

# **THE ECONOMIC AND FISCAL IMPACTS OF VIRGINIA'S STATE PARKS: 2024**

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### COVER PHOTO:

Widewater State Park

Source of image: <https://www.dcr.virginia.gov/state-parks/widewater>

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## ACKNOWLEDGEMENTS

This study could not have been conducted without the park visitors who completed surveys. Agency management was also very helpful in providing requested information.

## CITING THIS REPORT

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Visitors attracted annually to Virginia's State Parks stimulate a significant amount of economic activity throughout the state. This Executive Summary highlights the key findings of the 2024 Virginia State Parks economic impact analyses:

- In 2024, visitors to Virginia's State Parks spent an estimated \$351.99M in the Commonwealth. Approximately 38.2% [\$135.34M] of this spending was by out-of-state visitors.
- The total economic activity stimulated by Virginia State Parks during 2024 was approximately \$531.74M.
- The total economic impact of Virginia State Parks during 2024 was an estimated \$382.27M. Economic impact is a measure of "fresh money" infused into the state's economy that likely would not have been generated in the absence of the park system.
- At the individual park level, economic impacts ranged from \$999K to \$46.53M (not including parks under development).
- In 2024, for every \$1 of general tax revenue provided to state parks, \$12.29, on average, was generated in fresh money that likely would not have been produced without the operation of Virginia State Parks.
- Regarding employment, the economic activity stimulated by visitation to Virginia State Parks supported approximately 4,491 jobs in the state during 2024.
- In terms of wages and income, the economic activity spawned by Virginia State Parks was responsible for roughly \$196.04M in wage and salary income in 2024.
- Economic activity created by Virginia State Parks was associated with approximately \$320.65M in value-added effects which is a measure of the park system's contribution to the gross domestic product of the Commonwealth. These effects are especially important at the park-by-park level where most of the impact is retained in the local area.
- Economic activity stimulated by Virginia State Parks generated approximately \$40.20M in state and local tax revenues during 2024. As such, roughly \$1.29 in state and local taxes were generated for every dollar of tax money spent on the park system.

This study estimates the economic activity and impacts that Virginia State Parks create in the Commonwealth's economy. Specific objectives include:

- Assessing the direct and secondary economic activity and impacts of Virginia State Parks on a state-wide level;
- Estimating the direct and secondary economic activity and impacts of each specific park;
- Identifying economic benefits derived from non-residents of Virginia;
- Estimating spending derived from both day-user and overnight-user groups; and
- Modeling the economic benefits derived from park operational spending and capital improvement projects.

Achieving the above objectives, this study details the distribution of travel and recreational impacts of Virginia State Parks among the six park districts. The secondary economic impact items referred to above include indirect effects such as job creation and revenues brought into travel-related businesses. Secondary effects also include induced outcomes such as the increased spending power of those working in tourism, recreation, and supporting industries. In addition, a value-added effect is also calculated which models Virginia State Parks' contribution to the gross domestic product of the Commonwealth.

To fulfill the above objectives, the next section of this report describes the research procedures employed in this study. Subsequently, the study results are presented. Like any research, this economic modeling is subject to limitations which are also described herein. The report ends with a brief discussion section that summarizes key findings and also addresses some societal benefits provided by Virginia State Parks that cannot be included in econometric input-output modeling but are worthy of discussion.

This report represents the fourth year's work in a memorandum of understanding (MOU) between Longwood University and the Virginia Department of Conservation and Recreation in which Longwood's College of Business and Economics produces annual economic activity reports for Virginia State Parks. As will be explained later in this report, this agreement calls for

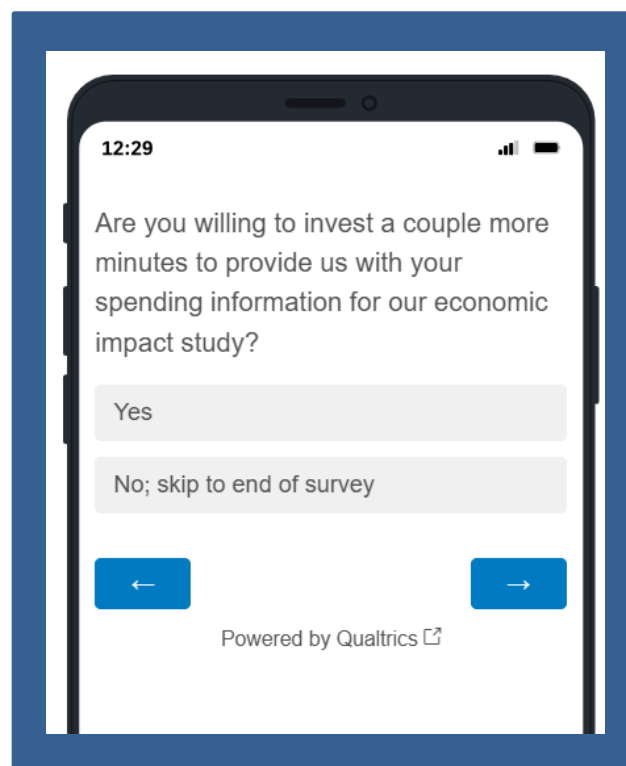
the continuous refinement of each economic modeling variable: administering a visitor spending survey to better understand spending patterns by visitor segment; and, incorporation of the most recent IMPLAN multipliers to model how money produces secondary economic effects in Virginia.

While every effort was taken to make this report clear and understandable to a non-economist audience, readers are advised that there is a glossary of terms contained in Appendix B.

{Research methods section begins on next page}

## DIRECT IMPACT MEASUREMENT

Economic activity of the state park system is created primarily from three sources: park visitor spending, the parks' operational expenditures (to the degree that they are not derived from visitor revenues, i.e. the tax derived portion of the park budget), and capital investment (again, to the degree that it is not derived from visitor revenues). In terms of visitor spending profiles, customized spending profiles were developed for Virginia State Parks by collecting 3,802 completed spending surveys from park visitors during 2016. Moreover, as displayed in the sidebar on this page, the spending survey was added as a supplemental section on the agency's *Your Comments Count* satisfaction survey throughout the 2024 calendar year. During this timeframe, 4,170 visiting parties provided their spending data which was used to calibrate the economic impact modeling employed in the current study.



The spending profiles that resulted from the analysis of the survey data and removal of data outliers are listed in Table 1. These profiles represent spending both inside and outside of the park, but within the state. Other than visitors' spending, park operational and capital expenditure amounts were provided by the Virginia Department of Conservation and Recreation (DCR).

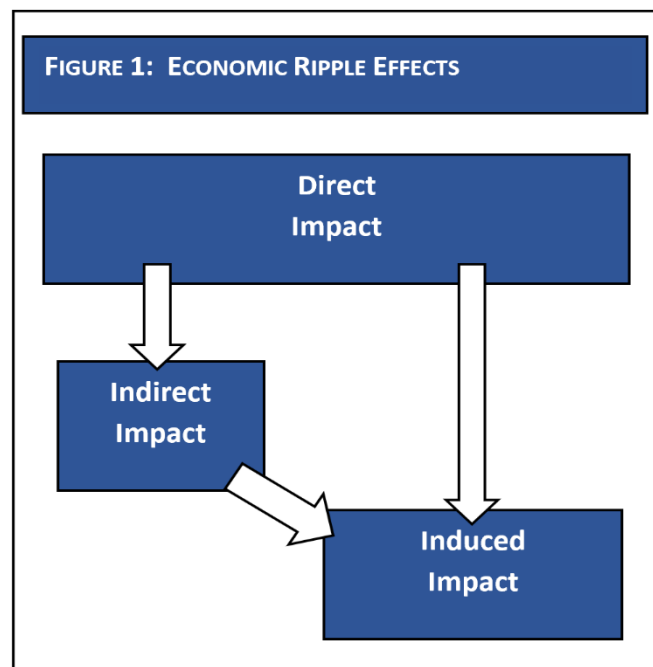
{Table 1 is presented on next page}



TABLE 1: AVERAGE VISITOR SPENDING: PROFILES BY SEGMENT (PER PARK DAY) <sup>a</sup>							
DAY VISITORS				OVERNIGHT GUESTS			
SPENDING CATEGORY	LOCAL DAY VISITOR	NON-LOCAL DAY VISITOR	NON-RESIDENT DAY VISITOR	RESIDENT CABIN GUEST	RESIDENT CAMPING GUEST	NON-RESIDENT CABIN GUEST	NON-RESIDENT CAMPING GUEST
<b>OVERALL PER VISITOR:</b>	<b>\$22.17</b>	<b>\$64.27</b>	<b>\$78.68</b>	<b>\$89.17</b>	<b>\$45.94</b>	<b>\$94.32</b>	<b>\$54.24</b>
<sup>a</sup> This Table does not include park operational or capital improvement spending.							

### SECONDARY IMPACT MEASUREMENT

In addition to assessing the direct impacts of the park system's economic activity, this study also models secondary or ripple effects which comprise economic activity from subsequent rounds of re-spending of money. As shown in Figure 1, there are two types of ripple effects: indirect and induced. Indirect effects entail the changes in sales, income, and jobs of suppliers to entities included in direct impact (Stynes et al., 2000). Induced effects encapsulate the changes in economic activity in the region stimulated by household spending of income earned through direct and indirect effects.



Indirect and induced effects are estimated using economic multipliers. Multipliers reflect the extent of interdependency between sectors in a region's economy and can vary significantly between regions and sectors (Stynes et al., 2000). Here is a simple example of how a multiplier can be interpreted: if the multiplier for the restaurant sector in a given region is 1.37 then it can be estimated that every dollar spent at a restaurant results in 37 cents of secondary economic activity in the region.

