

Essex National Heritage Area; Visitor Characteristics and Economic Impacts



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ESSEX NATIONAL HERITAGE AREA

The Essex National Heritage Area (ENHA) was designated by the U.S. Congress in 1996. The heritage area covers 500 square miles of eastern Massachusetts in Essex County north of Boston (Figure 1). The heritage area encompasses hundreds of historic sites and heritage attractions covering historic themes of early settlement, maritime history and the industrial revolution. Major attractions are located in Salem, Newburyport and Gloucester. A variety of other historic sites and tourist attractions are located in smaller towns and rural settings throughout the region. The area also features historic seaports and New England towns, industrial mills, marshes and beaches, working farms and extensive trail systems. The Essex NHA is managed by Essex National Heritage Commission (ENHC).

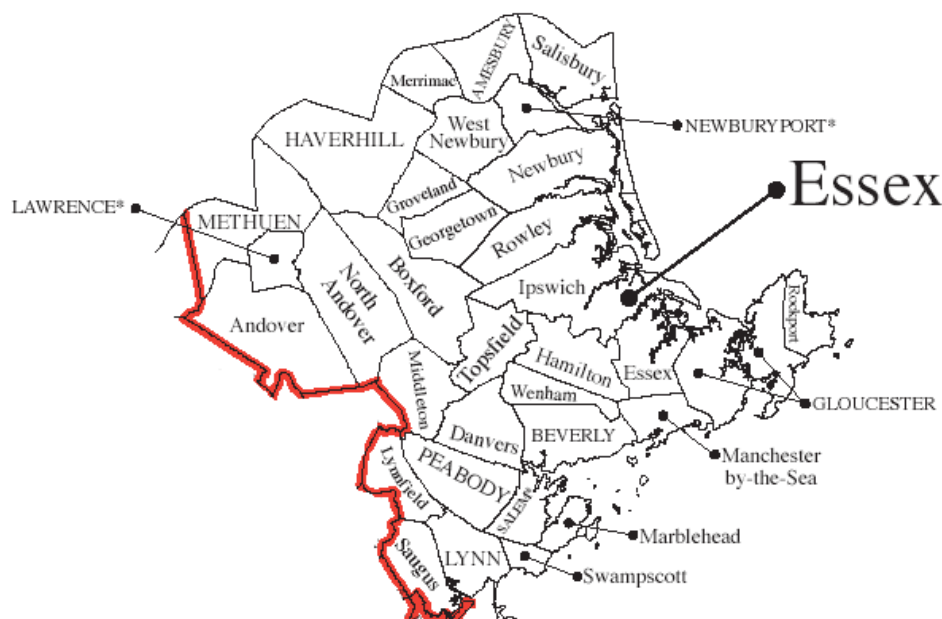


Figure 1. Essex County and Towns, MA

ESSEX NATIONAL HERITAGE VISITOR SURVEY

The purpose of this study is to establish some baseline characteristics of ENHA visitors and to estimate the impacts of visitor spending on the region's economy. The ENHA visitor survey was conducted from July to December 2004 at 10 sampling locations across Essex County (Table 1). The survey was designed to gather basic visitor and trip characteristics and especially data necessary to estimate economic impacts of visitor spending using the MGM2 model (Stynes, Propst, Chang and Sun, 2000). General survey procedures are outlined in a guidebook being followed at several heritage areas (Stynes and Sun 2003).

ENHA staff helped identify sampling locations and carried out data collection procedures. Technical assistance with the survey design and data analysis were provided by Michigan State University. The visitor survey uses a two-stage approach, contacting visitors at heritage sites where a short initial survey is conducted. One adult member of each party was interviewed. Subjects were then asked if they are willing to complete a more extensive mailback survey at the end of their trip. The mailback survey measured spending patterns, activities, evaluations of visitor experiences and more detailed trip information. Mailback surveys were sent to participants after they arrived back home.

The on-site survey generated 347 responses. Less than half of the subjects agreed to participate in the mailback portion. The response rate to the mailback survey was 44%, yielding 65 completed mailback responses (Table 1). A third of the on-site sample was generated at the Salem Regional Visitor Center and 27% was generated at the Gloucester Visitor Welcome Center.

Table 1. Sample Size and Responses Rates by Sampling Locations

Sampling locations	Onsite (A)	Pct of On- site Surveys	Agree for mailback (B)	Mailback (C)	Response rate I (C/A)	Response rate II (C/B)
Gloucester Visitor Welcoming Center	93	27%	50	23	25%	46%
Ipswich Visitor Center	6	2%	3	1	17%	33%
Wenham Museum	10	3%	5	3	30%	60%
Joppa Flats Visitor Center	12	3%	5	2	17%	40%
Lawrence Heritage State Park	2	1%	0	0	0%	0%
Newburyport Maritime Society Custom House	10	3%	5	2	20%	40%
House of the Seven Gables	67	19%	26	12	18%	46%
Marblehead Chamber of Commerce	5	1%	1	0	0%	0%
Peabody Essex Museum	32	9%	17	10	31%	59%
<u>Salem Regional Visitor Center</u>	<u>111</u>	<u>32%</u>	<u>37</u>	<u>12</u>	<u>11%</u>	<u>32%</u>
Total	348	100%	149	65	19%	44%

With the wide range of ENHA attractions and locations, we cannot guarantee that the survey sample is completely representative of all ENHA visitors. The majority of the sample comes from the two visitor centers and a few primary attractions. The sample likely under-represents local visitors, repeat visitors and visitors staying with friends and relatives. Spatial patterns will be skewed toward Salem and Gloucester, where the majority of visitors were contacted.

