Economic Contribution of the Chesapeake Bay Gateways and Watertrails Network to Local Economies

EXECUTIVE SUMMARY

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Daniel J. Stynes
Michigan State University

First Landing State Park, photo by Starke Jett

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Introduction

The Chesapeake Bay Gateways and Watertrails Network (Gateways Network or CBGN) is a partnership of parks, refuges, museums, historic sites and water trails within the Chesapeake Bay watershed. The network encompasses over 170 sites that provide recreational and educational opportunities. By linking the diverse array of facilities and opportunities around the Bay, the Gateways Network connects visitors and residents with the rich natural and cultural heritage of the Chesapeake Bay region.

The CBGN also contributes to the economy of the area by attracting visitors. Visitor spending supports jobs and payrolls in a variety of businesses, especially in the lodging, food service, transportation, amusements and retail sectors. Through secondary effects this spending benefits a broad array of businesses in the region. The purpose of this report is to assess the contribution of CBGN sites to the region's economy in terms of sales, income and jobs. For this report we define the CBGN region to include York and Lancaster counties in Pennsylvania and counties in Maryland and Virginia adjacent to Chesapeake Bay and connecting rivers (Figure 1). The Chesapeake Bay Gateways and Watertrails Network includes partners in other counties, but the intent here is to focus on those counties closest to Chesapeake Bay—where the majority of Gateways sites are located and where tourism might be more reasonably expected to have a relationship to Chesapeake Bay.

It should be noted at the outset that the purposes of CBGN programs and partner facilities are not primarily economic. While economic development and jobs are of significant interest, the primary benefits of these programs are environmental, cultural, social and educational.

This study combines a top down and bottom up approach to estimating economic impacts. Statewide tourism studies include estimates of tourist spending, jobs and income for individual counties. An overall estimate of tourist spending in the CBGN region can be derived by focusing on CBGN counties and making assumptions about the proportion of this activity that might be attributed to the Chesapeake Bay or the Gateways Network. Tourist spending covers spending on trips of 50 miles or more away from home.

The bottom-up approach is to make estimates for individual CBGN partner facilities. This approach also poses difficulties as most facilities do not have reliable visitor information. This study begins by estimating economic impacts for thirteen case study sites with reliable visitor counts. These case studies cover spending by tourists as well as visitors from the local area. Economic impact studies often exclude spending by local residents as this spending does not represent "new dollars" to the local economies. Lacking reliable estimates of the percentage of visitors to each site from the local area, the overall economic contribution of visitor spending to the local economy is estimated, including spending by local visitors.

Economic impacts begin with visitor spending. Spending in tourism-related businesses can be translated into the associated direct employment and income effects in these industries. Using regional economic models, the broader impacts on local communities can be estimated. It is important to note that there exists no single measure of the economic contribution of Chesapeake Bay or Gateways

Network facilities and programs to the region's economy. Estimates will vary widely depending on what facilities, activities and spending are covered and whether or not secondary effects are included.