The economic multipliers, as well as calculations of job supported, tax revenues generated, and value-added effects were facilitated through the use of IMPLAN software. Specifically, economic multipliers for the Commonwealth of Virginia are commercially available in an economic impact estimation software titled IMPLAN commercialized by MIG, Inc. Therefore, the most recent IMPLAN multipliers were employed in this study to guide the estimation of indirect and induced economic impacts.

## **VISITATION MEASUREMENT**

Park attendance counts for 2023 were provided to the researcher by the Virginia Department of Conservation and Recreation. The attendance counting practices used in Virginia are in concert with accepted guidelines in the U.S. recreational park industry (see for example: *America's Byways Resource Center 2010*; Bezies, et al., 2011). For instance, automated vehicle counting technology is utilized at many unstaffed park entry points by multiplying vehicle counts by standard occupancy multipliers, with adjustments made for service vehicle traffic and park re-entry traffic. Overnight visitor calculations are made by multiplying site occupancies by standard multipliers, as well as employing information from the centralized reservations system.

The 2016 and 2017 data collection efforts described earlier in this report's Methods section proved useful in calibrating attendance multipliers. As such, to tabulate the modeling attendance for this study, per party multipliers of 3.4, 3.2, and 4.2 for day use, camping, and cabins (respectively) were used as model inputs.

## **MEASURING ECONOMIC ACTIVITY VS. ECONOMIC IMPACT**

Economic impact in this study is calculated using the "fresh money" flowing into an area as opposed to including spending by the local residents of the area. Therefore, this current study offers results compartmentalized according to the following categories:

Economic activity – economic output modeling that includes all visitor spending and consequent multiplier effects by both locals and non-locals as well as any money spent by parks that was not supported by visitor spending. Consequently, economic activity figures represent all of the economic activity stimulated by a park location within the state.

- Unadjusted economic activity: economic activity output figures computed using statewide IMPLAN multipliers.

- Adjusted economic activity: calibrated economic activity output figures based upon whether a given park's county(ies) has economic activity above or below the state average.

Economic impact – economic output modeling that includes all visitor spending and consequent multiplier effects by 1) in-state residents traveling 50 miles or more (one-way) to visit the park; and 2) all out-of-state visitors. Economic impact modeling also includes any money spent by parks (operational and capital improvements) that was not supported by visitor spending. Although operational and capital improvement spending derive (in part) from tax monies, they demonstrate economic impact when infused into local areas where parks exist.

Thus, economic impact figures reflect all of the “fresh money” entering an economy as a result of a given state park.

- Unadjusted economic impact: economic impact output figures computed using statewide IMPLAN multipliers. Also, unadjusted figures do not deduct spending by visitors who report that the park was not their primary destination.
- Adjusted economic impact: calibrated economic impact output figures based upon whether a given park's county(ies) has economic activity above or below the state average. Adjusted economic impact figures are also reduced by 12% (Magnini and Uysal, 2015a) to account for spending by park visitors who likely would have traveled and spent money in the state regardless of whether the park existed.

{Results section begins on next page}

## RESULTS

This section of the report contains the results of the economic modeling. First, visitor spending findings are presented (see Table 2). This visitor spending is portioned according to day use versus overnight and by Virginia resident versus non-resident. Second, economic activity and economic impact are reported (see Table 3). Third, job-related results are detailed (see Table 4). In the jobs outputs, both estimated total jobs and full-time equivalent (FTE) jobs are reported. FTE jobs represent total hours worked divided by the average annual hours worked in full-time jobs.

Fourth, park-by-park findings are listed in Tables 5-10 (see Appendix A for a map of park locations). The park-by-park results include estimated state and local tax revenues generated by each park's economic activity. In Virginia, for this type of tourism-related spending, the split between state and local tax revenues can be estimated at approximately 60-40 (state-local) for this type of tourism-related spending (<https://www.vatc.org/research/economicimpact/>).

Next in this results section, outcomes of capital investments are displayed (see Table 11). Lastly, the effects of park operational spending are reported (see Table 12). To reiterate, these capital improvement and operational components are already included in each park's modeling presented in Tables 5-10 but are partitioned as stand-alone modeling components in Tables 11 and 12 to tease-out the economic contributions of these elements. On a separate note, it is important to point out that the system-wide economic results (for example, those listed in the Executive Summary) are slightly different than the individual district results summed together because the overall system-wide IMPLAN modeling accounts for different indirect and induced effects than simply summing the individual district results. The glossary contained in Appendix B offers definitions of key terms used in this results section.

{Table 2 is presented on next page}

TABLE 2: VISITOR SPENDING\*

PARK	DAY VISITOR SPENDING	OVERNIGHT GUEST SPENDING	RESIDENT SPENDING	NON-RESIDENT SPENDING	TOTAL VISITOR SPENDING
<b>DISTRICT 1</b>					
Belle Isle	\$1.06M	\$1.21M	\$1.42M	\$849K	\$2.27M
Chippokes Plantation	\$2.24M	\$2.44M	\$2.96M	\$1.71M	\$4.67M
False Cape	\$1.46M	\$538K	\$1.22M	\$781K	\$2.00M
First Landing	\$22.92M	\$11.71M	\$21.49M	\$13.14M	\$34.63M
Kiptopeke	\$8.42M	\$5.87M	\$8.96M	\$5.33M	\$14.29M
Machicomoco	\$3.43M	\$918K	\$2.62M	\$1.72M	\$4.35M
York River	\$4.49M	\$0	\$2.65M	\$1.84M	\$4.49M
<b>TOTAL D1</b>	<b>\$44.02M</b>	<b>\$22.68M</b>	<b>\$41.32M</b>	<b>\$25.38M</b>	<b>\$66.70M</b>
<b>DISTRICT 2</b>					
Caledon	\$2.66M	\$99K	\$1.63M	\$1.13M	\$2.76M
Lake Anna	\$6.49M	\$3.73M	\$6.51M	\$3.72M	\$10.22M
Leesylvania	\$20.22M	\$15K	\$11.93M	\$8.30M	\$20.23M
Mason Neck	\$6.10M	\$1K	\$3.60M	\$2.50M	\$6.10M
Sweet Run	\$275K	\$0	\$162K	\$113K	\$275K
Westmoreland	\$2.36M	\$4.53M	\$4.54M	\$2.35M	\$6.89M
Widewater	\$1.57M	\$6K	\$930K	\$647K	\$1.58M
<b>TOTAL D2</b>	<b>\$39.67M</b>	<b>\$8.39M</b>	<b>\$29.30M</b>	<b>\$18.76M</b>	<b>\$48.06M</b>
<b>DISTRICT 3</b>					
Douthat	\$1.43M	\$6.07M	\$5.12M	\$2.38M	\$7.50M
James River	\$557K	\$3.62M	\$2.87M	\$1.31M	\$4.18M
Natural Bridge	\$8.81M	\$138K	\$5.29M	\$3.67M	\$8.95M
Seven Bends	\$3.69M	\$0	\$2.18M	\$1.51M	\$3.69M
Shenandoah River	\$4.71M	\$5.60M	\$6.73M	\$3.58M	\$10.31M
Sky Meadows	\$6.10M	\$616K	\$3.99M	\$2.72M	\$6.72M
<b>TOTAL D3</b>	<b>\$25.30M</b>	<b>\$16.04M</b>	<b>\$26.18M</b>	<b>\$15.17M</b>	<b>\$41.34M</b>
<b>DISTRICT 4</b>					
Bear Creek Lake	\$2.10M	\$2.53M	\$3.04M	\$1.59M	\$4.63M
High Bridge Trail	\$8.60M	\$0	\$5.07M	\$3.53M	\$8.60M
Holliday Lake	\$2.01M	\$1.03M	\$1.86M	\$1.19M	\$3.04M
Pocahontas	\$42.81M	\$7.24M	\$30.05M	\$20.00M	\$50.04M
Powhatan	\$5.30M	\$1.52M	\$4.12M	\$2.70M	\$6.82M
Sailor's Creek Battlefield	\$528K	\$0	\$311K	\$217K	\$528K
Staunton River Battlefield	\$1.17M	\$0	\$688K	\$479K	\$1.17M
Twin Lakes	\$4.11M	\$1.80M	\$3.71M	\$2.21M	\$5.92M
<b>TOTAL D4</b>	<b>\$66.63M</b>	<b>\$14.12M</b>	<b>\$48.84M</b>	<b>\$31.91M</b>	<b>\$80.75M</b>
Continued on next page					

PARK	DAY VISITOR SPENDING	OVERNIGHT GUEST SPENDING	RESIDENT SPENDING	NON-RESIDENT SPENDING	TOTAL VISITOR SPENDING
<b>DISTRICT 5</b>					
Claytor Lake	\$7.66M	\$5.14M	\$8.08M	\$4.72M	\$12.80M
Fairy Stone	\$1.57M	\$3.40M	\$3.40M	\$1.57M	\$4.97M
Occoneechee	\$3.68M	\$3.38M	\$4.57M	\$2.49M	\$7.06M
Smith Mountain Lake	\$21.40M	\$3.47M	\$15.08M	\$9.79M	\$24.87M
Staunton River	\$2.30M	\$1.73M	\$2.56M	\$1.46M	\$4.02M
<b>TOTAL D5</b>	<b>\$36.60M</b>	<b>\$17.12M</b>	<b>\$33.69M</b>	<b>\$20.03M</b>	<b>\$53.72M</b>
<b>DISTRICT 6</b>					
PARK	DAY VISITOR SPENDING	OVERNIGHT GUEST SPENDING	RESIDENT SPENDING	NON-RESIDENT SPENDING	TOTAL VISITOR SPENDING
Clinch River	\$289K	\$5K	\$174K	\$120K	\$294K
Grayson Highlands	\$3.83M	\$2.65M	\$3.99M	\$2.48M	\$6.48M
Hungry Mother	\$8.11M	\$5.35M	\$8.54M	\$4.92M	\$13.46M
Natural Tunnel	\$2.30M	\$2.27M	\$2.93M	\$1.64M	\$4.57M
New River Trail	\$30.88M	\$824K	\$18.79M	\$12.92M	\$31.71M
Southwest VA Museum	\$944K	\$27K	\$578K	\$394K	\$971K
Wilderness Road	\$3.94M	\$0	\$2.32M	\$1.62M	\$3.94M
<b>TOTAL D6</b>	<b>\$50.29M</b>	<b>\$11.13M</b>	<b>\$37.33M</b>	<b>\$24.09M</b>	<b>\$61.42M</b>
NOTES:					
* Slight differences in sums of addition are due to rounding of the figures.					