Visitor characteristics and trip patterns are summarized first. Spending patterns and other variables critical to the economic impact analysis are presented within the economic impact analysis section.

VISITOR AND TRIP CHARACTERISTICS

Visitor Characteristics

Like tourists more generally and heritage tourists in particular, ENHA visitors have above average educational and income levels. Almost three in four have college degrees and over 75% have household incomes above \$50,000 (Table 2). Three fourths of the sample were 46 years of age or older and 68% were female. Roughly 30% of visitors are from Massachusetts, 8% from foreign countries. One in four parties had children in the household (Table 2).

Table 2. Visitor Characteristics

Attribute	Percent	Attribute	Percent
Gender		Age	
Male	32%	< 25	3%
<u>Female</u>	<u>68%</u>	26 – 35	9%
Total	100%	36 – 45	12%
Racial/Ethnic Background		46 – 55	35%
Asian	2%	56 – 65	29%
Hispanic of any race	2%	<u>≥ 65</u>	<u>11%</u>
Native American	2%	Total	100%
<u>White/Caucasian</u>	<u>95%</u>	Education	
Total	100%	Less than high school	2%
Place of Origin		High school graduate	11%
United States - Massachusetts	29%	Some College or 2 year degree	15%
United States - Other states	62%	4-year undergraduate degree	35%
United Kingdom	4%	<u>Some graduate school</u>	<u>37%</u>
Canada	2%	Total	100%
Germany	1%	Household composition	
<u>Other Countries</u>	<u>1%</u>	Adults only (18+)	74%
Total	100%	<u>Adults and children</u>	<u>26%</u>
Household income		Total	100%
< \$20,000	4%	Age of Adults in the household^a	
\$20,000 - \$34,999	5%	18-25	15%
\$35,000 - \$49,999	13%	26-59	90%
\$50,000 - \$74,999	25%	60 or older	54%
\$75,000 - \$99,999	22%	Age of Children in the household^a	
<u>\$100,000 or more</u>	<u>31%</u>	<5	24%
Total	100%	6-12	41%
		13-17	71%

a. Percentages do not sum to 100 because visitors could select more than one category.

Note. All demographic information was obtained from the post-trip mailback survey (N=65).

Travel Pattern and Activities

More detailed travel patterns and activities were measured in the mailback survey. Due to the locations sampled these results cannot be assumed to represent all ENHA visitors. Also, due to the low response rates and small sample they are not reliable. Descriptive results for the sample completing the mailback survey are presented in Table 4. Communities and attractions visited on the trip are shown in Figures 2 and 3.

Table 4. Travel Patterns

Communities ever visited and visited on this trip					Sites visited		
	Ever visited		Visit on this trip			N	Pct
	N	Pct	N	Pct			
Salem	150	43%	254	73%	1. House of the Seven Gables	29	45%
Gloucester	141	41%	150	43%	2. Peabody Essex Museum	19	30%
Rockport	126	36%	67	19%	3. Salem Maritime National Historic Site	13	20%
Newburyport	106	31%	52	15%	4. Cape Ann Historical Museum	8	13%
Ipswich	102	29%	35	10%	5. Saugus Iron Works National Historic Site	8	13%
Lawrence	65	19%	14	4%	6. Essex Shipbuilding Museum	6	9%
Andover	77	22%	11	3%	7. Crane Estate / Crane Beach	4	6%
					8. Lowell's Boat Shop	4	6%
					9. Wenham Museum	4	6%
					10. Newburyport Custom House Museum	2	3%
					11. Lawrence Heritage State Park	2	3%
					12. Parker River Wildlife Refuge/Plum Island	2	3%
					13. Addison Gallery of Art	1	2%
					14. Lynn Heritage State Park	0	0%
Were one or more of these communities the trip's primary destination?					Note. Information obtained from the post-trip survey.		
		N		Pct	Activities on the trip		
No		138		40		N	Pct
Yes		207		60	Shopping	30	47%
Total		345		100	Visit beaches	25	39%
					Attend a festival or special event	17	27%
					Hiking/Biking	12	19%
					Whale watching	12	19%
					Bird watching	4	6%
					Research family history	2	3%
					Attend a sporting event	1	2%
Did you visit an ENHA visitor center on this trip? (Gloucester, Haverhill, Ipswich, Lawrence, Lynn, Newburyport, Peabody, Salem, Salisbury or Saugus)					Note. Information obtained from the post-trip survey.		
		N		Pct	Number of communities and attractions visited on this trip		
No		72		21	Communities	2.5	
Yes		276		79	Attractions	2.3	
Total		348		100			
Note. Information obtained from the post-trip survey. Participants were asked to check the communities and sites they visited on this trip from a list of names with space to add others at the end							