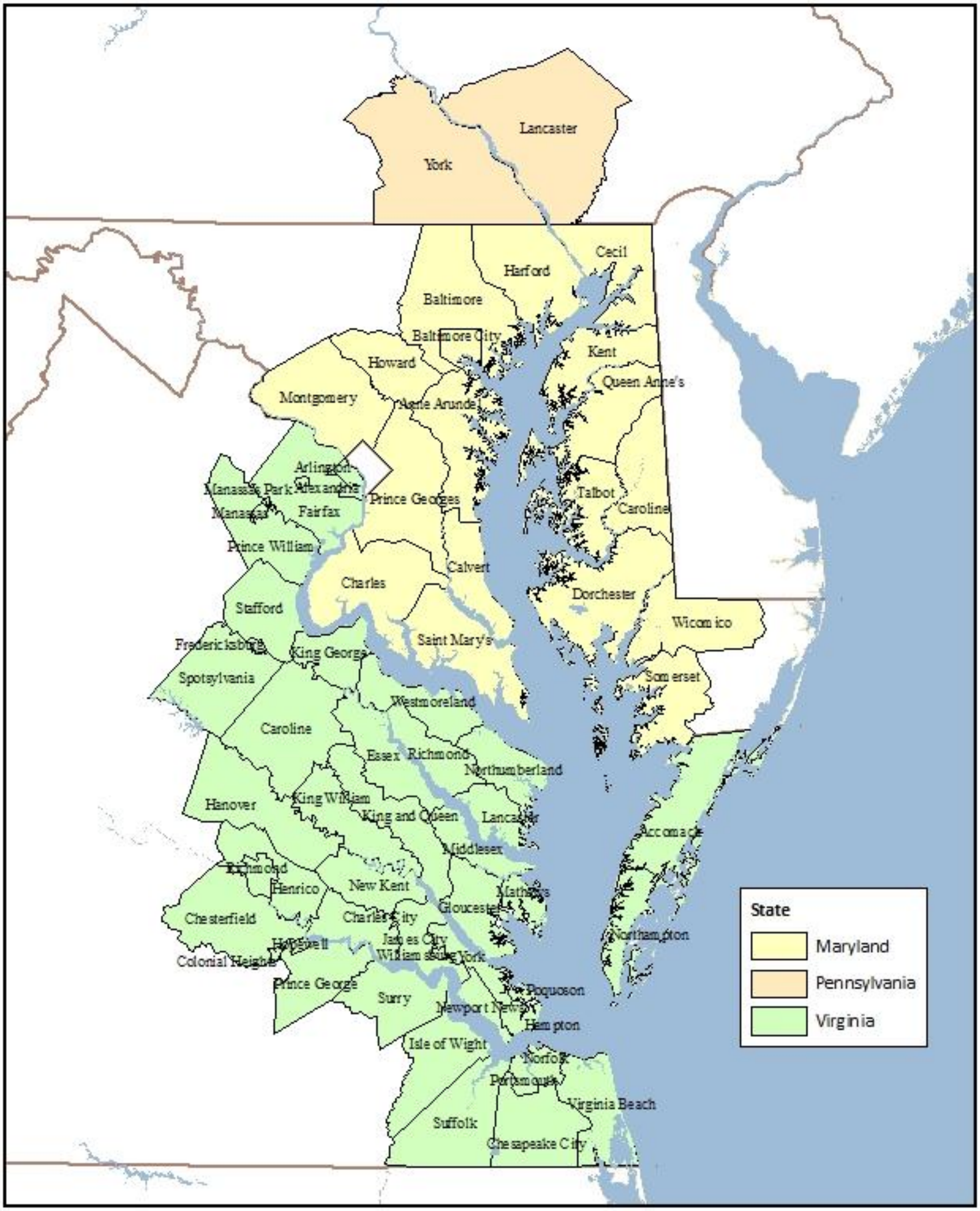

Figure 1. Chesapeake Bay Study Region; CBGN Region

Tourism Spending and Impacts

Tourists spent $68 billion in Maryland, Pennsylvania, Virginia and Washington D.C in 2009 (Table 1). Excluding Washington D.C., total visitor spending in CBGN counties was $25.7 billion in 2009, directly supporting 273,000 jobs with a total payroll of $6.6 billion. This represents 4.9% of private sector employment in the region. Chesapeake Bay area counties account for 85% of Maryland tourism spending and 68% of Virginia tourism spending.

Table 1. CBGN Region Tourist Spending and Direct Effects, 2009

	Maryland	Virginia	Pennsylvania	Washington D.C.	Total
Statewide Tourist Spending ($ Billions)	13.62	18.15	31.12	5.25	68.14
Tourist Spending in CBGN Counties($ Billions)[b]	11.59	12.07[a]	2.08		25.74
Pct of State Total	85%	68%	7%		
Direct jobs	114,725	138,787	19,632		273,144
Direct payroll ($Millions)	3,237	2,919	474		6,630

a. Excludes spending by international visitors

b. CBGN counties included are identified in Figure 1.