{Economic activity section begins on next page}

**TABLE 3: ECONOMIC ACTIVITY AND IMPACT OF VIRGINIA STATE PARKS**

PARK	ECONOMIC ACTIVITY (UNADJUSTED)	ECONOMIC ACTIVITY (ADJUSTED)	ECONOMIC ACTIVITY (AVERAGE)	ECONOMIC IMPACT (UNADJUSTED)	ECONOMIC IMPACT (ADJUSTED)	ECONOMIC IMPACT (AVERAGE)
<b>DISTRICT 1</b>						
Belle Isle	\$3.87M	\$3.71M	\$3.79M	\$3.09M	\$2.61M	\$2.85M
Chippokes Plantation	\$7.52M	\$7.22M	\$7.37M	\$5.95M	\$5.02M	\$5.49M
False Cape	\$3.57M	\$3.57M	\$3.57M	\$2.85M	\$2.50M	\$2.68M
First Landing	\$48.33M	\$48.33M	\$48.33M	\$36.09M	\$31.76M	\$33.93M
Kiptopeke	\$19.85M	\$18.26M	\$19.06M	\$14.90M	\$12.07M	\$13.48M
Machicomoco	\$6.56M	\$6.30M	\$6.43M	\$4.95M	\$4.18M	\$4.57M
York River	\$8.70M	\$8.35M	\$8.52M	\$6.96M	\$5.88M	\$6.42M
<b>TOTAL D1</b>	<b>\$98.40M</b>	<b>\$95.74M</b>	<b>\$97.07M</b>	<b>\$74.79M</b>	<b>\$64.03M</b>	<b>\$69.41M</b>
<b>DISTRICT 2</b>						
Caledon	\$4.39M	\$4.39M	\$4.39M	\$3.33M	\$2.93M	\$3.13M
Lake Anna	\$15.10M	\$15.71M	\$15.41M	\$11.62M	\$10.64M	\$11.13M
Leesylvania	\$29.00M	\$30.17M	\$29.59M	\$21.19M	\$19.39M	\$20.29M
Mason Neck	\$9.27M	\$9.65M	\$9.46M	\$6.92M	\$6.33M	\$6.62M
Sweet Run	\$1.48M	\$1.54M	\$1.51M	\$1.37M	\$1.26M	\$1.32M
Westmoreland	\$14.52M	\$13.94M	\$14.23M	\$12.34M	\$10.43M	\$11.38M
Widewater	\$3.65M	\$3.80M	\$3.72M	\$3.04M	\$2.78M	\$2.91M
<b>TOTAL D2</b>	<b>\$77.43M</b>	<b>\$79.19M</b>	<b>\$78.31M</b>	<b>\$59.82M</b>	<b>\$53.76M</b>	<b>\$56.79M</b>
<b>DISTRICT 3</b>						
Douthat	\$15.87M	\$14.96M	\$15.27M	\$13.39M	\$11.31M	\$12.35M
James River	\$6.89M	\$6.61M	\$6.75M	\$5.69M	\$4.80M	\$5.24M
Natural Bridge	\$12.20M	\$11.71M	\$11.96M	\$8.75M	\$7.39M	\$8.07M
Seven Bends	\$6.19M	\$6.19M	\$6.19M	\$4.77M	\$4.19M	\$4.48M
Shenandoah River	\$14.66M	\$14.66M	\$14.66M	\$11.33M	\$9.97M	\$10.65M
Sky Meadows	\$9.80M	\$10.19M	\$9.99M	\$7.25M	\$6.63M	\$6.94M
<b>TOTAL D3</b>	<b>\$65.33M</b>	<b>\$64.34M</b>	<b>\$64.84M</b>	<b>\$51.17M</b>	<b>\$44.31M</b>	<b>\$47.74M</b>
<b>DISTRICT 4</b>						
Bear Creek Lake	\$7.32M	\$7.03M	\$7.18M	\$5.84M	\$4.93M	\$5.39M
High Bridge Trail	\$15.37M	\$14.76M	\$15.07M	\$12.05M	\$10.18M	\$11.11M
Holliday Lake	\$4.57M	\$4.39M	\$4.48M	\$3.47M	\$2.93M	\$3.20M
Pocahontas	\$68.23M	\$68.23M	\$68.23M	\$49.50M	\$43.56M	\$46.53M
Powhatan	\$9.83M	\$9.83M	\$9.83M	\$7.31M	\$6.43M	\$6.87M
Sailor's Creek Battle.	\$1.29M	\$1.24M	\$1.26M	\$1.08M	\$915K	\$999K
Staunton River Battle.	\$2.03M	\$1.87M	\$1.95M	\$1.58M	\$1.28M	\$1.43M
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Twin Lakes	\$8.65M	\$7.96M	\$8.31M	\$6.58M	\$5.33M	\$5.96M
<b>TOTAL D4</b>	\$117.29M	\$115.30M	\$116.29M	\$87.42M	\$75.56M	\$81.49M
<b>DISTRICT 5</b>						
Claytor Lake	\$17.63M	\$16.92M	\$17.27M	\$13.23M	\$11.18M	\$12.21M
Fairy Stone	\$11.65M	\$10.72M	\$11.19M	\$10.18M	\$8.24M	\$9.21M
Occoneechee	\$9.86M	\$9.08M	\$9.47M	\$7.54M	\$6.10M	\$6.82M
Smith Mountain Lake	\$34.37M	\$34.37M	\$34.37M	\$25.16M	\$22.14M	\$23.65M
Staunton River	\$6.58M	\$6.05M	\$6.32M	\$5.22M	\$4.22M	\$4.72M
<b>TOTAL D5</b>	\$80.09M	\$77.14M	\$78.62M	\$61.33M	\$51.89M	\$56.61M
<b>DISTRICT 6</b>						
PARK	ECONOMIC ACTIVITY (UNADJUSTED)	ECONOMIC ACTIVITY (ADJUSTED)	ECONOMIC ACTIVITY (AVERAGE)	ECONOMIC IMPACT (UNADJUSTED)	ECONOMIC IMPACT (ADJUSTED)	ECONOMIC IMPACT (AVERAGE)
Clinch River	\$1.044M	\$961K	\$1.00M	\$932K	\$755K	\$843K
Grayson Highlands	\$9.45M	\$8.69M	\$9.07M	\$7.16M	\$5.79M	\$6.48M
Hungry Mother	\$20.00M	\$18.40M	\$19.20M	\$15.41M	\$12.47M	\$13.94M
Natural Tunnel	\$8.26M	\$7.60M	\$7.93M	\$6.74M	\$5.46M	\$6.10M
New River Trail	\$52.09M	\$44.28M	\$48.18M	\$39.93M	\$29.86M	\$34.89M
SW VA Museum	\$2.23M	\$2.05M	\$2.14M	\$1.85M	\$1.50M	\$1.68M
Wilderness Road	\$6.81M	\$6.27M	\$6.54M	\$5.29M	\$4.28M	\$4.79M
<b>TOTAL D6</b>	\$99.89M	\$88.25M	\$94.07M	\$77.31M	\$60.13M	\$68.72M