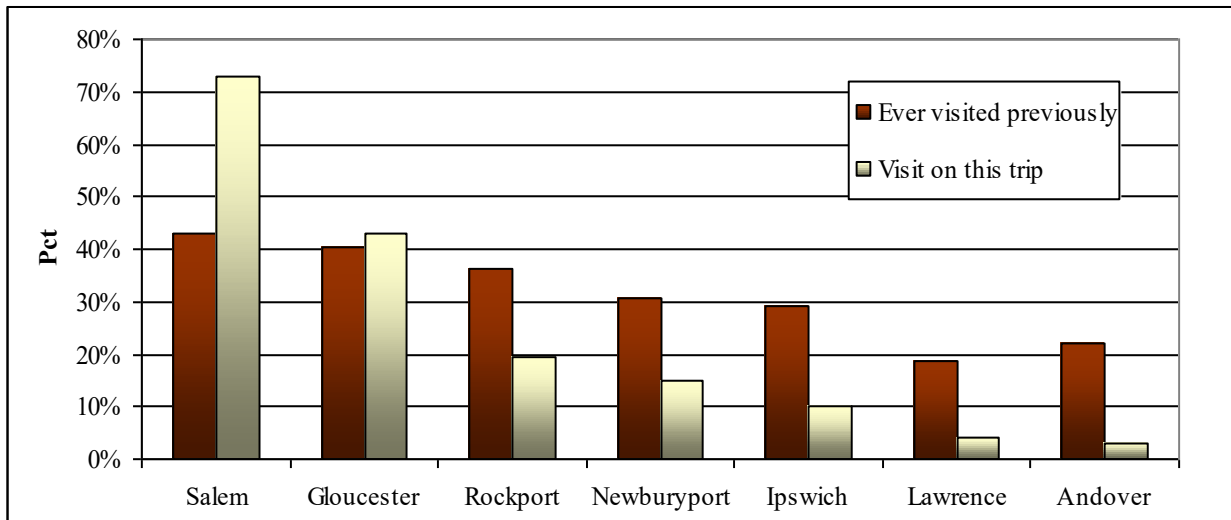


Figure 2. Communities visited, on this trip and previously

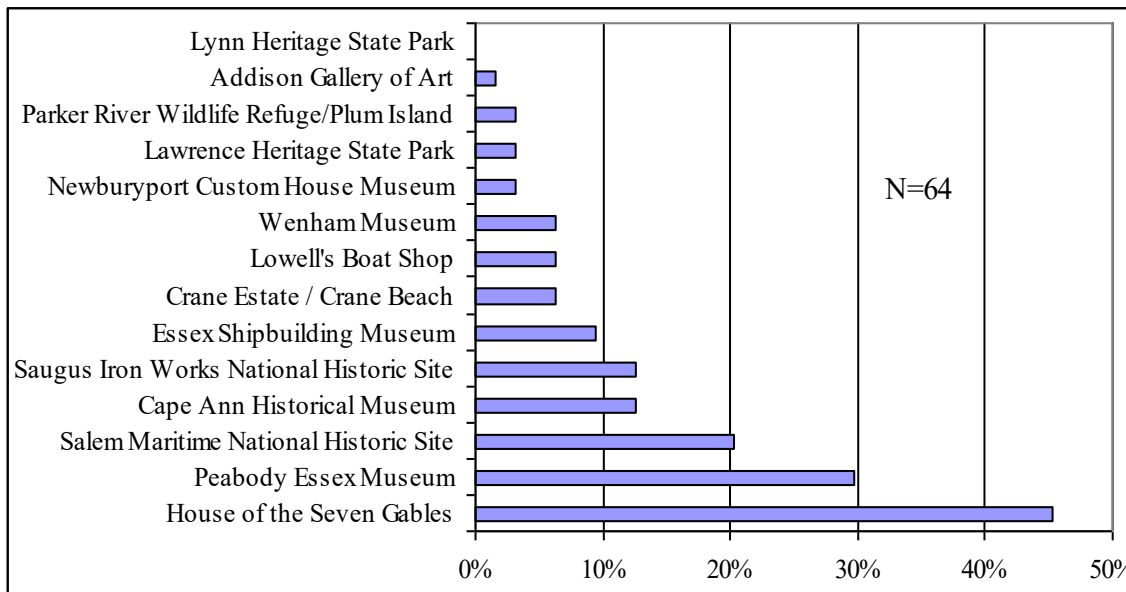


Figure 3. Attractions visited on the trip

Other attractions listed by three or fewer respondents were: Annual Bazaar at Wingsheek Beach, Carmilite Monistry, Endicott College, Gloucester sidewalk days, Gloucester Theatre , Halibut Point , Hammond Castle, Salem Cemetery, Salem Witch Museum , Walking Tour of Salem , Sargent House Museum, Stellwagen , and Whale Watch. Note. This information was obtained from the post-trip survey

Awareness of ENHA and Importance of Heritage Resources/Programs

Awareness of the heritage area was measured in the on-site survey, while visitor evaluations of their experiences were measured in the mailback. About a third of the sample were at least “somewhat familiar” with the heritage area, while half indicated they were not aware and 13% were not sure (Table 5).

