activities, including hiking, biking, hunting, kayaking, fishing, swimming, and horse riding. Since they live within close proximity to the trails, they are projected to make up approximately 70% of total usership. However, since their visits are exclusively daytrips, they spend less than \$20 per visit, which makes their economic impact significantly less than that of overnight visitors.

**Cyclists** include road, mountain, and gravel riders seeking out opportunities for overnight bike trips. National surveys have found that bicycling tourists are predominantly young professionals in their 30s and 40s with high expendable incomes, and they take an average of two trips per year to bike. Summers County sits within the desired trip distance—250 miles—of approximately 7 million



mountain bikers in eastern metropolitan areas who head out of town on the weekends to try out new trails (Downstream Strategies, 2019). The average cycling tourist spends \$143 per day on a bike trip, which tend to be two or three nights in duration. While they sometimes camp, they often stay in cabins and AirBNBs, and they purchase half of all their (hearty) meals in higher-end local restaurants (Barber, 2015). With trail offerings for riders of all skill levels, cycling tourism offers strong potential for Summers County.

While Pipestem State Park lists mountain biking among their activities, they have no purpose-built mountain biking trails onsite. Targeted development of trail loops built specifically for mountain biking could be a great way to enhance Summers County as a destination for cyclists.

Within the cycling community, **bike-packing** is one of the fastest growing segments of the sport. Generally seeking out long distance rides on unpaved roads or trails, these riders attach bags with camping gear to the frames of their bicycles in order to complete multi-day rides. When it comes to mileage, cyclists can comfortably cover significantly more territory in a day than a person on foot.



Source: REI (2020)

As long-distance trails through scenic areas, both the Mary Ingles Trail and the Great Eastern Trail could be ideally suited for bike-packing, depending on the trail design. As a result, County partners could effectively market the Summers County trail circuit as an adventurous weekend challenge for bike-packers.

**Heritage hikers** are overnight visitors who will be drawn to the historical aspects of Summers County trails. This demographic will likely consist of older couples, mostly from West Virginia or nearby states, who are interested in the historic significance of the trails and other cultural amenities. Likely retired and with higher levels of income, heritage hikers are likely to be overnight visitors who would seek out local bed and breakfasts, hotels, cabins, or AirBNBs for one- or two-night stays. This demographic is most likely to interact with businesses in downtown Hinton and to take part in other cultural events or amenities in the area. This makes them the high projected spenders, estimated at \$150 per day.

**Hunters** are a key existing user group in Summers County whose recreation opportunities would be enhanced by the trail development. The mid-Atlantic is home to approximately one million hunters, including 787,000 deer hunters who spend approximately \$2.1 billion in retail sales in the region annually. Like cyclists, hunters are a user group that travels. Recent data indicate that Americans take over 140 million hunting trips per year, most of which are one-night outings where hunters spend \$147 per day. (Southwick Associates, 2018) Hunting is already a very popular activity in Summers County, particularly within the Bluestone WMA, and many of these hunters are expected to live locally and fall in the day user category. However, hunting is a market niche that Summers County is particularly well suited for. As a result, concerted marketing efforts could easily produce a sizeable pool of overnight visitors coming to the area specifically to hunt.

**Horse trail riders** include two key types of individuals: horse owners who bring their horses to ride Summers County trails, as well as other visitors taking part in a paid horseback trail ride in Summers County. Experts estimate that the horse industry contributes \$50 billion to the U.S. economy, and studies indicate the average horse rider spends \$125 in the local economy when traveling (American Horse Council, 2017; Equestrian Land Conservation Resource, 2015). However, much of the industry’s economic impact is derived from riders who travel to compete in horse shows. Those riding purely for recreation spend and travel less: According to a 2011 study, 75% of all recreational horse rides in Minnesota took place within 30 minutes of home (Schneider et al., 2011). This suggests that most horse riders would be day users, rather than overnight visitors. Based on this information, this report estimates the number of *overnight* horse users would be small, though nonetheless economically impactful. Given that they are traveling with horses, their lodging options are limited to those that can stable their horses overnight. Alternatively, the business prospects for a private stable offering commercial horse rides is very promising for the area, and participants would have wider lodging options available.

