

5-2014

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RECREATION AND TOURISM IN MAINE'S MOOSEHEAD LAKE REGION:
A SURVEY OF SUMMER VISITORS

by

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Capstone Project Final Report Submitted

In partial fulfillment of the requirements for the degree of

Master's in Community Planning and Development

At the University of Southern Maine

Muskie School of Public Service

May 2014

Capstone Advisor: Professor Charles Colgan

Purpose

The area surrounding Moosehead Lake (Maine's largest) has a long history of outdoor-related tourism. Both Henry David Thoreau and Teddy Roosevelt travelled through the region in the 1800s on their way to (Mount) Katahdin. According to data released by the Maine Office of Tourism, The Maine Highlands, the state-defined tourism region to which Moosehead Lake belongs, received only 10% of all overnight and 8% of all day visitors to Maine during the summer of 2013 (Davidson Peterson Associates, October 2013); yet tourism is considered to be an important part of the local economy. Overnight visitors to the greater Moosehead Lake area provide income for more than 50 lodging businesses. Most of these businesses are small, able to accommodate less than 70 guests. Still, thousands of visitors come every year to the area and, as this survey study shows, a majority of them hike, camp, paddle, fish, boat, ride ATVs, look for and photograph moose and other wildlife, and participate in other forms of outdoor recreation near Moosehead Lake, in Maine's Great North Woods.

Although the shore of Moosehead Lake is mostly developed with year-round and seasonal residences,

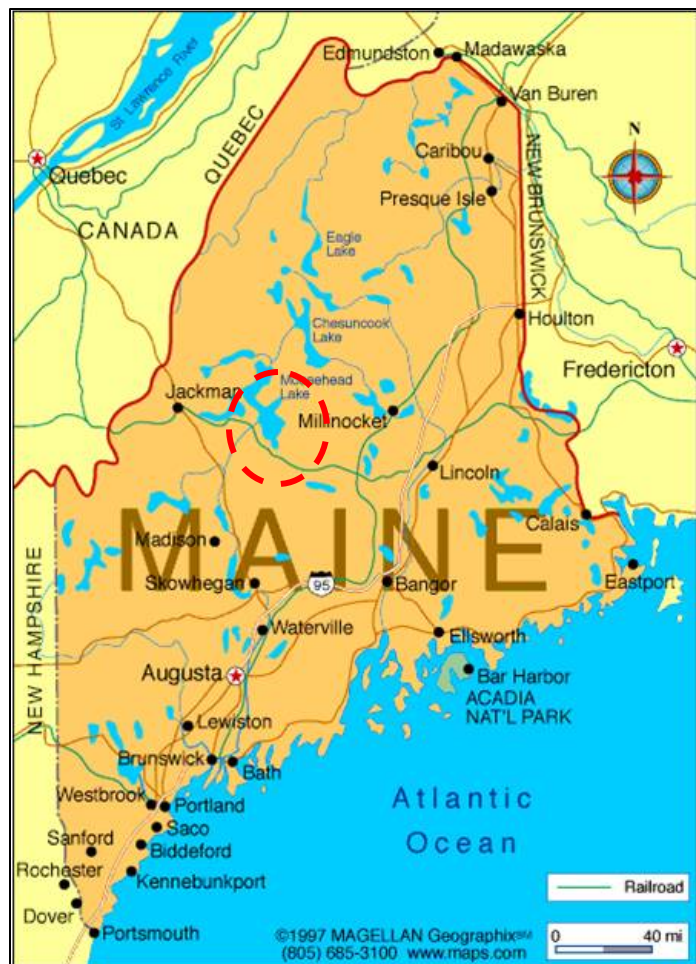


Figure 1 Map of Maine with Moosehead Lake indicated in red. Source: Google Images. Retrieved December 2013 from <http://www.infoplease.com/atlas/state/maine.html>

it is surrounded by millions of acres of undeveloped forests, mountains, ponds, rivers, and streams. The vast majority of these lands are privately owned and managed for forest products but have traditionally been accessible to the public. In past two decades, conservation organizations such as The Nature Conservancy, the Forest Society of Maine, and the Appalachian Mountain Club have purchased lands and hundreds of thousands of acres of conservation easements in the Moosehead Lake region, permanently securing public access. The State of Maine has also acquired

several thousands of acres of public reserve lands in this area, often in partnership with conservation organizations.