Another indicator of the importance of heritage programs and resources in attracting visitors is the percentage of visitors citing these as important reasons for their trip. Forty-five percent of the mailback respondents indicated that the region’s historical sties and related heritage attractions were the primary reason for their trip to Essex County and an equivalent percentage reported it was a secondary reason. Only 10% of respondents reported these were not at all important.

State/regional tourism materials were cited most often by visitors as the source of information about the Essex NHA, followed by travel brochures and Web/Internet sites (Figure 5).

Table 5. Awareness and Historical Components for Making the Trip

Familiarity of the Essex NHA			Historical components in making the trip to the area		
	Frequency	Percent		Frequency	Percent
Very familiar	19	5%	The primary reason for the trip	28	45%
Somewhat familiar	109	31%	A secondary reason	28	45%
Not sure	46	13%	Not at all important	6	10%
<u>No</u>	<u>174</u>	<u>50%</u>	Total	62	100%
Total	348	100%			

Note. Information was obtained from the post-trip survey.

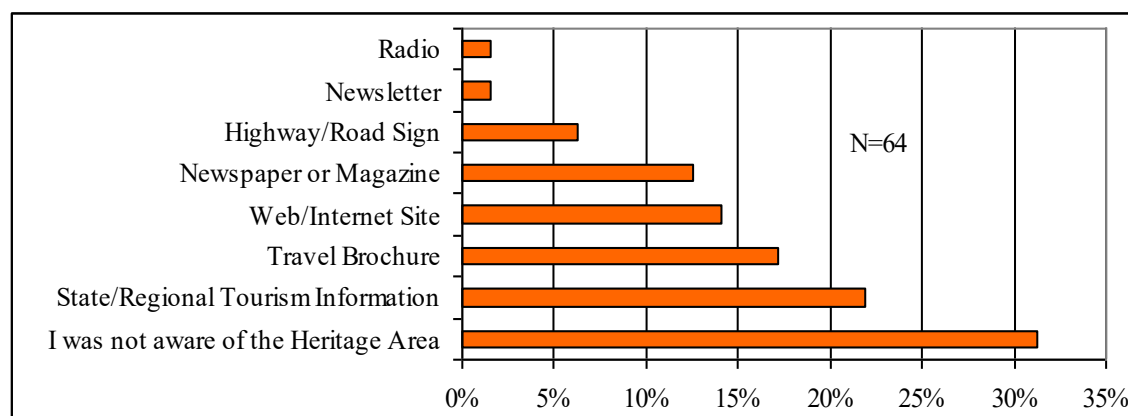


Figure 4. Sources of information where visitors first learned about the Essex NHA

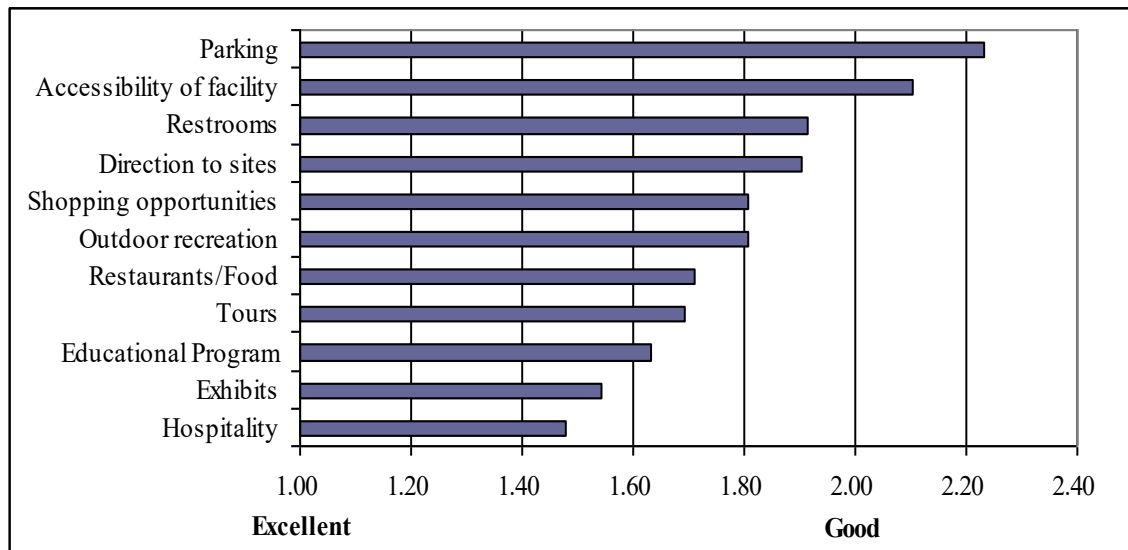
Note. Information was obtained from the post-trip survey.

Evaluation of Visitor Experiences

Hospitality was the most highly rated aspect of the visitor experience; 95% of visitors rated hospitality as “excellent” or “good”. Parking and Accessibility of facilities for people with disabilities received the lowest ratings, although still in the good to average range (Table 6). Evaluations were measured in the post trip survey and therefore are based on a small number of cases (N=65).