{Jobs section begins on next page}



**TABLE 4: JOBS ATTRIBUTED TO VIRGINIA STATE PARKS**

PARK	DIRECT JOBS	INDIRECT JOBS	INDUCED JOBS	TOTAL JOBS	FTE JOBS <sup>a</sup>
<b>DISTRICT 1</b>					
Belle Isle	23.27	3.56	4.14	30.97	28.49
Chippokes Plantation	45.06	7.25	7.77	60.08	55.27
False Cape	23.64	3.08	4.37	31.09	28.60
First Landing	315.00	53.97	49.11	418.08	384.63
Kiptopeke	118.64	20.34	18.54	157.52	144.92
Machicomoco	42.00	6.48	6.93	55.42	50.98
York River	49.45	8.17	8.96	66.57	61.25
<b>TOTAL D1</b>	617.06	102.85	99.82	819.73	754.14
<b>DISTRICT 2</b>					
Caledon	29.38	4.35	4.99	38.71	35.62
Lake Anna	105.03	16.98	17.36	139.37	123.29
Leesylvania	211.26	34.49	33.12	278.86	246.68
Mason Neck	67.51	10.35	11.10	88.97	78.71
Sweet Run	10.34	0.48	2.64	13.45	11.90
Westmoreland	75.47	12.94	14.70	103.10	94.85
Widewater	24.64	3.01	5.01	32.66	28.89
<b>TOTAL D2</b>	523.63	82.6	88.92	695.12	619.94
<b>DISTRICT 3</b>					
Douthat	80.25	13.69	15.79	109.73	100.95
James River	39.77	6.18	7.25	53.21	48.95
Natural Bridge	79.29	13.48	11.94	104.71	96.33
Seven Bends	40.47	6.02	7.02	53.52	49.24
Shenandoah River	93.32	15.56	15.20	124.08	114.15
Sky Meadows	71.39	11.34	11.42	94.15	83.29
<b>TOTAL D3</b>	404.49	66.27	68.62	539.4	492.91
<b>DISTRICT 4</b>					
Bear Creek Lake	44.07	6.83	7.72	58.61	53.92
High Bridge Trail	89.72	14.99	15.63	120.34	110.72
Holliday Lake	29.29	4.48	4.86	38.63	35.54
Pocahontas	458.49	77.84	69.63	605.96	557.48
Powhatan	65.88	10.55	10.52	86.95	80.00
Sailor's Creek Battlefield	8.16	0.80	1.72	10.67	9.82
Staunton River Battlefield	12.49	1.68	2.24	16.42	15.11
Twin Lakes	52.00	8.34	8.50	68.85	63.34
<b>TOTAL D4</b>	760.1	125.51	120.82	1006.43	925.93
Continued on next page					

DISTRICT 5					
Claytor Lake	110.04	18.81	17.19	146.05	134.36
Fairy Stone	53.70	9.81	10.97	74.48	68.52
Occoneechee	58.22	9.81	9.32	77.35	71.16
Smith Mountain Lake	229.05	38.62	35.28	302.95	278.71
Staunton River	39.16	5.62	6.98	51.76	47.62
<b>TOTAL D5</b>	<b>490.17</b>	<b>82.67</b>	<b>79.74</b>	<b>652.59</b>	<b>600.37</b>
DISTRICT 6					
PARK	DIRECT JOBS	INDIRECT JOBS	INDUCED JOBS	TOTAL JOBS	FTE JOBS <sup>a</sup>
Clinch River	6.27	0.42	1.48	8.18	7.52
Grayson Highlands	57.72	9.11	9.41	76.24	70.14
Hungry Mother	119.49	18.85	19.90	158.24	145.58
Natural Tunnel	48.46	6.50	9.14	64.09	58.96
New River Trail	289.13	47.73	48.58	385.45	354.61
Southwest VA Museum	13.50	1.40	2.79	17.68	16.26
Wilderness Road	41.92	5.69	7.52	55.13	50.72
<b>TOTAL D6</b>	<b>576.49</b>	<b>89.7</b>	<b>98.82</b>	<b>765.01</b>	<b>703.79</b>
<sup>a</sup> Full-time equivalent (FTE) jobs: total hours worked divided by avg. annual hours worked in full-time jobs.					

{Employment, labor income, value-added and tax revenue section begins on next page}

## EMPLOYMENT, LABOR INCOME, VALUE-ADDED, AND TAX REVENUES

Tables 5-10 add further detail to previously presented results by partitioning the direct, indirect, and induced effects of labor income and value-added figures for each park, as well as tax revenues generated.

TABLE 5: EMPLOYMENT, LABOR INCOME, VALUE-ADDED, TAX REVENUES: DISTRICT 1				
PARK	IMPACT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED
DISTRICT 1				
Belle Isle	Direct Effect	23.27	\$941K	\$1.39M
	Indirect Effect	3.56	\$261K	\$437K
	Induced Effect	4.14	\$252K	\$503K
	Total Effect	30.97	\$1.45M	\$2.33M
Total state and local taxes	\$269K			
Chippokes Plantation	Direct Effect	45.06	\$1.73M	\$2.63M
	Indirect Effect	7.25	\$533K	\$890K
	Induced Effect	7.77	\$472K	\$944K
	Total Effect	60.08	\$2.73M	\$4.47M
Total state and local taxes	\$544K			
False Cape	Direct Effect	23.64	\$1.04M	\$1.46M
	Indirect Effect	3.08	\$226K	\$374K
	Induced Effect	4.37	\$266K	\$532K
	Total Effect	31.09	\$1.54M	\$2.36M
Total state and local taxes	\$252K			
Continued on next page				

First Landing	Direct Effect	315.00	\$10.31M	\$16.24M
	Indirect Effect	53.97	\$3.96M	\$6.57M
	Induced Effect	49.11	\$2.98M	\$5.97M
	Total Effect	418.08	\$17.26M	\$28.78M
Total state and local taxes	\$3.86M			
Kiptopeke	Direct Effect	118.64	\$3.90M	\$6.17M
	Indirect Effect	20.34	\$1.49M	\$2.47M
	Induced Effect	18.54	\$1.13M	\$2.25M
	Total Effect	157.52	\$6.52M	\$10.90M
Total state and local taxes	\$1.47M			
PARK	IMPACT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED
Machicomoco	Direct Effect	42.00	\$1.54M	\$2.27M
	Indirect Effect	6.48	\$476K	\$787K
	Induced Effect	6.93	\$421K	\$843K
	Total Effect	55.42	\$2.44M	\$3.90M
Total state and local taxes	\$476K			
York River	Direct Effect	49.45	\$2.00M	\$2.98M
	Indirect Effect	8.17	\$601K	\$1.03M
	Induced Effect	8.96	\$544K	\$1.09M
	Total Effect	66.57	\$3.14M	\$5.10M
Total state and local taxes	\$566K			

{District 2 presented on next page}

**TABLE 6: EMPLOYMENT, LABOR INCOME, VALUE-ADDED, TAX REVENUES: DISTRICT 2**

PARK	IMPACT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED
DISTRICT 2				
Caledon	Direct Effect	29.38	\$1.13M	\$1.62M
	Indirect Effect	4.35	\$320K	\$529K
	Induced Effect	4.99	\$303K	\$606K
	Total Effect	38.71	\$1.75M	\$2.76M
Total state and local taxes	\$322,536			
Lake Anna	Direct Effect	100.99	\$3.66M	\$5.65M
	Indirect Effect	16.33	\$1.20M	\$1.99M
	Induced Effect	16.69	\$1.01M	\$2.03M
	Total Effect	134.01	\$5.87M	\$9.67M
Total state and local taxes	\$1,245,109			
Leesylvania	Direct Effect	203.13	\$6.81M	\$10.22M
	Indirect Effect	33.17	\$2.44M	\$4.03M
	Induced Effect	31.84	\$1.93M	\$3.87M
	Total Effect	268.13	\$11.18M	\$18.12M
Total state and local taxes	\$2.32M			
Mason Neck	Direct Effect	64.92	\$2.37M	\$3.45M
	Indirect Effect	9.95	\$732K	\$1.21M
	Induced Effect	10.67	\$648K	\$1.30M
	Total Effect	85.55	\$3.75M	\$5.96M
Total state and local taxes	\$722K			
Continued on next page				

Sweet Run	Direct Effect	9.94	\$702K	\$867K
	Indirect Effect	0.46	\$34K	\$56K
	Induced Effect	2.54	\$154K	\$308K
	Total Effect	12.94	\$889K	\$1.23M
Total state and local taxes	\$78K			
Westmoreland	Direct Effect	75.47	\$3.32M	\$5.18M
	Indirect Effect	12.94	\$951K	\$1.64M
	Induced Effect	14.70	\$893K	\$1.79M
	Total Effect	103.10	\$5.17K	\$8.60M
Total state and local taxes	\$960K			
Widewater	Direct Effect	23.69	\$1.18M	\$1.61M
	Indirect Effect	2.89	\$213K	\$359K
	Induced Effect	4.82	\$292K	\$585K
	Total Effect	31.40	\$1.69M	\$2.56M
Total state and local taxes	\$241K			

{District 3 presented on next page}

**TABLE 7: EMPLOYMENT, LABOR INCOME, VALUE-ADDED, TAX REVENUES: DISTRICT 3**

PARK	IMPACT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED
DISTRICT 3				
Douthat	Direct Effect	80.25	\$3.58M	\$5.66M
	Indirect Effect	13.69	\$1.01M	\$1.73M
	Induced Effect	15.79	\$960K	\$1.92M
	Total Effect	109.73	\$5.55M	\$9.31M
Total state and local taxes	\$960K			
James River	Direct Effect	39.77	\$1.66M	\$2.58M
	Indirect Effect	6.18	\$455K	\$757K
	Induced Effect	7.25	\$440K	\$881K
	Total Effect	53.21	\$2.55M	\$4.22M
Total state and local taxes	\$516,935			
Natural Bridge	Direct Effect	79.29	\$2.48M	\$3.81M
	Indirect Effect	13.48	\$990K	\$1.64M
	Induced Effect	11.94	\$725K	\$1.45M
	Total Effect	104.71	\$4.19M	\$6.89M
Total state and local taxes	\$923K			
Seven Bends	Direct Effect	40.47	\$1.60M	\$2.30M
	Indirect Effect	6.02	\$443K	\$738K
	Induced Effect	7.02	\$427K	\$854K
	Total Effect	53.52	\$2.47M	\$3.89M
Total state and local taxes	\$444K			
Continued on next page				