The majority of tourism-related jobs are in metropolitan areas; however, rural areas like Maryland's Eastern shore and Virginia's Northern Neck are much more dependent on tourist spending. The most tourism-dependent counties based on the percentage of private sector jobs in tourism are Williamsburg city (35%), and Middlesex (31%), Westmoreland (15%), and Northumberland (15%) counties in Virginia. The top Maryland counties in terms of the percentage of private sector jobs supported by tourism are Ann Arundel at 7.4% and Calvert at 6.9%**.**

Many of the tourism jobs, particularly in metropolitan areas are associated with business travel, visiting friends and relatives and tourism that may not be directly related to Chesapeake Bay or the Gateways Network. It should also be noted that tourism statistics do not include trips of less than 50 miles and therefore exclude most recreation activity of local residents around the Bay. Local residents represent a substantial percentage of visitors to many CBGN partner facilities. Tourism statistics also exclude most spending on recreational equipment and the associated economic effects.

Impacts of Visitor Spending at Case Study Sites

More concrete estimates of economic impacts can be made for particular facilities. CBGN personnel identified 13 sites within the Gateways Network to serve as case studies (Figure 2). The case studies cover three state parks in Maryland (Elk Neck, Patapsco Valley, and Sandy Point), three Virginia state parks (Chippokes Plantation, First Landing and Leesylvania), two National park units (George Washington Birthplace and Piscataway), and five museums/historic sites (Delmarva Discovery Center, Jefferson Patterson Park and Museum, Menokin, Chesapeake Bay Maritime

Museum and Stratford Hall). These sites were selected based on their ability to provide visitor information and to be representative of the range of facilities and settings within the Gateways Network.