Table 6. Ratings of visitor experiences at the Essex National Heritage Area

Attribute	Excellent	Good	Average	Poor	Very Poor	Don't Know
Hospitality	57%	38%	5%	0%	0%	0%
Exhibits	50%	34%	8%	0%	0%	8%
Educational Program	24%	35%	2%	0%	0%	39%
Tours	27%	32%	7%	0%	0%	35%
Restaurants/Food	37%	40%	11%	0%	0%	13%
Outdoor recreation	18%	34%	7%	0%	0%	41%
Shopping opportunities	23%	47%	5%	2%	0%	24%
Direction to sites	32%	49%	16%	3%	0%	0%
Restrooms	32%	40%	17%	3%	0%	8%
Accessibility of facility	8%	13%	8%	2%	0%	69%
Parking	22%	35%	28%	8%	0%	8%



Means computed using following scale: 1=excellent, 2=good, 3=average, 4=poor and 5=very poor.

Figure 5. Evaluation scores for services in the Essex NHA

ECONOMIC IMPACTS OF VISITORS TO THE ESSEX NATIONAL HERITAGE AREA (ENHA)

The economic impacts of heritage visitors are estimated as:

$$\text{Economic Impacts} = \text{Number of Visits} * \text{Spending per Visit} * \text{Multipliers}$$

Visits are estimated from counts at eleven facilities within the Essex National Heritage Area (ENHA) and then converted to trips and nights in the area. Spending averages are estimated from the ENHA surveys supplemented with spending profiles of heritage visitors at similar sites. The MGM2 metropolitan region multipliers are used to estimate secondary effects and the MGM2 model is used to make the impact calculations (Stynes et. al. 2000).

Visitor Trip Segments

In order to reliably estimate spending and economic impacts, visitors must be segmented into trip types that help explain spending patterns. Four segments were formed from data gathered in the on-site survey:

Local-day trip: Day visitors who reside in Essex County. Day visitors with three digit ZIP-code of 018 and 019 are included in this category.

Non-local day trips: Day visitors from outside the region, not staying overnight in the area. This includes visitors on extended trips who spend part of a day visiting the area.

Hotel: Overnight visitors staying in hotels, motels, or bed and breakfast establishments in the region.

Other OVN: Other overnight visitors including campers and visitors staying with friends or relatives in the region.

Segment shares estimated from the on-site survey are: 12% local visitors, 53% day trips from outside the region, 28% hotel and 7% other overnight trips (Table 7). The average length of stay was 2.3 nights for hotel visitors and 3.7 nights for other overnight visitors. The average party size is 2.8 persons across all segments.

Table 7. Trip Characteristics by Lodging Segments

Lodging segment	Local-day visitor	Non-local day visitor	Hotel	Other OVN	Total
Party size	2.50	2.79	2.73	3.14	2.77
Length of stay	1.00	1.00	2.33	3.71	1.60
Number of communities visited on this trip	1.18	1.55	2.08	2.04	1.69
Number of cases	39	179	94	26	338
Pct of cases	12%	53%	28%	7%	100%

Note. Cases with party sizes larger than 8 (N=5) or lengths of stay longer than a week (N=6) are excluded in computing the respective averages.

Visits

Approximately 1.4 million visits were recorded at eleven sites in the Essex National Heritage Area (ENHA) in 2003 (Table 8). The majority of these visits were measured at the Salem Maritime NHS and Visitor Center (47%), other museums in Salem (24%), and Lawrence Heritage State Park (15%). The ENHA region includes numerous other attractions for which visitation data were not available. For economic analysis the appropriate unit of analysis is trips to the region or days/nights spent in the area rather than visits to individual facilities. If most heritage visitors to the region will visit one or more of the measured facilities on their trip, they will be covered by the 1.4 million visits that were measured in 2003.

Table 8. Essex NHA Visitation Data by 11 Sites, 2003

Site	Ownership	2003 Visits	Pct of visits
House of the Seven Gables ^a	Private non-profit	123,000	9%
Peabody Essex Museum	Private non-profit	200,327	15%
Salem Maritime NHS & Visitor Center	National Park Service	649,136	47%
Gloucester Visitor Welcoming Center	City-run site	37,280	3%
Ipswich Visitor Center ^b	Private non-profit	6,033	0%
Wenham Museum	Private non-profit	31,615	2%
Harold Parker State Forest	State-run site	79,512	6%
Haverhill Historical Society/Buttonwoods Museum	City-run site	12,312	1%
Lawrence Heritage State Park	State-run site	212,228	15%
Mass Audubon Joppa Flats	Private non-profit	17,371	1%
Newburyport Maritime Society Custom House ^b	Private non-profit	8,081	1%
Total		1,376,895	100%

Note. ^a The site was closed on January and February. ^b The site was closed through April annually.

There will be some double counting of ENHA visitors that visit more than one of these attractions on their trip or are counted more than once at a single attraction. We are not able to reliably estimate the extent of double counting. We therefore assume that the number of visitors who may be double counted when adding up individual visit counts at the eleven facilities will roughly offset those heritage visitors who come to the ENHA area and do not visit one or more of the attractions where visits have been measured.

The 1.4 million person visits may be compared with other travel statistics for the region to provide an idea of the relative share of travel activity covered by our estimates. Excluding approximately .2 million visits by local residents, yields 1.2 million visits from outside the region. This figure is about 45% of the number of person trips to the North of Boston region¹ estimated in the 1999-2000 Travel Scope study (Massachusetts Office of Travel and Tourism, 2003). The Travelscope study reported that 49% of trips to the region were primarily to visit friends and relatives and 15% were business trips. Eighteen percent of visitors to the North of Boston region visited historic sites or museums, 8% attended cultural events/festivals and 5% visited a state or national park. Based on these figures we expect that heritage visitors account for between 25 and 35 percent of all trips to the region.