Shenandoah River	Direct Effect	93.32	\$3.28M	\$5.23M
	Indirect Effect	15.56	\$1.14M	\$1.89M
	Induced Effect	15.20	\$923K	\$1.85M
	Total Effect	124.08	\$5.35M	\$8.96M
Total state and local taxes	\$1.20M			
Sky Meadows	Direct Effect	68.64	\$2.39M	\$3.55M
	Indirect Effect	10.90	\$801K	\$1.32M
	Induced Effect	10.98	\$668K	\$1.34M
	Total Effect	90.53	\$3.86M	\$6.21M
Total state and local taxes	\$778K			

TABLE 8: EMPLOYMENT, LABOR INCOME, VALUE-ADDED, TAX REVENUES: DISTRICT 4				
PARK	IMPACT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED
DISTRICT 4				
Bear Creek Lake	Direct Effect	44.07	\$1.74M	\$2.67M
	Indirect Effect	6.83	\$502K	\$832K
	Induced Effect	7.72	\$469K	\$938K
	Total Effect	58.61	\$2.71M	\$4.44M
Total state and local taxes	\$548K			
High Bridge Trail	Direct Effect	89.72	\$3.43M	\$5.16M
	Indirect Effect	14.99	\$1.10M	\$1.87M
	Induced Effect	15.63	\$950K	\$1.90M
	Total Effect	120.34	\$5.48M	\$8.93M
Total state and local taxes	\$1.03M			



Continued from previous page				
Holliday Lake	Direct Effect	29.29	\$1.08M	\$1.60M
	Indirect Effect	4.48	\$329K	\$542K
	Induced Effect	4.86	\$295K	\$591K
	Total Effect	38.63	\$1.71M	\$2.73M
Total state and local taxes	\$333K			
Pocahontas	Direct Effect	458.49	\$14.52M	\$22.43M
	Indirect Effect	77.84	\$5.72M	\$9.45M
	Induced Effect	69.63	\$4.23M	\$8.46M
	Total Effect	605.96	\$24.46M	\$40.34M
Total state and local taxes	\$5.41M			
Powhatan	Direct Effect	65.88	\$2.29M	\$3.42M
	Indirect Effect	10.55	\$774K	\$1.28M
	Induced Effect	10.52	\$639K	\$1.28M
	Total Effect	86.95	\$3.70M	\$5.98M
Total state and local taxes	\$759K			
Sailor’s Creek Battlefield	Direct Effect	8.16	\$441K	\$577K
	Indirect Effect	0.80	\$58K	\$97K
	Induced Effect	1.72	\$105K	\$209K
	Total Effect	10.67	\$604K	\$883K
Total state and local taxes	\$77K			
Continued on next page				

PARK	IMPACT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED
Twin Lakes	Direct Effect	52.00	\$1.86M	\$2.85M
	Indirect Effect	8.34	\$613K	\$1.01M
	Induced Effect	8.50	\$517K	\$1.03
	Total Effect	68.85	\$2.99M	\$4.89M
Total state and local taxes	\$627K			
Staunton River Battlefield	Direct Effect	12.49	\$528K	\$736K
	Indirect Effect	1.68	\$124K	\$205K
	Induced Effect	2.24	\$137K	\$273K
	Total Effect	16.42	\$788K	\$1.21M
Total state and local taxes	\$132K			

**TABLE 9: EMPLOYMENT, LABOR INCOME, VALUE-ADDED, TAX REVENUES: DISTRICT 5**

PARK	IMPACT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED
DISTRICT 5				
Claytor Lake	Direct Effect	110.04	\$3.62M	\$5.75M
	Indirect Effect	18.81	\$1.38M	\$2.28M
	Induced Effect	17.19	\$1.04M	\$2.09M
	Total Effect	146.05	\$6.05M	\$10.13M
Total state and local taxes	\$1.37M			
Continued on next page				

Fairy Stone	Direct Effect	53.70	\$2.46M	\$3.97M
	Indirect Effect	9.81	\$723K	\$1.26M
	Induced Effect	10.97	\$666K	\$1.33M
	Total Effect	74.48	\$3.85M	\$6.57M
Total state and local taxes	\$727			
Occoneechee	Direct Effect	58.22	\$1.99M	\$3.18M
	Indirect Effect	9.81	\$721K	\$1.19M
	Induced Effect	9.32	\$566K	\$1.13M
	Total Effect	77.35	\$3.28M	\$5.51M
Total state and local taxes	\$745K			
Smith Mountain Lake	Direct Effect	229.05	\$7.42M	\$11.48M
	Indirect Effect	38.62	\$2.84M	\$4.69M
	Induced Effect	35.28	\$2.14M	\$4.29M
	Total Effect	302.95	\$12.40M	\$20.64M
Total state and local taxes	\$2.73M			
Staunton River	Direct Effect	39.16	\$1.62M	\$2.37M
	Indirect Effect	5.62	\$413K	\$682K
	Induced Effect	6.98	\$424K	\$849K
	Total Effect	51.76	\$2.45M	\$3.90M
Total state and local taxes	\$456K			

TABLE 10: EMPLOYMENT, LABOR INCOME, VALUE-ADDED, TAX REVENUES: DISTRICT 6				
PARK	IMPACT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED
DISTRICT 6				
Clinch River	Direct Effect	6.27	\$399K	\$503K
	Indirect Effect	0.42	\$31K	\$51K
	Induced Effect	1.48	\$90K	\$180K
	Total Effect	8.18	\$520K	\$735K
Total state and local taxes	\$54K			
Grayson Highlands	Direct Effect	57.72	\$2.07M	\$3.10M
	Indirect Effect	9.11	\$668K	\$1.10M
	Induced Effect	9.41	\$572K	\$1.14M
	Total Effect	76.24	\$3.31M	\$5.35M
Total state and local taxes	\$672K			
Hungry Mother	Direct Effect	119.49	\$4.40M	\$6.71M
	Indirect Effect	18.85	\$1.39M	\$2.29M
	Induced Effect	19.90	\$1.21M	\$2.42M
	Total Effect	158.24	\$7.00M	\$11.42M
Total state and local taxes	\$1,447,342			
Natural Tunnel	Direct Effect	48.46	\$2.18M	\$3.12M
	Indirect Effect	6.50	\$477K	\$791K
	Induced Effect	9.14	\$555K	\$1.11M
	Total Effect	64.09	\$3.21M	\$5.02M
Total state and local taxes	\$549,089			

New River Trail	Direct Effect	289.13	\$10.60M	\$15.92M
	Indirect Effect	47.73	\$3.51M	\$5.90M
	Induced Effect	48.58	\$2.95M	\$5.91M
	Total Effect	385.45	\$17.06M	\$27.73M
Total state and local taxes	\$3.22M			
Southwest VA Museum	Direct Effect	13.50	\$706K	\$933K
	Indirect Effect	1.40	\$103K	\$170K
	Induced Effect	2.79	\$169K	\$339K
	Total Effect	17.68	\$978K	\$1.44M
Total state and local taxes	\$131K			
PARK	IMPACT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED
Wilderness Road	Direct Effect	41.92	\$1.76M	\$2.46M
	Indirect Effect	5.69	\$418K	\$691K
	Induced Effect	7.52	\$456K	\$913K
	Total Effect	55.13	\$2.64M	\$4.07M
Total state and local taxes	\$444K			

#### ECONOMIC IMPACTS OF CAPITAL IMPROVEMENT SPENDING\*

This section details the effects of capital improvement spending during 2023. These capital improvement expenditures were already included in the economic activity and economic impact models presented earlier in this report but are also teased-out separately in this section to demonstrate how such expenditures infuse money into the economies of parks' host communities.

\*In this report, a monetary amount without a "K" or "M" is smaller than \$1,000 and is represented in actual value.

TABLE 11A: CAPITAL IMPROVEMENTS: BEAR CREEK LAKE [SPENT: \$ 114K]				
EFFECT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED	OUTPUT
Direct Effect	0.48	\$34K	\$58K	
Indirect Effect	0.14	\$11K	\$21,362	
Induced Effect	0.15	\$9K	\$19K	
Total Effect	0.78	\$54K	\$99K	\$175K

State and local taxes from capital improvements: \$8K

TABLE 11B: CAPITAL IMPROVEMENTS: BELLE ISLE [SPENT: \$207K]				
EFFECT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED	OUTPUT
Direct Effect	0.86	\$61K	\$106K	
Indirect Effect	0.27	\$20K	\$39K	
Induced Effect	0.28	\$17K	\$34K	
Total Effect	1.42	\$98K	\$179K	\$319K

State and local taxes from capital improvements: \$13K

TABLE 11C: CAPITAL IMPROVEMENTS: CALEDON [SPENT: \$20K]				
EFFECT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED	OUTPUT
Direct Effect	0.09	\$6K	\$11K	
Indirect Effect	0.03	\$2K	\$4K	
Induced Effect	0.03	\$2K	\$4K	
Total Effect	0.15	\$10K	\$19K	\$33K

State and local taxes from capital improvements: \$1K

TABLE 11D: CAPITAL IMPROVEMENTS: CHIPPOKES PLANTATION [SPENT: \$366K]				
EFFECT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED	OUTPUT
Direct Effect	1.54	\$109K	\$188K	
Indirect Effect	0.47	\$35K	\$69K	
Induced Effect	0.50	\$30K	\$61K	
Total Effect	2.51	\$174K	\$317K	\$564K

State and local taxes from capital improvements: \$24K

TABLE 11E: CAPITAL IMPROVEMENTS: CLAYTOR LAKE [SPENT: \$83K]				
EFFECT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED	OUTPUT
Direct Effect	0.35	\$25K	\$43K	
Indirect Effect	0.11	\$8K	\$16K	
Induced Effect	0.12	\$7K	\$14K	
Total Effect	0.57	\$40K	\$72K	\$129K