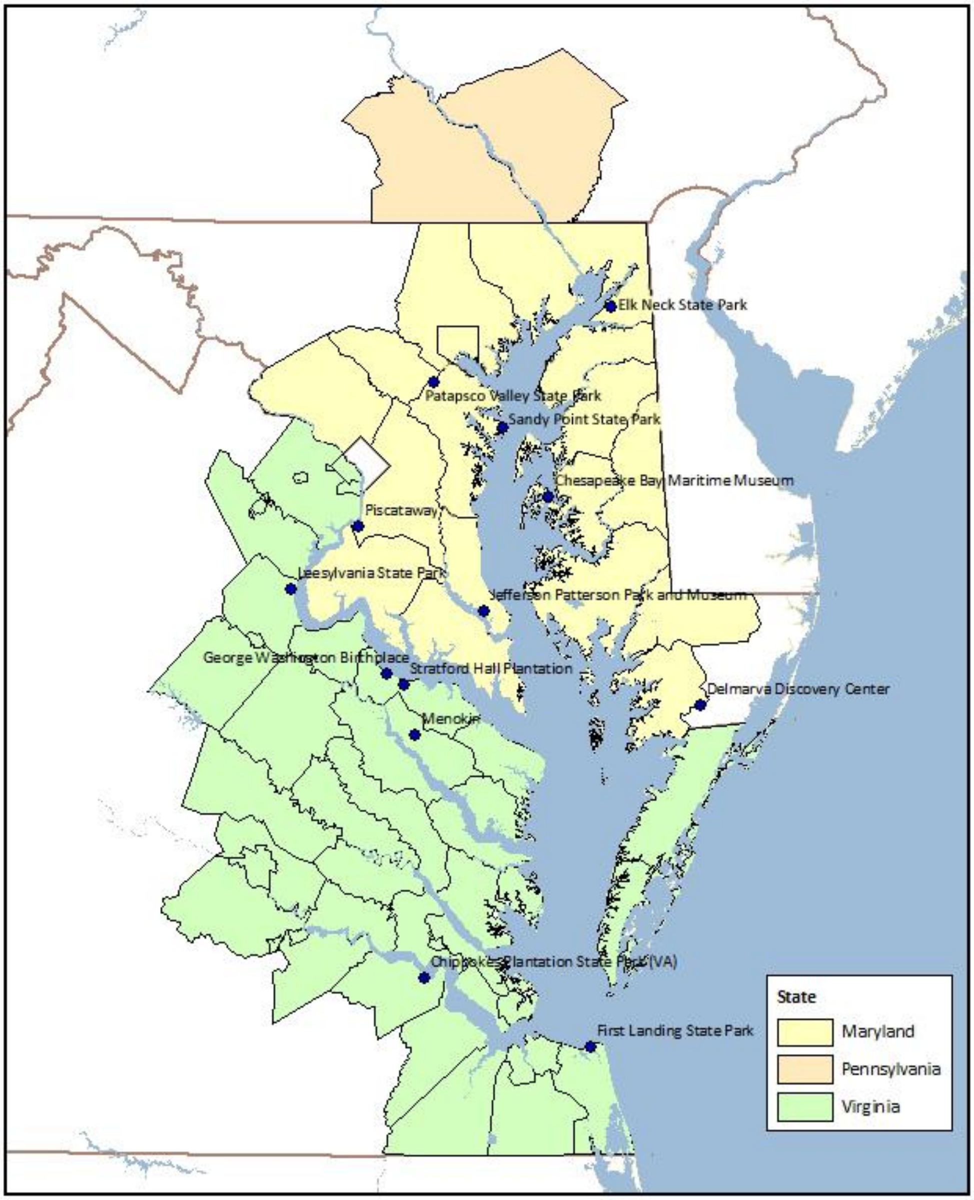

Figure 2. Case Study Sites

Local economic impacts of visitor spending were estimated for each of the case study sites using the NPS's Money Generation Model (MGM2). The economic contribution of each facility is a function of (1) the number and types of visitors, (2) visitor spending patterns, and (3) economic ratios and multipliers for the local area. Each facility provided estimates of the number of visitors in 2010. Some facilities provided sales, payroll, employment and other data. For this study information to characterize visitors and their spending is based primarily on secondary sources and, in some instances, manager input. Secondary sources included the 2010 Maryland state park visitor survey, a visitor survey at George Washington Birthplace National Monument in 2004, a recent state park study in

Pennsylvania, and selected other studies of museum visitors, park visitors, and boaters. Economic ratios and multipliers to estimate secondary effects and convert spending to the associated jobs and income are derived from input-output models estimated with IMPLAN.

The thirteen case study sites received a combined total of over four million visitors in 2010 (Table 2). These visitors spent $85 million dollars within 30 miles of the facilities. The direct economic effect of this spending was 900 jobs and $23 million in labor income. Direct effects cover the jobs and income in businesses selling directly to visitors. Including secondary effects as this spending circulates within the local economy yields a total contribution to local economies of 1,100 jobs, $34 million in labor income and $55 million in value added.

Table 2. Local Economic Contribution of Visitor Spending: CBGN Case Study Sites, 2010[a]

			Direct Effects		Total Effects		
	Visits	Total Spending ($000's)	Jobs	Labor Income ($000's)	Jobs	Labor Income ($000's)	Value Added ($000's)
MD State Parks							
Elk Neck	297,221	7,943	86	2,132	103	2,791	4,457
Patapsco Valley	791,226	13,307	129	3,727	178	6,377	10,419
Sandy Point	769,226	20,819	198	5,992	248	8,572	14,101
VA State Parks							
Chippokes Plantation	58,200	1,256	16	288	17	345	561
First Landing	1,277,939	22,597	261	5,636	324	8,534	14,065
Leesylvania	353,609	6,513	56	1,793	65	2,462	3,893
National Park Units							
George Wash. Birthplace NM	128,158	3,240	42	854	47	1,090	1,800
Piscataway	248,314	5,553	52	1,485	62	2,065	3,400
Museums & Historic Sites							
Delmarva Discovery Center	9,704	214	2	62	3	88	142
Jefferson Patterson Park and Museum	53,664	1,176	13	341	16	444	722
Menokin	2,500	44	1	12	1	15	24
Chesapeake Bay Maritime Museum	48,212	1,808	20	507	25	677	1,100
Stratford Hall	22,709	775	10	209	11	264	434
Grand Total	**4,060,681**	**85,244**	**886**	**23,038**	**1,098**	**33,725**	**55,118**

a. Impacts cover spending in communities outside the parks/museums with the exception of campground and cabin fees at state parks, which are included.