¹ The North of Boston region include Essex county and 28 towns and cities in Middlesex County. The Travel Scope study includes all trips of 50 miles or more to the region.

Spending

The ENHA survey measured spending by visitors within Essex County on their trip. Spending was measured for the entire travel party and then converted from a per party trip to per party day/night basis using visitor lengths of stay. Distinct spending profiles are estimated for each of the four visitor trip segments².

Visitors on day trips from outside the region spent about \$100 on their trip while overnight visitors staying in hotels, motels or B&B's spent \$652 for a two to three night stay, or about \$280 per night. Overnight visitors staying in hotels, motels or B&B's averaged about \$100 per night for the room (Table 9).

Spending averages estimated in ENHA survey are subject to sampling errors of 10-15%. Although based on fairly small samples, the ENHA spending profiles for specific trip type segments are very similar to those measured in other studies, such as the Michigan museum visitor survey, which included similar types of sites and destination areas. The ENHA spending averages are slightly above average, reflecting prices and spending opportunities in the area, particularly around Salem.

Table 9. Spending Per Party per Trip of ENHA visitors, 2003

Category	Non-local day visitor	Hotel
Lodging	\$0.00	\$223.75
Restaurants	\$40.25	\$152.50
Groceries	\$4.36	\$25.00
Gas	\$6.68	\$35.94
Other transportation expenses	\$5.61	\$27.20
Admissions	\$26.39	\$92.13
<u>Shopping</u>	<u>\$19.71</u>	<u>\$73.44</u>
Total	\$103.00	\$629.95

These trip spending averages are converted to a per night basis in Table 10 by dividing by the lengths of stay for each segment in Table 7. Spending by local visitors was not estimated in the ENHA survey and there were not enough cases to estimate expenses for other types of overnight visitors. Profiles for these two groups were therefore adapted from a recent Michigan museum visitor study (Stynes, Vander Stoep and Sun, 2003). A length of stay of two nights is used for the "other overnight" segment. This is a reduction from the average of 3.7 nights measured in the ENHA survey to avoid counting spending that may not be directly associated with the visit to ENHA sites.

² This procedure circumvents small sample and potential non-response bias problems in the mailback survey by adjusting the sample to the distribution of trip types measured in the on-site survey.

Table 8. Spending Per Party per Night of ENHA visitors, 2003 (\$ per party per day/night)

Category	Local day visitor	Non-local day visitors	Hotel	Other OVN
Lodging	\$0.00	\$0.00	\$99.44	\$12.00
Restaurants	\$13.35	\$40.25	\$67.78	\$22.70
Groceries	\$1.72	\$4.36	\$11.11	\$9.53
Gas	\$4.68	\$6.68	\$15.97	\$11.79
Other transportation expenses	\$0.70	\$5.61	\$12.09	\$4.70
Admissions	\$11.57	\$26.39	\$40.94	\$25.00
<u>Shopping</u>	<u>\$16.80</u>	<u>\$19.71</u>	<u>\$32.64</u>	<u>\$17.28</u>
Total	\$48.82	\$103.00	\$279.98	\$103.00

Note. Spending profiles for local day visitor and Other OVN segments were adapted from a survey of museum visitors in Michigan (Stynes, Vander Stoep and Sun, 2003). Spending is reported on a per day basis for day trips and a per night basis for overnight stays.

Total visitor spending is estimated by multiplying the number of visits within each segment times the spending averages. To use the per night spending averages, visits must be converted to a party day/night basis using the following formula:

$$\text{Party nights} = (\text{Person visits} * \text{length of stay}) / \text{party size}$$

Conversion factors are given in Table 7, with the exception that a length of stay of 2 is used for the other overnight segment. A typical travel party consisted of 2.8 people. Overnight visitors in hotels, motels and B&B's averaged 2.3 nights in the area. Those staying in campgrounds or with friends and relatives had slightly longer stays, but for the purposes of this study two nights of spending are attributed to ENHA³.

The 1.4 million visits to ENHA sites translates into approximately 500,000 party trips to the area and 727,000 party days/night. The hotel segment accounts for 46% of the party nights, other overnight stays account for 8%, day trips from outside the region 36% and locals 9% (Table 11)

Table 9. Summary of ENHA Visitor Party Nights and Spending in the Region

	Local-day visitor	Non-local day visitor	Hotel	Other OVN	Total
Average spending (\$ per party day/night)	\$ 48.82	\$ 103.00	\$ 279.97	\$ 103.00	\$ 179.24
Party nights (000's)	67,200	265,000	333,926	61,250	727,376
Total spending (\$millions)	\$ 3.3	\$ 27.3	\$ 93.5	\$ 6.3	\$ 130.4
Pct of party nights	9%	36%	46%	8%	100%
Pct of spending	3%	21%	72%	5%	100%

³ Length of stay was measured in the mailback survey and sample sizes for the other overnight segment were too small to be reliable.