State and local taxes from capital improvements: \$5K

TABLE 11F: CAPITAL IMPROVEMENTS: DOUTHAT [SPENT: \$2.40M]				
EFFECT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED	OUTPUT
Direct Effect	10.05	\$711K	\$1.23M	
Indirect Effect	3.10	\$228K	\$450K	
Induced Effect	3.26	\$198K	\$397K	
Total Effect	16.41	\$1.14M	\$2.08M	\$3.69M

State and local taxes from capital improvements: \$156K

TABLE 11G: CAPITAL IMPROVEMENTS: FAIRY STONE [SPENT: \$2.45M]				
EFFECT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED	OUTPUT
Direct Effect	9.83	\$696K	\$1.20M	
Indirect Effect	3.04	\$223K	\$440K	
Induced Effect	3.19	\$194K	\$388K	
Total Effect	16.06	\$1.11M	\$2.03M	\$3.62M

State and local taxes from capital improvements: \$153K

TABLE 11H: CAPITAL IMPROVEMENTS: FIRST LANDING [SPENT: \$707K]				
EFFECT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED	OUTPUT
Direct Effect	3.09	\$219K	\$378K	
Indirect Effect	0.95	\$70K	\$138K	
Induced Effect	1.00	\$61K	\$122K	
Total Effect	5.04	\$350K	\$638K	\$1.14M

State and local taxes from capital improvements: \$48K

TABLE 11i: CAPITAL IMPROVEMENTS: GRAYSON HIGHLANDS [SPENT: \$15K]				
EFFECT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED	OUTPUT
Direct Effect	0.06	\$4K	\$7K	
Indirect Effect	0.02	\$1K	\$3K	
Induced Effect	0.02	\$1K	\$2K	
Total Effect	0.10	\$6K	\$12K	\$22K

State and local taxes from capital improvements: \$930

TABLE 11j: CAPITAL IMPROVEMENTS: HIGH BRIDGE TRAIL [SPENT: \$1.57M]				
EFFECT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED	OUTPUT
Direct Effect	6.57	\$465K	\$804K	
Indirect Effect	2.03	\$149K	\$294K	
Induced Effect	2.13	\$130K	\$259K	
Total Effect	10.72	\$744K	\$1.36M	\$2.41M

State and local taxes from capital improvements: \$102K

TABLE 11k: CAPITAL IMPROVEMENTS: JAMES RIVER [SPENT: \$240K]				
EFFECT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED	OUTPUT
Direct Effect	1.01	\$71K	\$124K	
Indirect Effect	0.31	\$23K	\$45K	
Induced Effect	0.33	\$20K	\$40K	
Total Effect	1.65	\$114K	\$208K	\$371K

State and local taxes from capital improvements: \$16K

TABLE 11L: CAPITAL IMPROVEMENTS: KIPTOPEKE [SPENT: \$260K]				
EFFECT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED	OUTPUT
Direct Effect	1.04	\$74K	\$128K	
Indirect Effect	0.32	\$24K	\$47K	
Induced Effect	0.34	\$21K	\$41K	
Total Effect	1.71	\$118K	\$216K	\$384K

State and local taxes from capital improvements: \$16K



**TABLE 11M: CAPITAL IMPROVEMENTS: LAKE ANNA [SPENT: \$90K]**

EFFECT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED	OUTPUT
Direct Effect	0.41	\$29K	\$50K	
Indirect Effect	0.12	\$9K	\$18K	
Induced Effect	0.14	\$8K	\$16K	
Total Effect	0.67	\$46K	\$85K	\$151K

State and local taxes from capital improvements: \$6K

**TABLE 11N: CAPITAL IMPROVEMENTS: LEESYLVANIA [SPENT: \$92K]**

EFFECT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED	OUTPUT
Direct Effect	0.42	\$30K	\$51K	
Indirect Effect	0.12	\$9K	\$19K	
Induced Effect	0.14	\$8K	\$16K	
Total Effect	0.68	\$47K	\$86K	\$153K

State and local taxes from capital improvements: \$6K

**TABLE 11O: CAPITAL IMPROVEMENTS: MACHICOMOCO [SPENT: \$19K]**

EFFECT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED	OUTPUT
Direct Effect	0.09	\$6K	\$10K	
Indirect Effect	0.03	\$2K	\$4K	
Induced Effect	0.03	\$1K	\$3K	
Total Effect	0.13	\$9K	\$17K	\$29K

State and local taxes from capital improvements: \$1K

**TABLE 11P: CAPITAL IMPROVEMENTS: NATURAL TUNNEL [SPENT: \$112K]**

EFFECT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED	OUTPUT
Direct Effect	0.45	\$32K	\$55K	
Indirect Effect	0.14	\$10K	\$20K	
Induced Effect	0.15	\$9K	\$18K	
Total Effect	0.73	\$51K	\$93K	\$166K

State and local taxes from capital improvements: \$7K

TABLE 11Q: CAPITAL IMPROVEMENTS: NEW RIVER TRAIL [SPENT: \$3.39M]				
EFFECT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED	OUTPUT
Direct Effect	12.57	\$890K	\$1.54M	
Indirect Effect	3.88	\$286K	\$563K	
Induced Effect	4.08	\$248K	\$496K	
Total Effect	20.53	\$1.42M	\$2.60M	\$4.62M

State and local taxes from capital improvements: \$195K

TABLE 11R: CAPITAL IMPROVEMENTS: POCAHONTAS [SPENT: \$52K]				
EFFECT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED	OUTPUT
Direct Effect	0.23	\$16K	\$28K	
Indirect Effect	0.07	\$5K	\$10K	
Induced Effect	0.07	\$4K	\$9K	
Total Effect	0.37	\$25K	\$47K	\$83K

State and local taxes from capital improvements: \$4K

TABLE 11S: CAPITAL IMPROVEMENTS: SEVEN BENDS [SPENT: \$171K]				
EFFECT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED	OUTPUT
Direct Effect	0.75	\$52K	\$91K	
Indirect Effect	0.23	\$17K	\$33K	
Induced Effect	0.24	\$15K	\$29K	
Total Effect	1.22	\$85K	\$154K	\$274K

State and local taxes from capital improvements: \$12K

TABLE 11T: CAPITAL IMPROVEMENTS: SHENANDOAH RIVER [SPENT: \$48K]				
EFFECT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED	OUTPUT
Direct Effect	0.21	\$15K	\$25K	
Indirect Effect	0.06	\$5K	\$9K	
Induced Effect	0.07	\$4K	\$8K	
Total Effect	0.34	\$24K	\$42K	\$76K

State and local taxes from capital improvements: \$3K

TABLE 11U: CAPITAL IMPROVEMENTS: SWEET RUN [SPENT: \$6K]				
EFFECT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED	OUTPUT
Direct Effect	0.03	\$2K	\$4K	
Indirect Effect	0.01	\$659	\$1K	
Induced Effect	0.01	\$572	\$1K	
Total Effect	0.05	\$3K	\$6K	\$11K

State and local taxes from capital improvements: \$450

TABLE 11V: CAPITAL IMPROVEMENTS: WESTMORELAND [SPENT: \$2.37M]				
EFFECT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED	OUTPUT
Direct Effect	9.94	\$704K	\$1.22M	
Indirect Effect	3.06	\$226K	\$445K	
Induced Effect	3.23	\$196K	\$392K	
Total Effect	16.24	\$1.13M	\$2.06M	\$3.66M

State and local taxes from capital improvements: \$154K

TABLE 11W: CAPITAL IMPROVEMENTS: WIDEWATER [SPENT: \$229K]				
EFFECT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED	OUTPUT
Direct Effect	1.04	\$74K	\$127K	
Indirect Effect	0.32	\$24K	\$47K	
Induced Effect	0.33	\$21K	\$41K	
Total Effect	1.70	\$118K	\$215K	\$382K

State and local taxes from capital improvements: \$16K

TABLE 11X: CAPITAL IMPROVEMENTS: YORK RIVER [SPENT: \$1.08M]				
EFFECT TYPE	EMPLOYMENT	LABOR INCOME	TOTAL VALUE-ADDED	OUTPUT
Direct Effect	4.54	\$321K	\$556K	
Indirect Effect	1.40	\$103K	\$203K	
Induced Effect	1.48	\$90K	\$179K	
Total Effect	7.42	\$514K	\$939K	\$1.67M

State and local taxes from capital improvements: \$71

## ECONOMIC IMPACTS OF OPERATIONAL SPENDING

This section details the effects of operational spending not supported by visitor revenues during 2024. This operational spending was already included in the economic activity and economic impact models discussed earlier in this report but is also teased-out separately in this section to demonstrate how such operational spending infuses money into the economies of parks' host communities. Because the majority of parks are located in areas of the Commonwealth in which economic activity is recorded below statewide metrics, such operational-related spending can be a boon to these economies.