First Landing State Park had the most visitors generating almost $23 million in spending and supporting 324 local jobs (Table 2). Sandy Point and Patapsco Valley state parks each hosted over 750,000 visitors in 2010. Spending is lower at Patapsco Valley as the majority of visitors are local, whereas Sandy Point attracts a higher percentage of visitors from outside the local area including some staying overnight in the area.

Museums hosted significantly fewer visitors than the state parks and therefore have smaller economic impacts from visitor spending. Impacts of the museums depend considerably on the proportion of tourists relative to local visitors. Local visitors do not generate significant economic effects as they don't spend much money outside the museum and their spending does not represent "new dollars" for the local economy. Local visitors to museums include significant numbers of school groups for which the local benefits are educational, not economic. Tourists, on the other hand, tend to stay overnight in the area and to spend money on a variety of activities.

Since the impact models are basically linear, it is helpful to compute ratios of spending to visitors and ratios of economic impacts to spending. These ratios may be applied to an increase or decrease in visits or to a similar facility with different levels of visitation. Spending per visit ranged from $17 at First Landing and Patapsco Valley state parks to $37 at the Chesapeake Bay Maritime Museum. These variations are explained by the percentages of local visitors relative to overnight trips at each facility. Across the thirteen case studies the average spending per visitor was $21. For a party of three this would equate to $63 per day. Job effects are best expressed per million dollars of spending. Every million dollars in spending supports about 10.5 direct jobs and 13.0 jobs including local secondary effects. Each dollar of visitor spending generates about $.27 in direct labor income, $.12 in secondary labor income and $.64 in total value added. These ratios vary somewhat across the 13 local regions with higher secondary effects in metropolitan regions relative to rural areas.

For this study, the museum and park managers estimated the percentages of visitors from the local area relative to those on day trips from outside the area or those staying overnight in the area. Spending estimates depend considerably on these percentages. A typical visitor party spends roughly $40 if a local day trip, $75 if on a day trip from beyond 30 miles, $100 per night if camping, and $250 per night if staying in a motel. For a mix of overnight lodging types including campers, motel stays and stays with friends and relatives or owned seasonal homes, a per night average of $145 is used here, assuming roughly a third of overnight stays from each lodging type.

Impacts of Museum/Historic Site Operations

Parks and museums have additional economic effects from their own operations. Since both receive revenues from sources other than visitor admission fees, these economic impacts are best estimated from the museum/park expenditures. The contributions to the local economies were estimated for the five museums/historic sites based on payroll information they provided. Combined, the five facilities employed 116 people with a payroll of $5.4 million. Including the indirect effects of museum purchases from local businesses and the induced effects of employee spending in the area, the total local employment effect is 139 jobs, $6.8 million in labor income and $7.5 million in value added.

For every five direct jobs in the museum, one additional job is supported through the secondary effects of the payroll and operations. The impacts from museum visitor spending outside the museums are significantly less than the impacts of the museum operations themselves. Museum operations have 2.5 times the job impact as visitor spending outside the museum. They generate 4.5 times the labor income due to higher wages of museum employees relative to workers in tourism businesses.