**Kayak anglers** are participants in an organized kayak angling tournament. Kayak angling is a growing sector of Summers County tourism and is a niche for which the county is particularly well suited given its spectacular water resources. As with all other forms of outdoor recreation, the economic impact from kayak anglers who stay in the county overnight is significantly higher than the impact of local fisherman.



A kayak angler on the New River. Source: Fishing

Tournament participants include all ages, though many are over 40. Most are male, and a small percentage bring their families along. Most kayak anglers camp at the site of the tournament (often Berry’s Campground on the Raleigh side of the New River), though some rent cabins. They make daily purchases at local tackle shops and dine at local restaurants for dinner over the course of their typically two-night stay, bringing their estimated spending total to \$80 per day. (West Virginia Kayak Anglers, 2020)



A pack-rafter on the Bluestone River. Source: Highland Outdoors (2018)

**Pack-rafters** are boaters seeking a scenic overnight float trip down Bluestone River. Young, outdoorsy adventurers are finding that pack-rafting offers a fun way to traverse the 10 miles of the Bluestone National Scenic River. Pack-rafters will likely spend two nights camping over the course of a weekend: the first at Pipestem, and the second at Bluestone State Park upon completion of their all-day voyage. The smallest projected activity group, pack-rafters nonetheless contribute mightily to the local economy: Assuming their rafts are available to rent through a local outdoor store or outfitter, the average pack-rafter would spend an estimated \$110 in the local economy per day.



**Table 9: Trail user profiles**

User	Age range	Locality	Typical lodging preferences	Typical dining preferences	Other spending	Estimate spending per day*
Day users	All ages	Local	Day users typically return home at the end of the day	A single meal or coffee	Minimal	\$13
Cyclist	30–50	From cities within 250–500 miles	Documented preference for higher-end camping or rentals with WiFi and other amenities	High preference for upscale coffee shops and local, nonchain restaurants	Likely to visit bike shops, outdoor stores, and other local businesses in the area	\$143
Heritage hiker	50+	From West Virginia and nearby states	Likely to spend one or two nights at a local bed and breakfast, hotel, or cabin	Restaurants or cafes	Likely to visit downtown Hinton shops	\$150
Horse trail rider	40+	From West Virginia and nearby states	If traveling with horses, lodging must have stables available	Restaurants or cafes	Commercial rides through a local stable	\$125
Kayak angler	All ages	From West Virginia and nearby states	Most spend two nights per trip. 75% camp, 25% reserve a bunk or cabin.	Dinner in Hinton both nights	Daily purchases from local tackle shops	\$80
Pack-rafter	20–40	From West Virginia and nearby states	Two nights camping: one at Pipestem, one at Bluestone	Likely to go to restaurants and coffee shops at the start and end of their trip	Gear rentals and purchases from local outfitters	\$110

\* Note: While these visitor spending estimates were informed by a number of different sources, these were ultimately based on best professional judgement by Downstream Strategies staff.

### 4.2.2 Trail user projections

In order to establish trail user projections, the project team reviewed comparable trail systems from neighboring states that cross public lands. Through this data review, four comparable trail systems emerged as particularly relevant to the trail opportunities in Summers County:

- the Chesapeake & Ohio (C&O) Towpath Trail,
- the Great Allegheny Passage Trail,
- the Ohio and Erie Canal Towpath Trail, and
- the Virginia Creeper Trail.

These trail systems are compared in Table 10 below.

**Table 10: Comparable trail systems**

Trail	State	Trail length	Annual estimated visitation	Adjacent public lands
C&O Canal Towpath	MD	185 mi	5,000,000	C&O Canal National Historic Park, Appalachian National Scenic Trail
Great Allegheny Passage	PA, MD	150 mi	946,000	C&O Canal National Historic Park, Ohiopyle State Park
Ohio & Erie Canal Towpath Trail	OH	87 mi	2,500,000	Cuyahoga Valley National Park, various state, county, and city parks
Virginia Creeper Trail	VA	34 mi	250,000	Mount Rogers National Recreation Area, Appalachian National Scenic Trail

Sources: NPS (2020), Virginia Creeper Trail (2020)

Each of these four trails is located in the mid-Atlantic, relatively close to urban users while still encompassing large rural sections. Additionally, each of these trails is adjacent to water resources and crosses federal lands, including major NPS properties comparable to (though with slightly higher visitation than) the New River Gorge National River. Finally, these four trails also feature significant historical resources and cultural heritage aspects similar to the Mary Ingles Trail.