Total spending by these visitors in 2003 was \$130 million, of which \$127 million is by visitors from outside the region (Table 12). Sectors most immediately impacted by visitor spending are lodging (\$33 million in sales), restaurants (\$35 million), attractions (\$23 million) and retail shops (\$18 million). Overnight visitors staying in hotels, motels, and B&B's account for almost three fourths of the spending.

The total ENHA visitor spending of \$130 million is 25% of the \$514 million that TIA (2003) estimates for all visitors to Essex County in 2002. It should be noted that TIA includes some spending not covered in the ENHA surveys⁴. The \$33 million in hotel spending by ENHA visitors accounts for 30% of hotel receipts in Essex county based on 2002 room tax figures.

Table 10. Total Spending by ENHA Visitors in 2003 (\$000's)

	Local-day visitor	Non-local day visitor	Hotel	Other OVN	Total
Motel, hotel cabin or B&B	\$ 0	\$ 0	\$ 33,206	\$ 0	\$ 33,206
Camping fees	0	0	0	735	735
Restaurants & bars	897	10,666	22,634	1,390	35,587
Groceries, take-out food/drinks	116	1,155	3,710	584	5,565
Gas & oil	314	1,770	5,333	722	8,140
Local transportation	47	1,487	4,037	288	5,859
Admissions & fees	778	6,993	13,671	1,531	22,973
<u>Shopping</u>	<u>1,129</u>	<u>5,223</u>	<u>10,899</u>	<u>1,058</u>	<u>18,310</u>
Total	3,281	27,295	93,489	6,309	130,374

Multipliers

Spending is converted to the associated income and jobs in the region using economic ratios and multipliers from an input-output model. The MGM2 model employs distinct multipliers for each tourism-related sector. The multipliers convert sales into the associated jobs and income and estimate secondary effects as the visitor spending circulates through the local economy. The MGM2 metropolitan area multipliers best capture the Essex county economy (The full set of MGM2 multipliers are reported in the Appendix).

Direct effects capture the sales, jobs and income in those businesses selling directly to visitors, e.g. hotels, restaurants, attractions, and retail shops. On average, every million dollars of sales from visitor spending supports 30 direct jobs. Forty percent of sales represents wages and salaries to workers in tourism businesses. The overall sales multiplier for the ENHA region is 1.46 which compares to the statewide tourism sales multiplier for Massachusetts of 1.61 used by TIA (2003). A sales multiplier of 1.46 means that for every dollar of direct sales another \$. 46 in sales is generated in the region through secondary effects⁵. The sales multiplier represents the ratio: (direct + secondary effects) / direct effects. Total sales effects can be estimated by multiplying the sales multiplier times direct sales.

⁴ For example, TIA includes imputed motor vehicle operating expenses, imputed rents for stays at seasonal homes and airfares.

⁵ Secondary effects include sales in backward linked industries (indirect effects) in the region as well as sales from household spending of income earned from tourists (induced effects).

Economic Impacts of Visitor Spending

Direct effects of ENHA visitor spending include \$114 million in sales, approximately 3,500 jobs, \$45 million in wages and salaries and \$70 million in value added to the region (Table 13) ⁶.

Table 11. Economic Impacts of ENHA Visitor Spending, 2003

Sector/Spending category	Sales (\$ Millions)	Jobs (Thousands)	Personal Income (\$ Millions)	Value Added (\$ Millions)
Direct Effects				
Motel, hotel cabin or B&B	\$33,206	840	\$13,203	\$21,137
Camping fees	\$735	19	\$292	\$468
Restaurants & bars	\$35,587	1,072	\$12,613	\$18,114
Admissions & fees	\$22,973	1,090	\$9,149	\$15,009
Local transportation	\$5,859	142	\$2,669	\$3,366
Retail Trade	\$12,378	309	\$6,441	\$10,493
Wholesale Trade	\$1,379	11	\$531	\$941
<u>Local Production of Goods</u>	<u>\$1,725</u>	<u>5</u>	<u>\$323</u>	<u>\$585</u>
Total Direct Effects	\$113,841	3,488	\$45,221	\$70,113
<u>Secondary Effects</u>	<u>\$52,667</u>	<u>691</u>	<u>\$19,824</u>	<u>\$33,283</u>
Total Effects	\$166,508	4,179	\$65,045	\$103,397

Another \$53 million in sales results from secondary effects that support an additional 691 jobs, \$20 million in wages and salaries and \$33 million in value added.

DISCUSSION

Using the MGM2 model, we are able to make estimates of spending by ENHA visitors and the associated economic impacts of this spending. The largest potential source of error stems from the visit estimates. Attributing spending and impacts directly to ENHA programs also poses difficulties. Visit estimates are based on counts at prominent facilities where reliable visitor counts are available. These counts will miss heritage visitors who do not visit one or more of the measured attractions during their trip. Summing visits will also double count some visitors. To carry through the analysis, we assumed these two factors would roughly cancel each other.

Impact estimates are therefore based on 1.4 million person trips to the area. The trip and spending estimates are reasonably consistent with other area travel statistics given some differences across data sources and the inherent difficulty of distinguishing among heritage tourists, ENHA visitors, and general tourism in the region. For example, based on this study ENHA visitors represent 45% of person trips to the North of Boston region, 25% of TIA's reported tourist spending in Essex county in 2002, and 30% of Essex county hotel sales.