**TABLE 12: ECONOMIC IMPACTS OF NON-VISITOR SUPPORTED PARK OPERATIONAL SPENDING**

**(PORTION OF PARK BUDGET DERIVED FROM VISITOR REVENUE REMOVED TO AVOID DOUBLE COUNTING)**

PARK	TOTAL VISITOR REVENUE	PARK OPERATIONAL EXPENDITURE	NET EXPENDITURE FROM NON-VISITOR SOURCES *	ECONOMIC IMPACT FROM OPERATIONAL SPENDING
<b>DISTRICT 1</b>				
Belle Isle	\$317K	\$629K	\$313K	\$541K
Chippokes Plantation	\$594K	\$982K	\$387K	\$670K
False Cape	\$128K	\$684K	\$556K	\$961K
First Landing	\$3.08M	\$3.12M	\$40K	\$70K
Kiptopeke	\$1.64M	\$1.20M	\$0	Reflected in park revenue
Machicomoco	\$217K	\$627K	\$410K	\$709K
Middle Peninsula	\$0	\$115	\$115	\$198
York River	\$143K	\$678K	\$535K	\$926K
<b>DISTRICT 2</b>				
Caledon	\$59K	\$448K	\$389K	\$701K
Culpeper Battlefield	\$0	\$21K	\$21K	\$36K
Lake Anna	\$1.17M	\$1.74M	\$577K	\$1.04M
Leesylvania	\$756K	\$1.57M	\$818K	\$1.47M
Mason Neck	\$198K	\$817K	\$619K	\$1.11M
Sweet Run	\$27K	\$735K	\$708K	\$1.27M
Westmoreland	\$918K	\$1.74M	\$824K	\$1.48M
Widewater	\$65K	\$797K	\$732K	\$1.32M
Continued on next page				

PARK (CONTINUED)	TOTAL VISITOR REVENUE	PARK OPERATIONAL EXPENDITURE	EXPENDITURES FROM NON- VISITOR	ECONOMIC IMPACT FROM OPERATIONAL SPENDING
<b>DISTRICT 3</b>				
Douthat	\$1.57M	\$2.47M	\$903K	\$1.56M
Hayfields State Park	\$0	\$115K	\$115K	\$198K
James River	\$801K	\$1.29M	\$485K	\$840K
Natural Bridge	\$2.74M	\$2.38M	\$0	Reflected in park revenue
Seven Bends	\$41K	\$612K	\$571K	\$988K
Shenandoah River	\$1.16M	\$1.43M	\$267K	\$462K
Sky Meadows	\$381K	\$814K	\$434K	\$750K
<b>DISTRICT 4</b>				
Bear Creek Lake	\$680K	\$1.17M	\$491K	\$850K
High Bridge Trail	\$91K	\$819K	\$728K	\$1.26M
Holliday Lake	\$238K	\$540K	\$302K	\$523K
Pocahontas	\$2.83M	\$2.78M	\$0	Reflected in park revenue
Powhatan	\$335K	\$713K	\$377K	\$653K
Sailor's Creek Battlefield	\$20K	\$387K	\$367K	\$634K
Staunton River	\$8K	\$291K	\$283K	\$478K
Twin Lakes	\$550K	\$898K	\$349K	\$603K
<b>DISTRICT 5</b>				
Claytor Lake	\$1.62M	\$1.63M	\$9K	\$14K
Fairy Stone	\$1.04M	\$1.55M	\$508K	\$859K
Mayo River	\$0	\$1K	\$1K	\$2K
Occoneetchee	\$966K	\$1.07M	\$104K	\$175K
Smith Mountain Lake	\$1.30M	\$1.53M	\$235K	\$397K
Staunton River	\$449K	\$1.14M	\$691K	\$1.17M
<b>DISTRICT 6</b>				
Clinch River	\$3K	\$419K	\$417K	\$704K
Grayson Highlands	\$877K	\$1.32M	\$445K	\$752K
Hungry Mother	\$1.55M	\$2.56M	\$1.01M	\$1.70M
Natural Tunnel	\$673K	\$1.78M	\$1.11M	\$1.87M
New River-Combined	\$380K	\$2.57M	\$2.19M	\$3.70M
Southwest Virginia	\$39K	\$620K	\$580K	\$981K
Wilderness Road	\$59K	\$992K	\$933K	\$1.58M
*In the net expenditure column, an entry of zero represents a situation in which operating revenues exceeded operating expenses.				

The findings of this 2024 economic impact study highlight many of the contributions of the state park system to the economy of Virginia. The economic activity

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supported by Virginia's State Parks contributed approximately \$531.74M to the Commonwealth's economy; whereas, the economic impact was estimated at \$382.27M during 2024. The difference between the economic activity amount (includes spending by local residents) and the economic impact amount (does not include spending by local residents) illustrates that Virginia's State Parks not only attract fresh-money from outside of the area, but also serve to limit the economic leakage of money from within Virginia. In other words, the parks help entice locals to spend their money inside the Commonwealth as opposed to pursuing such recreational outings in other localities.

Furthermore, in terms of employment, the economic activity surrounding visitation to Virginia's State Parks supported an estimated 4,491 jobs. The wages and salaries associated with these jobs are estimated at \$196.04M in wage and salary income. Moreover, economic activity stimulated by Virginia State Parks generated approximately \$40.20M in state and local taxes during 2024 and contributed roughly \$320.65M to the GDP of Virginia through value-added effects. Using these modeling estimations, roughly \$1.29 in state and local taxes were generated for every dollar of tax money spent on the park system.

The notable expansion of Virginia's state park system is correlated with larger economic impacts. The park system has grown by approximately  $\frac{1}{4}$  in the past decade. The sidebar on this page highlights Sweet Run State Park which began contributing economic impacts to this annual research during 2024. Culpeper Battlefield, Mayo River, and Middle Peninsula are several other examples of locations that will likely increase economic contributions in the coming years.

As detailed in the final sections of this study's findings, capital improvement expenditures in parks couple with visitor spending to produce economic outputs. Particularly with high usage volumes, park infrastructure and facilities periodically need significant maintenance and repair.

The point here being that such capital investment is associated with economic impacts: temporary impacts from the construction project itself, and long-run impacts by enhancing a park's ability to attract and retain visitors. During 2024, for instance, an estimated \$2.45M and \$3.39M were invested at Fairy Stone and New River Trail, respectively.

Regarding state park economic modeling, it is important to understand that all modeling inputs are dynamic. More specifically, according to Crompton (1993), the validity and reliability of an economic impact study depend on: 1) the accuracy of visitor spending estimates; 2) adherence to statistical rules applied in the study in particular pertaining to the use of the multiplier coefficients; and 3) reasonable attendance estimates. First, in terms of spending estimates, customized spending profiles were updated this year by surveying more than 4,000 visiting parties. Second, regarding the multiplier coefficients, the most recent IMPLAN multipliers were utilized. Third, in terms of attendance estimation, the agency has robust procedures for tabulating the attendance volumes at each state park.

As demonstrated by two radical economic disruptions [the great recession and the covid-19 pandemic], state parks help insulate Virginia's tourism infrastructure from economic disruptions. When the economy flourishes, people visit state parks... when the economy contracts, people STILL visit state parks. Thus, many other businesses within Virginia's tourism infrastructure (e.g. convenience stores, gas stations, etc...) often benefit from the steady, relatively recession-resistant flow of visitors to Virginia's State Parks. Along these lines, many of Virginia's State Parks help inject money into economically-strained areas of the Commonwealth. In fact, the majority of Virginia's State Parks are located in areas that are below the statewide average on commonly employed economic indicators such as median income. The blue way park being developed along the Clinch River, for instance, serves as an illustration of how state parks can infuse fresh money into economically recessed areas of the Commonwealth.

When addressing the various impacts of parks, it is also germane to note that even non-visitors value parks. That is, even people who do not visit parks value their existence and want to see them preserved (Greenley, Walsh, and Young, 1981; Institute for Service Research, 2018). Therefore, parks have an *existence value* by which even those who do not visit are typically glad that they exist. In addition, parks have a *bequest value* in that both visitors and non-visitors want parks preserved for future generations. Evidence of such value associated with parks is seen in studies that find residential real estate values to be higher when a property abuts or fronts a passive use park (for a meta-analysis, see: Crompton 2005).

While this study estimated many economic impacts of Virginia’s State Parks such as jobs, labor income, value-added, and state and local taxes generated, it is prudent to note that a number of other benefits (both tangible and intangible) could not be included in the modeling. For example, visitation counts increased at many nature-based venues during the COVID-19 pandemic, in part, because such activities are known to improve both physical and mental/cognitive health (for a review, see: Quendler, Magnini, and Driouech, 2020). While the physiological benefits associated with outdoor recreation have both economic and non-economic benefits, such outcomes are difficult to capture and measure using input-output economic modeling.

Other benefits of state parks that are not reflected in input-output modeling are the protections afforded to cultural, historic, and natural resources. Several examples of the protection of historical resources are Sailor’s Creek Battlefield, Staunton River Battlefield, and the key role that the High Bridge played during the U.S. Civil War. Likewise, examples of the protection of natural resources can be witnessed in the unique flora and fauna at Clinch River and First Landing State Park. The various benefits associated with the protection of these resources are not incorporated into the economic outputs described in this report.

{End of narrative}



**Dr. Vincent Magnini** was ranked as one of the top 35 most prolific hospitality researchers worldwide in the most recently published global ranking study. Furthermore, he is a U.S. Fulbright Scholar and has been named on the Stanford/Elsevier list of the top 2% of scientists in the world 4 out of the last 5 years. He has published seven books covering various aspects of service management. Dr. Magnini has also been featured on National Public Radio's (NPR) *All Things Considered*, *With Good Reason*, *Pulse on the Planet* and cited in the *New York Times* and *Washington Post*.

Dr. Magnini regularly consults for a number of constituencies in the hospitality, tourism and outdoor recreation sectors. The consulting activities include projects such as strategic master plans, economic impact analyses, feasibility studies, and executive education seminars. He has conducted research projects and /or delivered workshops to the state park systems of Florida, Kentucky, North Carolina, South Carolina, Virginia, and West Virginia.