Based on analysis of these comparable trail systems, the Great Eastern and Mary Ingles trail systems could reasonably expect up to *one million visits per year* within a twenty-year buildout timeline. This projection is contingent upon the completion of the three phases of construction and appropriate marketing of the trail resources.

Table 11 shows breakdowns of visitation by user type and visitor spending for three visitations scenarios.

**Table 11: Visitation projections by user group**

			500,000 visitors		750,000 visitors		1 million visitors	
	User split	Daily spending	Visitors/year	Total visitor spending	Visitors/year	Total visitor spending	Visitors/year	Total visitor spending
Day user	70%	\$13	350,000	\$4,550,000	525,000	\$6,825,000	700,000	\$9,100,000
Cyclists	8%	\$143	40,000	\$5,720,000	60,000	8,580,000	80,000	\$11,440,000
Heritage hikers	8%	\$150	40,000	\$6,000,000	60,000	9,000,000	80,000	\$12,000,000
Hunters	7%	\$147	35,000	\$5,145,000	52,500	\$7,717,500	70,000	\$10,290,000
Kayak anglers	5%	\$80	25,000	\$2,000,000	37,500	\$3,000,000	50,000	\$4,000,000
Horse riders	1%	\$125	5,000	\$625,000	7,500	\$937,000	10,000	\$1,250,000
Pack-rafters	1%	\$110	5,000	\$550,000	7,500	\$825,000	10,000	\$1,100,000
<b>Total</b>			<b>500,000</b>	<b>\$24,590,000</b>	<b>750,000</b>	<b>\$36,885,000</b>	<b>1,000,000</b>	<b>\$49,180,000</b>

Source: Downstream Strategies (2020)

While these results are exceedingly positive, it is important to realize that these figures represent goals to work toward, and they won't happen overnight. For example, the Great Allegheny Passage trail was completed in 2001 and has grown incrementally each year to just under one million visitors in 2018 (Herr, 2019). As a result, project leaders in Summers County should expect to make steady, long-term progress, and that a twenty-year timeline may be needed to achieve full visitation.

It should also be noted that some spillover with existing visitors to the area's national and state public lands can be expected. In other words, some visitor spending might be refocused from other local areas to areas around the new trail systems.

# 5. CHALLENGES AND RECOMMENDATIONS

The findings of this report show that the completion of the Mary Ingles and Great Eastern trails could be game-changing for Summers County.

This section presents both challenges and corresponding recommendations for strategic trail development.

## 5.1 Management constraints

Much of the Great Eastern and Mary Ingles trails would travel through public lands. As a result, the feasibility of these trail systems is highly subject to the permitted uses and management constraints within each property.

For example, most of the southern section of the Mary Ingles Trail would pass through the Bluestone WMA, which is owned by the U.S. Army Corps of Engineers (USACE) and managed by the West Virginia Division of Natural Resources (WVDNR). According to sources like USACE, Bluestone WMA only permits foot traffic in any areas behind closed gates. Additionally, horses, cattle, or other livestock are prohibited in camping, picnicking areas, swimming or recreation areas, and trails. (USACE, 2020) Therefore, current management constraints would likely limit the types of recreation available to users of the Mary Ingles and Great Eastern trails on the WMA property to hunting, fishing, and hiking, thus limiting opportunities for biking and horse riding.

**Recommendation: Natural trail construction.** Given the potential use restrictions within Bluestone WMA, natural surface trail construction makes the most sense for the Mary Draper Ingles and Great Eastern trails in Summers County. Natural surface trails are the most cost-effective yet still accommodate most non-motorized trail uses (all except for horse riding).  
  
As a result, the County should prioritize natural surface trail construction initially while keeping granular paved surface trails in mind for horse-specific trails down the road.  
  
Table 12 shows the total projected impacts from constructing natural surface trails.