However it is not known whether these newly conserved lands are helping to attract more visitors to the Moosehead Lake region for outdoor recreation.



Figure 2 Maine's Moosehead Lake region. Source: Bangor Daily News. Retrieved December 2013 from <http://bangordailynews.com/2010/05/19/outdoors/forest-cover-declining-across-new-england/> (2004)

This study hoped to shed light on the overall importance of outdoor recreation to attracting overnight visitors to Maine's Moosehead Lake region, including how many come to participate in outdoor recreation and what kinds of activities they participate in. The study also hoped to learn where visitors recreate most in the region, how they obtain information about where to recreate, and whether visitors distinguish between public and private lands that are accessible for recreation.

Survey Population and Sampling Methods

The survey population included all overnight visitors to the Moosehead Lake region, who purchased lodging during the months of July and August 2013. Overnight visitors were selected for the survey study because overnight tourists to Maine spend more money than visitors on day trips. (Davidson Peterson Associates, October 2013) Lodging businesses also served as convenient survey distribution points.

The list of potential distribution points (lodging businesses) was developed from the Moosehead Lake Region Chamber of Commerce website. Upon request, the Chamber estimated that, among their member lodging businesses, the average summer occupancy rate is 70%. Maximum occupancy for each lodging business was determined through web research. Based on this information, approximately 64,000 individuals were expected to purchase lodging in the greater Moosehead Lake region during July and August 2013.

Distributing surveys through area lodging businesses, it was not possible to control the demographic characteristics of survey respondents to ensure a representative sample. The study attempted to reduce survey bias by capturing a representative sample of respondents by type of lodging purchased. Businesses used as survey distribution points represented four categories of lodging types: bed and breakfasts and inns; cabins and sporting camps; motels and hotels, and campgrounds. These are categories used by the local chamber website. Within these categories, businesses were selected at random and approached to participate in the study. In total 300 surveys were distributed to seven lodging businesses located in the towns of Greenville, Rockwood, and Abbot. The businesses are very diverse in nature and include two family

campgrounds, a family-run motel and restaurant facility, lakeside cabin rentals, a sporting camp with cabin rentals, and an upscale bed and breakfast.

The number of surveys distributed to the businesses was determined by the anticipated market share of each of the four lodging types in summer 2013 (table 1). Approximately half of July and August visitors were expected to purchase lodging at a cabin or sporting camp; 22% were expected to stay in campgrounds; 17% at a bed and breakfast or inn, and 8% at a hotel or motel.

The number of surveys distributed to each lodging type was adjusted with the goal of obtaining a representative sample of the total population of overnight visitors. Participating businesses offered surveys to overnight guests during the months of July and August, 2013. Survey participants had the options of returning their completed surveys to a drop-box at their place of lodging; mailing their completed survey to the USM survey distribution center, or completing the survey in an online format.

Table 1 Survey distribution and return rates

Type of Lodging	Pop. Size	%	Expected Proportional Sample Representation (35% return rate)	# of Surveys Distributed	%	# of Surveys Completed (36% return rate)	%
Bed & Breakfasts and Inns	11,000	17%	18	45	15%	17	16%
Cabins and Sporting Camps	34,000	53%	56	115	38%	52	48%
Campgrounds	14,000	22%	23	80	27%	21	19%
Hotels and Motels	5,000	8%	8	60	20%	15	14%
Unknown (online & mail)						4	4%
Total	64,000	100%	105	300	100%	109	100%

Sample Distribution

The return rates for each lodging type were well distributed (table 1). Cabins and sporting camps were estimated to hold a little more than half of the market share for overnight

visitors and nearly half of the surveys returned were completed by guests staying in cabins and sporting camps. Sixteen percent of survey respondents were guests at a bed and breakfast or inn, compared to an anticipated market share of 17% of overnight visitors. Nineteen percent of surveys were submitted by campers (estimated market share of 22%) and 14% by guests of hotels or motels (estimated market share of 8%). Four percent of the completed surveys were submitted online or by mail. The type of lodging used by these respondents is unknown.

Three hundred surveys were distributed. The anticipated return rate for the distributed surveys was 35% or 105 surveys. The study yielded 109 completed surveys, a rate of return of 36%. Table 1 provides a summary of the study's survey distribution and return rates by types of lodging business.