Table 3. Local Economic Impacts of Museum Operations, 2010

Museum	Jobs	Labor Income ($000's)	Value Added ($000's)
Museum Payroll - Direct Effects			
Chesapeake Bay Maritime Museum	32.0	1,593	
Delmarva Discovery Center	3.1	128	
Jefferson Patterson Park and Museum	33.0	1,980	
Menokin	2.0	100	
Stratford Hall	46.0	1,608	
Five Museum Total	**116.1**	**5,410**	
Museum Operations and Payroll - Total Effects			
Chesapeake Bay Maritime Museum	38.4	2,007	2,230
Delmarva Discovery Center	3.7	162	180
Jefferson Patterson Park and Museum	39.6	2,503	2,773
Menokin	2.4	126	140
Stratford Hall	55.2	2,026	2,251
Five Museum Total	**139.3**	**6,824**	**7,574**

Other Generators of Economic Activity

The state and national parks, museums and historic sites examined here only cover a small portion of the activities of the Chesapeake Bay Gateways and Watertrails Network. Case studies do not include any watertrail segments, wildlife refuges, or visitor information centers. Tourism statistics do not cover recreation activities of local residents. For example, boating and fishing in Chesapeake Bay and connecting waters generates substantial economic activity for the region. In addition to the traditional tourism industries supported by visitor spending, boating and fishing activities support jobs in a variety of marine trades including the charter boat industry, marinas, boat dealers and manufacturers, outfitters and guides, and boating and fishing equipment retailers and manufacturers. Impacts of these activities are summarized from secondary sources.

The American Sportfishing Association estimated 11,000 jobs were supported by saltwater fishing in Maryland and Virginia in 2006. Across the two states of Maryland and Virginia, the National Marine Manufacturers Association (NMMA) estimated over a billion dollars in craft-related boater spending and $864 million in boater trip spending in 2007. This spending supported over 7,000 direct jobs in each state. Based on the distribution of boat registrations and higher spending of larger watercraft used on Chesapeake Bay, 80-90% of these impacts are in the CBGN region.

A survey of boaters in Hampton,VA in 2007 estimated that local resident boaters spent $25 million on boating in Hampton in 2007, while non-resident boaters spent $26 million. This spending created a direct impact of $37.1 million in sales and 475 jobs. Including secondary effects, resident and non-resident boaters generated $55 million in sales, $22.2 million in income and 698 jobs.

The Marine Recreation Resource Center at Michigan State University estimates that a 100 boat marina generates $462,000 in trip spending and $1.6 million in craft-related spending (e.g., slip fees, insurance, and repairs) per year. This spending supports 22 jobs and $760,000 in labor income. A boat launch site serving 20,000 boats supports about 13 jobs and $334,000 in labor income.

There is little information about use of watertrails by canoeists and kayakers. A study of the Northern Forest Canoe Trail in 2007 reports an impact of 283 jobs based on $8.8 million in spending by some 90,000 paddlers. Overall, that's about $98 in spending per paddler per trip or $39 per person per day. The highest spending was by groups on overnight trips using an outfitter or guide.

Conclusions

This study has estimated the overall contribution of tourism activity to the Chesapeake Bay Gateways Network region, documented tourism's relative importance to counties around the Bay, and estimated local economic impacts of visitor spending for thirteen case study sites.

Tourists spent $25.7 billion in the CBGN region in 2009, supporting 273,000 direct jobs and $6.6 billion in direct payroll income. Tourism statistics include business and convention travel, trips to visit friends and relatives, and other activities not directly associated with Chesapeake Bay or the CBGN. There remains the question of how much of this activity to attribute to Chesapeake Bay or the Gateways Network. If we assign 5% of tourism activity in metropolitan areas and 25% of the activity in rural counties, we get a ballpark estimate of $2.2 billion in tourist spending and 25,000 direct tourism jobs. This represents about 9% of tourism-related activity in the region. The contribution of CBGN sites themselves is likely less than this, while the portion related to Chesapeake Bay is likely much larger. Any attempt to isolate the portion of tourism activity related to the Chesapeake Bay is inherently somewhat arbitrary; however, the Bay is such an integral part of the history and culture of the region that it is clearly a significant contributing factor in regional tourism.