**Table 12: Total projected construction impacts**

Phase	Cost	Output	Employee earnings	Jobs	Value Added
Phase 1	\$750,000	\$1.3 million	\$330,000	6	\$660,000
Phase 2	\$1.2 million	\$1.8 million	\$1.3 million	27	\$2.7 million
Phase 3	\$1.4 million	\$2.5 million	\$795,000	16	\$1.3 million
<b>Total</b>	<b>\$3.35 million</b>	<b>\$5.6 million</b>	<b>\$2.4 million</b>	<b>49</b>	<b>\$4.7 million</b>

Sources: Bureau of Economic Analysis (2020) and Downstream Strategies (2020)

**Recommendation: Foster partnerships.** Strong working partnerships with key stakeholders—including NPS, USACE, WVDNR, and the state parks, as well as local businesses, nonprofits, and other entities—will be crucial to carrying out the vision for these trail projects in Summers and other counties. Local leaders should prioritize communications and establish a working team of key stakeholders as early in the process as possible to ensure the long-term viability of this project.

## 5.2 Connections through private property

Even with management constraints, routing the trails through public lands will greatly simplify the trail planning process. The connections *between* public land holdings will likely prove much more difficult.

For example, the section of the Mary Ingles Trail around Hinton and on the western side of the New River will have to pass through private lands in order to connect with NPS property. Though the distance of trail in such parcels will likely be a fraction of those on public land, the portions of the trail on private property will necessitate negotiations with landowners to secure access through each property. Such negotiations could delay completion of trail sections on private land considerably, though other portions of the trail on public lands could proceed relatively quickly.

**Recommendation: Regional trail network authority.** To pave the way for routing the Mary Draper Ingles and Great Eastern trails on private property, Summers County should advocate the formation of a multi-county trail network authority.

In 2019, Governor Justice signed Senate Bill (SB) 317 into law, which allows three or more contiguous counties to create a multi-county trail authority for non-motorized trail networks. Once enacted, such authorities offer liability protection to landowners with recognized trails on their property. Faced with the liability from trespassing visitors already likely recreating on their property, the passage of this legislation greatly incentivizes private landowners to welcome trail development on their land.

Current efforts by the Mountain State Trail Alliance (formerly known as the New River Gorge Trail Alliance) seek to establish such an authority in Summers, Mercer, and surrounding counties. Summers County's support and participation in such an authority would likely help expedite its creation, and the County's engagement at the ground level will ensure the expeditious recognition of the Mary Draper Ingles Trail and Great Eastern Trail as participating trails in the multi-county network.

## 5.3 Tourism infrastructure

As detailed in the 2018 Tourism Business Opportunity Assessment report for the Hinton area, Summers County has some core elements of tourism infrastructure already in place (Downstream Strategies, 2018). But, is it enough to accommodate up to one million new trail visitors in the coming years?

Building upon the 2018 report, Table 13 provides an updated assessment of Summers County's tourism infrastructure, highlighting existing strengths and gaps as well as opportunities for targeted

expansion. Aside from downtown Hinton, relatively few tourism resources exist along the proposed trail routes. The table shows that the county’s existing amenities offer a great starting point for expansion, but that much more development of the dining, lodging, and other ancillary businesses will be needed to support the projected tourism expansion once the Mary Ingles and Great Eastern trails are completed.

**Table 13: Tourism infrastructure assessment**

Sector	Strengths	Gaps	Opportunities
River and trail access	Great access in existing public lands.	Limited access for visitors in downtown Hinton.	Make Hinton Summers County’s signature “trail town” by enhancing downtown trail and river connectivity.
Food and dining	Several popular restaurants and dining options in Hinton and at Pipestem Resort.	Aside from Pipestem, relatively few dining options exist along the proposed trail routes.	Trail-side dining venues would be sound investments to Summers County’s tourism infrastructure—particularly a café or beer garden located along the trail routes and at the proposed trailhead in Hinton.
Lodging	Summers County currently has a small but diverse spread of lodging options.	To sustain the projected trail tourism market, increases in overnight accommodations will be needed across all lodging types.	Given the preferences of trail tourists, sound investment opportunities include: higher-end, modern campgrounds; cabins and short-term rentals; bed and breakfasts; and boutique hotels.
Other businesses	Recreation-specific businesses, such as boat rentals and tackle shops, are on the rise.	While Hinton still has a number of stores, the county struggles to maintain diverse retail options. Gas stations are also relatively limited for large-scale tourism development.	Continue targeting and expanding recreation-specific business opportunities, including gear stores, rental opportunities for bikes and boats, and horse stables for commercial trail rides.