Based on the estimate of average summer occupancy rate provided by the local chamber of commerce (70%) and the maximum occupancy of lodging businesses, approximately 64,000 overnight visitors were projected to purchase lodging from chamber member businesses in July and August 2013. With 109 responses, the confidence interval of the survey results is 9. Although the confidence interval is relatively wide, the survey detected some clear trends.

Survey Results

Importance of outdoor recreation to attracting overnight visitors

More than a quarter of survey respondents identified participating in outdoor sports or engaging in wildlife watching and photography as the most important reason that they chose to visit the Moosehead Lake region in summer 2013. An overwhelming majority of respondents, 96%, reported participating in outdoor activities during their visits.

Preferred recreation activities

The most popular activities pursued by survey respondents were wildlife watching/photography and hiking (figure 2). Forty-nine percent of respondents who recreated out-of-doors indicated that they had participated in wildlife watching/photography in the Moosehead region and 46% indicated that they had hiked. Fishing (34%), camping (31%), canoeing/kayaking (30%), and picnicking (26%) were also popular activities. Sixteen percent of respondents that recreated outdoors indicated that they engaged in motorized boating; 13% indicated that they had rode ATVs or dirt bikes.

When asked to identify which outdoor activity they participated in *most* during their

visit, 21% reported wildlife watching/photography as their primary activity, followed by hiking (18%), fishing (16%), camping (16%), canoeing/kayaking (10%), motorized boating (7%), ATV/dirt bike riding (6%), and picnicking (4%). Three percent of respondents identified other outdoor activities as their primary, including golf, white water rafting, and visiting local airplane hangars on foot.



Figure 3 Most popular recreation activities for overnight visitors to the Moosehead Lake region, summer 2013. Text size corresponds to the relative number of survey responses.

Favorite recreation locations

The most popular recreation sites were Mt. Kineo State Park, which 46% of survey respondents reported visiting, and Lily Bay State Park, which 26% of respondents reported visiting. Other popular recreation sites included Gulf Hags (12%); Moosehead Lake (9%); the state owned Little Moose Mountain Unit (9%); Audubon Society's Borestone Mountain Sanctuary (6%), and the 100-Mile Wilderness (5%).

Sixty-five percent of respondents who had participated in outdoor recreation indicated that they had recreated on public lands; 50% responded that they visited private lands; and 7% indicated that they visited lands owned by a non-profit organization. Eighteen percent indicated that they did not know whether the lands they had visited were owned by public entities (the state or federal government), private individuals or businesses, or non-profit organizations.

Of the respondents that reported visiting public lands, private lands, or lands owned by a non-profit organization, 12% demonstrated that they did not actually know what kind of lands they visited. This insight was gained by comparing their responses to the question of where they had recreated with the question of ownership. For example, some respondents that indicated they visited only private lands also indicated that they visited Lily Bay State Park.

Sources of information

When asked to indicate their primary source of information when deciding to recreate in the Moosehead Lake region, 42% of those that participated in outdoor activities responded that their primary source of information was personal knowledge or experience. Eighteen percent indicated that they received advice from a friend or family member; an additional 18% indicated

they had received recommendations from a local guide or business owner. Six percent reported using a local business's website as their primary source of information on where to recreate; 3% or less reported using the local chamber of commerce website, the chamber's visitors' center, or Trip Advisor or other major travel website, respectively. Two percent indicated that they had used no information source (and had stumbled on the place where they had recreated by chance). Three percent reported using miscellaneous sources of information including the *Portland Press Herald*, state and local ATV clubs, and the Maine Tourism Center in Kittery.

Visitor satisfaction

Seventy-seven percent of respondents who participated in outdoor recreation during their visit to the Moosehead region in 2013 reported that they were very satisfied with their recreation experiences. An additional 19% indicated that they were satisfied with their experience. Only 4% of respondents indicated that they were only somewhat satisfied with their outdoor recreation experiences. No respondents reported being unsatisfied.

The most common response for how a visitor's recreation experience might have been improved was "better maps and other printed information about recreating in the Moosehead region" which was selected by 11% of respondents. More day-hiking and family nature trails (5%); improved trail signage (5%); better road access to recreation areas (5%); and improved web resources on recreating in the region (5%) were also popular selections.