Examples of economic impact studies completed by Dr. Magnini include:

- The Economic and Fiscal Impacts of the 2024 Coastal Virginia Auto Show
- The Economic and Fiscal Impacts of the 2024 Stratusphere Gin Virginia Beach Cup
- The Economic and Fiscal Impacts of the 2024 Virginia Beach Columbus Day Soccer Tournament
- The Economic and Fiscal Impacts of the 2024 Iron Blossom Music Festival
- The Economic and Fiscal Impacts of the 2023 Something in the Water Music Festival held in Virginia Beach, VA
- The Economic Impacts of the 2023 Beach It County Music Festival held in Virginia Beach, VA
- The Economic and Fiscal Impacts of the 2023 Virginia beach Jackalope Festival
- The Economic and Fiscal Impacts of the 2023 Bulls and Barrels Beach Rodeo held in Virginia Beach, VA
- The Economic and Fiscal Impacts of the Audacy Oceanfront Concert Series held in conjunction with the 60<sup>th</sup> Annual East Coast Surfing Championships
- The Economic Impacts of Virginia's Civil Rights in Education Heritage Trail (with Chuck Wyatt)
- The Economic and Fiscal Impacts of Doe Mountain Recreational Area (with Chuck Wyatt)
- The Economic Impacts of the Virginia Capital Trail (with Lauren Pilkington and Chuck Wyatt)
- The Economic Impacts of Agritourism in Loudoun County, VA
- The Economic Impacts of Michigan's Ports and Harbors (with Dr. John Crotts)
- Potential Economic Impacts of a Shooting and Archery Range Complex in the SRRA Area (with Chuck Wyatt)
- Virginia State Parks Economic Impact Report (conducted annually)
- The Economic Impacts of the Southern Virginia Higher Education Center
- The Economic Impacts of Southside Virginia Community College

- Potential Economic Impacts and Factors Contributing to the Success of Rail-to-Trail Conversions (with Chuck Wyatt)
- The Economic Impacts of Spearhead Trails (with Chuck Wyatt)
- The Fiscal and Economic Impacts of Virginia's Agritourism Industry (with Esra Calvert and Dr. Martha Walker)
- The Economic Significance and Impacts of West Virginia's State Parks and Forests (with Dr. Muzzo Uysal)

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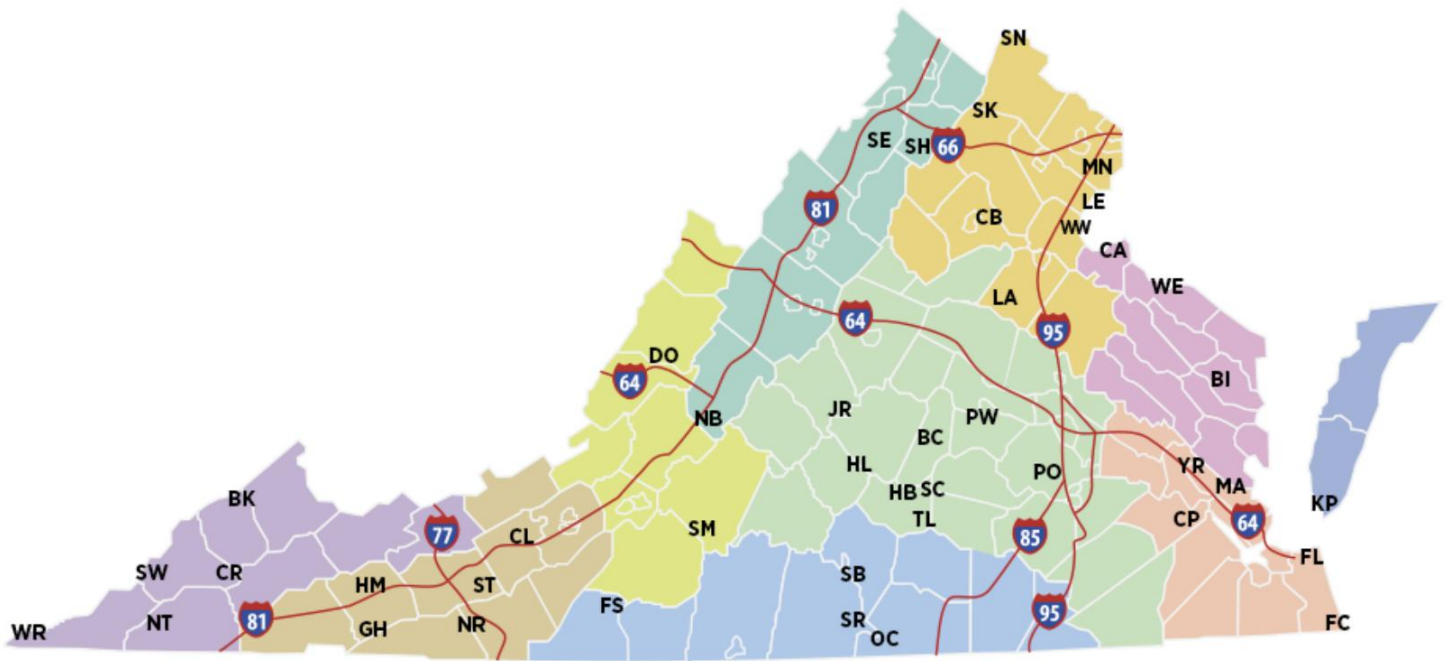
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## **APPENDICES**

## APPENDIX A: MAP OF VIRGINIA STATE PARKS



Bear Creek Lake (BC)	Grayson Highlands (GH)	Natural Tunnel (NT)	Smith Mountain Lake (SM)
Belle Isle (BI)	High Bridge Trail (HB)	New River Trail (NR)	Southwest Virginia Museum
Breaks Interstate (BK) *	Holliday Lake (HL)	Occoneetchee (OC)	Historical (SW)
Caledon (CA)	Hungry Mother (HM)	Pocahontas (PO)	Staunton River (SR)
Chippokes (CP)	James River (JR)	Powhatan (PW)	Staunton River Battlefield (SB)
Claytor Lake (CL)	Kiptopeke (KP)	Sailor's Creek Battlefield Historic (SC)	Sweet Run (SN)
Clinch River (CR) **	Lake Anna (LA)	Seven Bends (SE)	Twin Lakes (TL)
Culpeper Battlefields (CB) **	Leesylvania (LE)	Shenandoah River (SH)	Westmoreland (WE)
Douthat (DO)	Machicomoco (MA)	Shot Tower (ST)	Widewater (WW)
Fairy Stone (FS)	Mason Neck (MN)	Sky Meadows (SK)	Wilderness Road (WR)
False Cape (FC)	Natural Bridge (NB)		York River (YR)
First Landing (FL)			

Source of map: [www.dcr.virginia.gov/state-parks/find-a-park](http://www.dcr.virginia.gov/state-parks/find-a-park)

{Many of the definitions in this glossary are paraphrased directly from  
Stynes et al. (2000) MGM2 users' manual}

**Direct effects** – the changes in sales, income, and jobs in an area as a result of first-round visitor spending.

**Economic activity** – economic output modeling that includes all visitor spending and consequent multiplier effects by both locals and non-locals as well as any money spent by parks that was not supported by visitor spending. Consequently, economic activity figures represent all of the economic activity stimulated by a park location within the state.

- **Unadjusted economic activity** - economic activity output figures computed using statewide IMPLAN multipliers.
- **Adjusted economic activity** – calibrated economic activity output figures based upon whether a given park's county(ies) has economic activity above or below the state average.

**Economic impact** – economic output modeling that includes all visitor spending and consequent multiplier effects by 1) in-state residents traveling 50 miles or more (one-way) to visit the park; and 2) all out-of-state visitors. In addition, economic impact models include capital improvements and operational expenditures not derived from visitor spending. Thus, economic impact figures reflect all of the “fresh money” entering an area's economy as a result of a given state park.

- **Unadjusted economic impact** - economic impact output figures computed using statewide IMPLAN multipliers.
- **Adjusted economic impact** – calibrated economic impact output figures based upon whether a given park's county(ies) has economic activity above or below the state average. Adjusted economic impact figures are also reduced by 12% (Magnini and Uysal, 2015a) to account for spending by park visitors who likely would have traveled and spent money in the state regardless of whether the park existed.

**Indirect effects** – the changes in sales, income and jobs to businesses that supply goods and services to the park location.

**Induced effects** – the changes in economic activity in the region stimulated by household spending of income earned through direct and indirect effects of visitor spending.

**IMPLAN** – a computer-based input / output economic modeling system. With IMPLAN one can estimate more than 500 sector input / output models for any region consisting of one or more counties. IMPLAN includes procedures for generating multipliers and estimating impacts by applying final demand changes to the model.

**Multipliers** – these estimates express the magnitude of the secondary effects in a given geographic area and are often in the form of a ratio of the total change in economic activity relative to the direct change. Multipliers reflect the degree of interdependency between sectors in a region's economy and can vary substantially across regions and sectors.

**Non-local visitors** - Virginia residents who drive 50 miles or more (one-way) to visit the park.

**Secondary effects** – the changes in economic activity from subsequent rounds of re-spending of dollars. There are two types of secondary effects: indirect and induced (see previously listed definitions).

**Value-added (also termed 'gross regional product')** – the sum of total income and indirect business taxes. Value-added is a commonly used measure of the contribution of a region to the state/national economy because it avoids the double counting of intermediate sales and incorporates only the 'value-added' by the region to final products.

{END OF REPORT}