Sources: Downstream Strategies (2018 and 2020)

**Recommendation 3: Targeted business development.** To meet the market needs of anticipated trail users, Summers County should pursue strategic business development, focusing on the demonstrated consumer preferences of hikers, bikers, boaters, anglers, and horse riders. Among the opportunities listed in Table 13, several key market opportunities stand out.

First, higher-end campgrounds—equipped with Wi-Fi, bike storage, gear essentials for sale, modern bathhouses, and potentially horse stables—located along the trail routes will be in high demand from bike packers, pack-rafters, and horse riders. In addition, trail-side cafes, coffee shops, and beer gardens will be sought out by all users, including day users and overnight visitors alike.

Recreation-focused businesses also stand out as promising business opportunities. Boat rentals and tackle shops are currently doing well and stand to benefit even more from planned trail development. Other market opportunities include a bike shop with gear and rentals and commercial trail rides offered through a local stable or outfitter.

## 6. BEST PRACTICES

Based on research from other successful trail systems around the country, the following best practices offer relevant advice to Summers County.

### 1. Start a Trail Towns Program.

While building out a trail system is a critical first step, communities often need additional capacity-building assistance in order to realize a sustainable economic boost from land- and water-based trail development. As a result, the County and other stakeholders should support the creation of a Trail Towns Program modeled after the successful Great Allegheny Passage Trail Towns project.<sup>3</sup>

The Trail Towns Program offers a proven model for revitalizing rural communities by growing outdoor tourism and small businesses. The program will engage numerous partners who will work collaboratively with the Summers County communities to 1) understand opportunities in a recreation economy, and 2) devise business plans and marketing strategies to help entrepreneurs capture trail-related economic opportunities.

### 2. Keep construction dollars within the local economy.

Including local purchasing preferences or requirements in any necessary competitive bidding process is an easy way to keep money used for the construction and ongoing management of the trail system in the local community. Whatever entity that puts out Requests for Proposals for trail development and associated programmatic tasks should include language expressing a preference or requirement that the contract be filled by local entities.

### 3. Pursue co-marketing strategies with local players.

Marketing is critical aspect to any trail development project. In order for visitors to come to Summers County to visit the Mary Ingles and Great Eastern trails, they will need to hear about the trails and want to see the trails for themselves.

One of Summers County's greatest strengths is its close proximity to some of West Virginia's premier outdoor recreation destinations. Southern West Virginia's three NPS units—New River Gorge National River, Bluestone National Scenic River, and nearby Gauley River National Recreation Area—already draw 1.3 million visitors to the area each year, and many of those visitors will enjoy visiting the Mary Ingles and Great Eastern trails during their stays (NPS, 2019). As a result, partnering with the NPS, West Virginia State Parks, WVDNR, and the state Tourism Office will likely help boost the visibility of the Summers County trails to outside audiences.

Similarly, additional media coverage can greatly enhance the visibility of Summers County trails to outside audiences. Many successful trail destinations enhance their visibility by inviting journalists to come recreate on their trails and write about their experiences. One great example of positive media coverage is a 2018 story in *Highland Outdoors*, a West Virginia outdoor magazine, in which the author recounted his experience pack-rafting the Bluestone River (Kearns, 2018). As a how-to guide for pack-rafting novices, this article is a great marketing tool for enticing future visitors to the area.

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<sup>3</sup> The Great Allegheny Passage Trail Towns Program is an initiative of The Progress Fund. More information and a wide range of resources are available at [www.trailtowns.org](http://www.trailtowns.org).

#### **4. Use events to draw targeted user groups.**

When it comes to outdoor recreation, races, festivals, and other events are proven tools for growing a tourism base. As a result, events could be a promising way for Summers County to attract a regional and national audience.