While more precise statements can be made about the economic contributions of individual facilities, extrapolating from the case study sites to all CBGN partner sites is more problematic. Since many trips to the region involve multiple activities and destinations, it is difficult to assign spending and impacts to individual facilities or to isolate the impacts of CBGN partner facilities from the many other attractions in the region. Smaller museums and historic sites are often not the primary generator of trips, but instead are additional activities for tourists to do once in an area. By linking these facilities around locations, activities or themes CBGN programs certainly create a larger critical mass to attract tourists and help generate visits to lesser-known sites. However, evaluation studies are needed to quantify these effects.

A simple extrapolation from the 13 case studies to 170+ sites yields visitor spending of approximately $1.1 billion of which as much as 40% is spending by local residents. However, the case studies do not include major attractions like Baltimore's Inner Harbor or the National Aquarium. In addition, neither the tourism spending figures nor the case studies cover over $2 billion in spending associated with boating and fishing on Chesapeake Bay.

Recommendations

Recommendations can be divided into suggestions for further research and ideas for enhancing the economic contributions of the programs of CBGN and their partners.

Research specific to the programs of CBGN and their partners is limited. More precise estimates of economic impacts require better information about the number and types of visitors and the role of the CBGN in attracting these visitors. For many of the smaller museums, the economic impact of museum operations themselves exceeds the impact of spending by their visitors in the surrounding communities. A useful initial research project would be a survey of all Gateways Network partners to obtain basic information about the number of visitors along with payrolls and operating budgets. This would be similar to the short survey sent to the five museums included in the case studies. Such a study would be much less expensive than a visitor survey, while providing the basic information to estimate economic impacts for individual CBGN partners. Additional questions about marketing activities or programming suggestions could be included.

The CBGN could also provide technical advice for facilities interested in conducting visitor studies or improving their visitor counting methods. Sample questions for estimating economic impacts are included in the technical report. Facilities conducting visitor surveys should be encouraged to include questions about visitor awareness of the CBGN and their use of the website and other materials as information sources. CBGN information programs could also be evaluated more directly using coupon conversion approaches.

Several recommendations for increasing the economic contributions of CBGN facilities and programs can be advanced. Economic impacts are directly related to spending which in turn depends on the number and types of visitors and their spending patterns. So the first recommendation is to expand efforts to increase the number of visitors and especially visitors on overnight trips. Promotional programs and offerings should be evaluated in terms of their success in attracting visitors and lengthening their stay in the region. The CBGN informational programs that link facilities and present themes for travelers certainly contribute to these objectives. Evaluation of these programs can be helpful in determining which approaches are most effective.

Encouraging overnight stays is a consistent theme of travel marketers. The longer a visitor remains in an area, the greater the economic impact. Overnight stays may be encouraged by developing packages with lodging providers and jointly marketing these opportunities. Attractions and activities are the focus of the CBGN website and informational materials. The CBGN should consider ways of linking this information with lodging and dining opportunities, likely in cooperation with state, regional or local tourism organizations. Another strategy to encourage overnight stays is to schedule morning and evening events that will encourage visitors to stay an extra night in the area.

Efforts to increase spending opportunities for visitors are often overlooked. While there are ample places to spend money in urban settings, the variety of goods and services available in rural areas is more limited. Visitor spending depends directly on the variety of goods and services available for sale in the area. Some activities like water trails and bike trails require specialized services for tourists to participate. If there are no canoe/kayak rental facilities in an area, water trail use will be limited to local residents and those tourists who bring canoes or kayaks. The same is true for bike trails. The availability of outfitters and shuttle services can significantly increase use of these trails and associated local economic impacts.

Special events and festivals can be effective in attracting visitors and generating short-term economic activity. They generate additional income for some businesses and overtime pay for their employees, but don't generally increase the number of year-round jobs. If the event attracts mostly local visitors, it may not bring much new money into the community. To have a significant economic impact, the event should attract large numbers of visitors from outside the area, fill otherwise vacant hotel rooms, and stimulate first time visitors to return again. Special events frequently provide fundraising opportunities for local organizations and bring communities together, so they should not be justified solely on economic grounds. This point applies more generally to the CBGN and their partners as the environmental, cultural, social and educational benefits of the programs will generally exceed their economic significance.