Impressively, 10% of respondents wrote in that they were so satisfied with their recreation experience that they did not think that anything could have improved it. An additional 12% of respondents did not answer the question at all, suggesting that nearly a quarter of survey

respondents that participated in outdoor recreation did not think that their experiences could have been improved upon.

Seventy-nine percent of respondents reported that they were very satisfied with their overall trip experience in summer 2013 and 19% reported that they were satisfied. No respondents reported that they were unsatisfied with their experience.

First time vs. repeat visitors

A majority of respondents, 71%, indicated that they had visited the Moosehead region previously and 54% reported visiting the region consistently for more than five years. Eighty-four percent of survey respondents indicated that they planned to return to vacation in the Moosehead Lake region.

Demographic trends of survey respondents

Forty-four percent of survey respondents identified themselves as male and 56% as female. The average age of survey respondents was 51 years of age and the median age was 55.

Educational backgrounds of the respondents varied but all of the respondents had attended at least some high school and 62% had earned an associate's degree or higher. About half of the respondents identified themselves as being employed for wages (52%) and 11% as self employed. More than a quarter (26%) of respondents indicated that they were retired. Total household income varied from less than \$50,000 to \$300,000 or more, with the greatest number of respondents (40%) indicating that their total household income was between \$50,000 and \$99,000 dollars.

One hundred percent of survey respondents indicated that they were not Hispanic or Latino and 97% indicated their race as White. Most respondents (92%) identified themselves as American citizens; 6% identified themselves as non-citizens and two respondents indicated that they held dual citizenship in the United States and a second country. Most international visitors identified Canada as their country of citizenship but the study also included survey responses from citizens of the Netherlands, Ireland, and India.

Fourteen states were represented among the American survey respondents, although 42% of the American respondents indicated that their primary residence was in Maine. The second most commonly reported state of residence was Massachusetts (13%), followed by New Jersey (11%), New Hampshire (7%), New York (6%), and Pennsylvania (5%).

Individuals vs. groups of visitors

The vast majority of the survey respondents, 97%, visited the region with family and friends and 82% visited in a small group of two to five individuals. Six percent of respondents indicated their group consisted of six to ten people; 9% reported belong to a group of more than ten. Only 2% of respondents reported travelling alone in the Moosehead region.

Data Limitations and Survey Bias

When analyzing the survey results, it is important to consider that only 109 survey responses were received and that the confidence interval of nine for the survey results is fairly wide. For example, 46% of visitors reported visiting Mt. Kineo State Park. Given the size of the survey sample, it can be said with 95% confidence that between 37 and 55% of summer overnight visitors to the Moosehead Lake region visited Mt. Kineo State Park. (In this particular example,

the large percentage of reported state park visitors may be affected by the location of survey distribution points, two of which were located in Rockwood, close to the park.) Although certain data trends were very clear, in other cases the wide confidence interval makes it difficult to draw strong conclusions from the survey results.

Table 2 Comparison of select survey results with Maine Tourism Office data

	<i>Maine 2012*</i>	<i>Maine Highlands 2012*</i>	<i>Moosehead Lake Region 2013</i>
Basic visitor demographics			
Mean age	49	45	51
% Female	49	47	56
% Income \$50,000 - \$99,000	32	45	40
% Income \$100,000+	43	28	33
% With a college degree or higher	79	73	62
% Employed full time	60	65	63
Visitors' primary place of residence			
% Maine residents	7	10	42
% Massachusetts residents	22	10	13
% New Jersey residents	4	8	11
% New York residents	17	9	6
% Canadian respondents	26	48	4
Outdoor recreation			
% Visitors for whom outdoor recreation was the primary purpose for their visit	34	19	27
% Visitors that participated in outdoor recreation during their trip	57	34	96
First time vs. repeat visitors			
% First time visitors	15	22	29
% Repeat visitors	85	78	71
% Plan to return	68	72	84
*Data source: Davidson Peterson Associates, April 2013. Maine Office of Tourism Visitor Tracking Research 2012 Calendar Year Annual Report, Regional Insights: Maine Highlands. http://visitmaine.com/assets/downloads/2012-The-Maine-Highlands-Regional-Report.pdf (Retrieved May 11, 2014)			

The study design tried to limit bias by obtaining a representative sample of the total population of overnight visitors to the Moosehead Lake region by the type of lodging purchased (see *Sample Distribution*, above). Possible sources of bias in this survey study include the fact that some Moosehead region lodging businesses are not chamber members, so potential distribution points were omitted from the outset. There are overnight visitors to the region who did not purchase traditional commercial lodging in the summer 2013, such as backcountry campers and visitors who stayed with friends or family, who may also return year after year to the area. Survey results also did not capture overnight visitors that purchased multi-day or weekly rentals of single homes or cabins.