Some West Virginia trail destinations are already using events to their advantage, bringing in significant visitor spending to their local economies. For example, the Canaan Valley area hosts several mountain bike races and a festival each year. Survey data from 2018 show that the roughly 550 event attendees spent an average of \$533 per trip (Eades and Arbogast, 2019). As a result, these mountain bikers contributed an estimated \$294,000 directly to the local economy during these *six days in 2018 alone* (Downstream Strategies, 2019).

Once the Mary Ingles and Great Eastern trails are developed, the County should consider developing signature outdoor recreation events to its advantage. Given the growth and popularity of kayak angling tournaments in recent years, Summers County already has a market niche with a considerable following that could be further enhanced through increased marketing and development. Other promising trail-oriented events could include bike races and triathlons.



## REFERENCES

- American Horse Council. 2017. Economic Impact of the United States Horse Industry. <https://www.horsecouncil.org/resources/economics/>
- Barber, Jeff. 2015. Mountain Bike Tourism: By the Numbers. Published by Singletracks.com. Accessed March 2019. <https://www.singletracks.com/blog/mtb-trails/mountain-biketourism-by-the-numbers/>
- Bluestone Wildlife Management Area (WMA). 2016. <http://www.bluestonewma.com/>
- Bureau of Economic Analysis. 2019. Outdoor Recreation Satellite Account, U.S. and Prototype for States, 2017. Published September 20, 2019. <https://www.bea.gov/news/2019/outdoor-recreation-satellite-account-us-and-prototype-states-2017>
- \_\_\_\_\_. 2020. RIMS II User Guide. [https://www.bea.gov/sites/default/files/methodologies/RIMSII\\_User\\_Guide.pdf](https://www.bea.gov/sites/default/files/methodologies/RIMSII_User_Guide.pdf)
- Center for Business and Economic Research (CBER). 2017. Economic Assessment of a Bike Trail System in Southern, West Virginia. Marshall University. Prepared for Region 4 Planning and Development Council. Published January 31, 2017.
- Dean Runyan Associates. 2019. West Virginia Travel Impacts: 2000–2018p. Prepared for the West Virginia Tourism Office. Published October 2019.
- Downstream Strategies. 2018. Tourism Business Opportunity Assessment: Hinton, West Virginia. Prepared for the Northern West Virginia Brownfields Assistance Center. [http://www.downstreamstrategies.com/wp-content/uploads/2018/09/tourism-business-opportunity-assessment\\_hinton.pdf](http://www.downstreamstrategies.com/wp-content/uploads/2018/09/tourism-business-opportunity-assessment_hinton.pdf)
- \_\_\_\_\_. 2019. Understanding Mountain Bike Tourism: Strategies and Recommendations for Increasing Mountain Bike Tourism Opportunities in Richwood, West Virginia. Prepared for the Richwood Chamber of Commerce. [http://www.downstreamstrategies.com/wp-content/uploads/2019/12/Understanding-Mountain-Bike-Tourism\\_Richwood-report-12.2.2019.pdf](http://www.downstreamstrategies.com/wp-content/uploads/2019/12/Understanding-Mountain-Bike-Tourism_Richwood-report-12.2.2019.pdf)
- Eades, D and Arbogast, D. 2019. Economic Impacts of Mountain Biking and Bike Trail Events and Festivals in West Virginia. Published by West Virginia University Extension Service. May 2019.
- E.L. Robinson Engineering. 2019. Probable Construction Costs: Bluestone Turnpike Trail. PDF document.
- Equestrian Land Conservation Resource. 2015. Equestrian Economic Impact Analysis: How Your Community Benefits.
- Herr, Andrew. 2019. Analysis of 2018 Trail Usage Patterns along the Great Allegheny Passage. Published July 29, 2019.
- Kearns, Matt. 2018. Packrafting the Bluestone River. Published in Highland Outdoors on July 2, 2018. <https://www.highland-outdoors.com/packrafting-bluestone-river/>
- Magnini, Vincent and Uysal, Muzaffer. 2015. The Economic Significance and Impacts of West Virginia's State Parks and Forests. Conducted by Institute for Service Research for West Virginia State Parks. Published December 2015. <https://wvstateparks.com/EconomicResearch2015.pdf>
- National Park Service (NPS). 2011. New River Gorge National River General Management Plan.