⁶ Wages and salaries include payroll benefits. Value added is the sum of wages and salaries of workers, rents and profits of businesses, and sales and other indirect business taxes. Value added is the preferred measure of the contribution of an industry or region to gross national or state product. It excludes the portion of sales that goes to purchase inputs from other firms.

The impact models are linear so any adjustments in the overall estimate of trips can be readily translated into revised impact estimates. That is, doubling trips will double impacts and halving them will cut impacts in half. Results are sensitive to the mix of trip types as overnight visitors staying in hotels have significantly greater economic impacts than day visitors or those staying with friends and relatives (VFR) in the area.

The percentage of ENHA visitors staying with friends and relatives was much smaller than for travelers in general to the region (10% for ENHA compare to 48% in TIA study). Local visitors and those staying with friends and relatives may be underestimated in the ENHA survey, as these segments may represent a larger share of visitors to some of the facilities that were not directly sampled.

We cannot directly estimate the effects of heritage area designation or impacts of specific ENHA programs. Only six percent of visitors were “very familiar” with the Essex NHA” although 31% were “somewhat familiar”. The region’s historical sites were the primary trip purpose for 45% of ENHA visitors and a secondary purpose for another 45%. The region’s heritage attractions are clearly one of the most important generators of trips and spending.

This study establishes useful baseline figures for ENHA. It begins to identify the portion of overall tourism and economic activity in the region associated with heritage programs and facilities. Further research will be needed to evaluate specific ENHA programs and track changes in activity over time. We especially recommend efforts to track visitation at a larger share of area attractions and also research to sort out potential double counting of visitors across these attractions. A wider sample is also recommended to measure trip segment shares.

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Appendix

Table A-1. MGM2 Sector-Specific Multipliers for ENHA Region

Sector	Direct effects			Total effects multipliers				
	Jobs/ MM sales	Personal inc/sales	Value Added /sales	Sales I	Sales II	JobsII/ MMsales	IncII/ sales	VA II/sales
Hotels And Lodging Places	27.48	0.40	0.64	1.25	1.48	34.79	0.59	0.95
Eating & Drinking Amusement And Recreation	32.69	0.35	0.51	1.27	1.47	38.95	0.52	0.79
Auto repair and service	51.53	0.40	0.65	1.24	1.46	58.31	0.57	0.95
Local transportation	12.05	0.34	0.56	1.19	1.38	17.22	0.48	0.80
Food processing	26.23	0.46	0.57	1.24	1.49	32.86	0.65	0.90
Apparel from purch mate	3.63	0.25	0.45	1.25	1.41	9.28	0.39	0.69
Petroleum refining	12.01	0.20	0.23	1.28	1.41	17.55	0.35	0.48
Sporting goods	0.89	0.03	0.07	1.46	1.53	6.56	0.18	0.40
Manufacturing	8.12	0.23	0.43	1.31	1.47	13.98	0.41	0.71
Retail Trade	11.72	0.27	0.42	1.29	1.47	17.72	0.44	0.69
Wholesale trade	27.14	0.52	0.85	1.11	1.37	32.52	0.66	1.09
	8.86	0.38	0.68	1.22	1.43	15.01	0.56	0.96

Brief explanation of Multiplier table:

Direct effects are economic ratios to convert sales to jobs, income and value added.

Jobs/Million sales is the number of jobs per million dollars in sales in each sector.

Income/sales is the percentage of sales going to wages and salaries (includes sole proprietor's income)

Value added (VA)/sales is the percentage of sales that is value added (VA covers all income, rents, profits and indirect business taxes).

Total effects are multipliers that capture the total effect relative to direct sales. These capture the impacts from the circulation of visitor spending within the local economy.

Sales II multiplier = (direct + indirect + induced sales)/ direct sales

Sales I captures only direct and indirect sales = (direct + indirect sales)/ direct sales.

Job II/ Million sales = total jobs (direct + indirect + induced) per \$ million in direct sales.

Income II /Sales = total income (direct + indirect + induced) per \$ of direct sales

VA II/ Sales = total value added (direct + indirect + induced) per \$ of direct sales.

Using Hotel sector row to illustrate:

Direct Effects: Every million dollars in hotel sales creates 27 jobs in hotels. Forty percent of hotel sales goes to wages and salaries of hotel employees and 64% of hotel sales is value added. That means 36% of hotel sales goes to purchase inputs by hotels. The wage and salary income creates the induced effects and the 36% spent on purchases by the hotel starts the rounds of indirect effects.

Multiplier effects: There is an additional 25 cents of indirect sales in the region for every dollar of direct hotel sales (type I sales multiplier = 1.25). Total secondary sales are 48 cents per dollar of direct sales, which means 25 cents in indirect effects and 23 cents in induced effects. An additional 8 jobs are created from secondary effects for each million dollars in hotel sales (35 total jobs – 27 direct jobs per million sales). These secondary jobs are scattered across other sectors of the local economy. Including secondary effects, every million dollars of hotel sales in Essex county yields \$1.48 million in sales, \$590,000 in income, and \$950,000 in value added.