How accurately did this survey study reflect the total population of summer overnight visitors to the Moosehead Lake region? Recent survey data of summer overnight visitors published by the Maine Office of Tourism provides data for comparison (table 2). For instance, a higher percentage of women responded to this survey study than in the statewide survey conducted on behalf of the Maine Office of Tourism in summer 2012. The percentage of female respondents to the Moosehead region survey study was also greater than the percentage of female overnight visitors respondents surveyed in The Maine Highlands region (the tourism unit that includes the Moosehead Lake region, as defined by the Maine Office of Tourism) in summer 2012. It is not known whether the Moosehead area attracts greater than the regional or state average of female summer visitors or if another factor influenced this result. It is possible that female visitors empathized with a female graduate student and were thus more likely to participate in this particular study, resulting in survey bias.

Survey results from the Moosehead Lake region seem to indicate lower than state and regional averages for educational attainment, with 62% of Moosehead Lake respondents holding

a college degree compared to 79% statewide and 73% in The Maine Highlands. This result was surprising as it had been anticipated that this survey study could be biased towards more highly educated people who might empathize with a graduate student's efforts. It is unclear whether the relatively low percentage of college degree holders among local respondents, compared to statewide and regional data, could be a result of survey bias.

Other, similar data among this study's results and tourism studies from Maine's Highlands region and the state may suggest that the Moosehead region survey results are fairly representative of the population of summer overnight visitors to this area of Maine. Reported income levels among visitors to Maine, the Highlands region, and the Moosehead Lake region were comparable, as was full time employment status (table 2). Differences between the state, regional, and local data also provide insights into some unique characteristics of visitors to the Moosehead region, discussed below (see *Key Trends Observed*).

Looking at the state-, regional-, and local-level survey data, at first it is startling to see how low the percentage of Canadian survey respondents was in this study, compared to statewide and especially regional tourism survey results. In summer 2012, nearly half of all overnight visitors surveyed in The Maine Highlands region reported that their primary residence was in Canada. Only 4% of survey respondents in the Moosehead Lake region reported living in Canada and a large percentage of survey respondents, 42%, indicated that their primary state of residence was Maine. It is possible that Americans and in particular Maine residents were more likely to want to participate in this survey study, which may have resulted in survey bias.

However, the difference between the regional (The Maine Highlands region) and local (Moosehead Lake region) market shares of Canadian tourists can more likely be explained by geography. The Maine Highlands encompasses notable outdoor recreation destinations in the

North Woods, like the Katahdin and Moosehead Lake regions (Millinocket and Greenville, figure 4), but it also includes Maine's third largest city, Bangor. Bangor is the largest retail and service center for the northern half of Maine and part of maritime Canada. Therefore it is not surprising that of 156 overnight visitors to The Maine Highlands surveyed by the state Office of Tourism in summer 2012, 58 individuals (37%) reported that their primary residence was New Brunswick, Canada. Furthermore, 71% of respondents indicated that they shopped while visiting The Maine Highlands; shopping was the most commonly reported trip activity for this tourism region. (Davidson Peterson Associates, April 2013) This suggests that state Office of Tourism data for The Maine Highlands more closely reflects consumer trends in urban Bangor than rural areas like the Moosehead Lake region.