- \_\_\_\_\_. 2015. 2015 National Park Visitor Spending Effects: Economic Contributions to Local Communities, States, and the Nation. <https://www.ndtourism.com/sites/default/master/files/pdf/NPSVSE2015FINAL.pdf>
- \_\_\_\_\_. 2018. Economic Contributions of National Park Visitor Spending. <https://www.nps.gov/subjects/socialscience/vse.htm>
- \_\_\_\_\_. 2019. Tourism to National Parks in Southern West Virginia Creates Nearly \$70 Million in Economic Benefits. Released June 9, 2019.
- \_\_\_\_\_. 2020a. National Park Service Visitor Use Statistics. Park Reports for Bluestone NSR. <https://irma.nps.gov/STATS/Reports/Park/BLUE>
- \_\_\_\_\_. 2020b. National Park Service Visitor Use Statistics. Park Reports for New River Gorge NRbl. <https://irma.nps.gov/STATS/Reports/Park/NERI>
- \_\_\_\_\_. 2020c. Bluestone National Scenic River. <https://www.nps.gov/blue/index.htm>
- Northwestern Indiana Regional Planning Commission (NIRPC). 2010. Northwest Indiana Regional Pedestrian and Bicycle Transportation Plan. Appendix B: Trail Costs.
- Outdoor Industry Association. 2017a. The Outdoor Recreation Economy. [https://outdoorindustry.org/wp-content/uploads/2017/04/OIA\\_RecEconomy\\_FINAL\\_Single.pdf](https://outdoorindustry.org/wp-content/uploads/2017/04/OIA_RecEconomy_FINAL_Single.pdf)
- \_\_\_\_\_. 2017b. West Virginia Outdoor Recreation Economy Report. Published July 26, 2017. <https://outdoorindustry.org/resource/west-virginia-outdoor-recreation-economy-report/>
- Schneider, I, Date E, Venegas E, and Martinson, K. 2011. Economic Impact and Demographics of Recreational Horse Trail Users in Minnesota. *Journal of Equine Veterinary Science* 31(5):333-334. Summarized by Headwaters Economics.
- Southwick Associates. 2018. Hunting in America: An Economic Force. Prepared for the National Shooting Sports Foundation.
- The Outdoor Foundation. 2018. Outdoor Participation Report: 2018. <https://outdoorindustry.org/resource/2018-outdoor-participation-report/>
- The Progress Fund. 2015. Trail User Survey and Business Survey Report: Great Allegheny Passage. March 2015. <https://www.railstotrails.org/resourcehandler.ashx?name=trail-user-survey-and-business-survey-report-great-allegheny-passage&id=7313&fileName=2015-GAP-Report.pdf>
- \_\_\_\_\_. 2016. The Trail Town guide: Revitalizing rural communities with bike trail tourism.
- The U.S. Bureau of Labor Statistics (US BLS). 2018. Occupational Employment and Wages 47-2073 Operating Engineers and Other Construction Equipment Operators. <https://www.bls.gov/oes/2018/may/oes472073.htm>
- U.S. Army Corps of Engineers (USACE). 2020. Personal communication with Eric Jones and John Drossart. March 2020.
- West Virginia Kayak Anglers. 2020. Personal communication with John Rapp. February 2020.
- West Virginia State Parks (WVSP). 2020a. Bluestone State Park. <https://wvstateparks.com/park/bluestone-state-park/>
- \_\_\_\_\_. 2020b. Camp Creek State Park and Forest. <https://wvstateparks.com/park/camp-creek-state-park/>
- \_\_\_\_\_. 2020c. Pipestem Resort State Park. <https://wvstateparks.com/park/pipestem-resort-state-park/>

\_\_\_\_\_. 2020d. Little Beaver State Park. <https://wvstateparks.com/park/little-beaver-state-park/>

White E, Bowker JM, Askew A, Langner L, Arnold JR, English D. 2016. Federal outdoor recreation trends: effects on economic opportunities. U.S. Department of Agriculture, Forest Service, Pacific Northwest Station. [https://www.fs.fed.us/pnw/pubs/pnw\\_gtr945.pdf](https://www.fs.fed.us/pnw/pubs/pnw_gtr945.pdf)