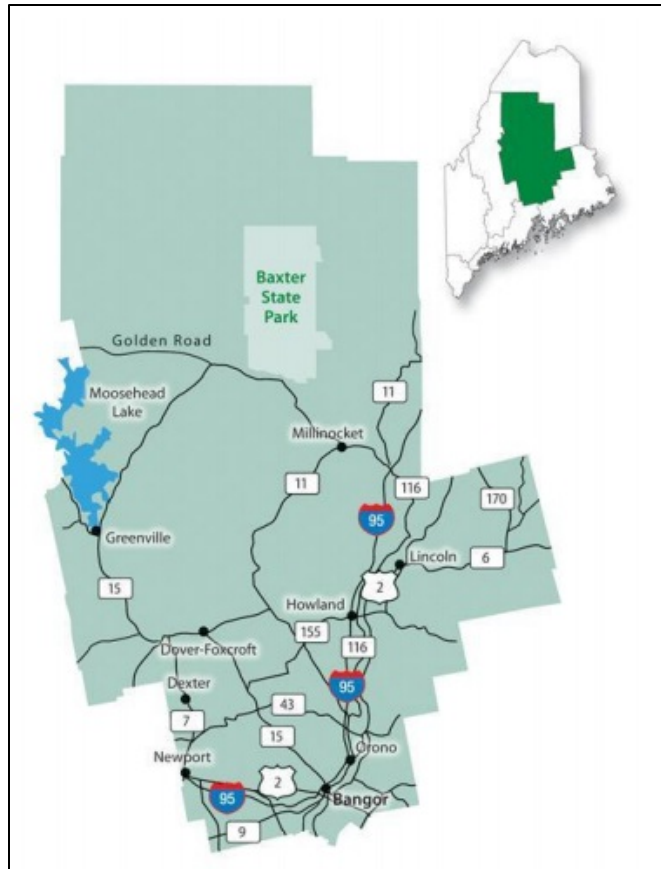


Figure 4 The Maine Highlands region, defined by the Maine State Office of Tourism (Davidson Peterson Associates, April 2013)

Some outdoor recreation studies may be biased towards certain kinds of recreation. For example, motorized recreation may not be accurately represented by survey studies that more narrowly define ecotourism as people-powered activities. This study captured survey results from a family campground that is located on the regional ATV trail system and attracts a high number of visitors who engage in motorized recreation, which hopefully helped to mitigate

potential bias in the results. Most respondents who indicated that they participated in motorized recreation also indicated participating in non-motorized recreation activities like hiking and wildlife viewing and photography.

No surveys were eliminated due to multiple or non-responses. Where survey respondents provided multiple responses to a single-answer survey question, those responses were not included in the analysis of the results for that question. Non-responses were handled in the same manner. This may affect the robustness of certain survey results, in particular those for which the wide confidence interval already limits the conclusions that can be drawn from the collected survey data. Multiple responses could have been reduced through survey design.

In retrospect, it would have been helpful to ask survey respondent which town or county of Maine they considered to be their primary residence. This could have provided insight into whether the Moosehead region draws a large number of visitors from any particular part of Maine, such the more populated southern and coastal areas of the state.

This survey can only attempt to provide insight into the characteristics of overnight visitors during the summer months. Surveys conducted during spring, fall, or winter would almost certainly produce very different results with regard to outdoor recreation activities and areas visited. For example, a spring survey would likely capture a much greater proportion of anglers; a fall survey, moose hunters and foliage seekers; and a winter survey, snowmobilers and ice fishermen. Hunters, in particular, might be more likely to access private versus public lands.

Key Trends Observed

Outdoor recreation is vital to the local tourism economy.

More than a quarter of survey respondents indicated that that outdoor recreation was their primary reason for choosing to vacation in the region in summer 2013. Ninety-six percent of

respondents reported that they had participated in outdoor recreation during their visit, so it can be said with 95% confidence that 85% or more of summer overnight visitors engaged in outdoor recreation activities while vacationing in Maine's Moosehead Lake region. This demonstrates how important opportunities for outdoor recreation are for attracting visitors to Maine's Moosehead Lake region and to the local tourism economy.

Public park lands receive a large percentage of visitors.

It can be said with 95% confidence that approximately one-third to half of all summer overnight visitors to the Moosehead Lake region visited Mt. Kineo State Park, making it the most popular reported recreation destination in the area. As noted in above, this result may have been skewed by the fact that two businesses used a distribution points are located near to Mt. Kineo. However, a little more than a quarter of respondents also reported visiting Lily Bay State Park, the second most popular reported recreation destination. The relatively high percentage of visitors to these two areas suggest that state park lands are utilized more frequently than private lands by summer visitors that purchase overnight lodging in the Moosehead Lake region. This may be cause for concern if these state park destinations become over-crowded.

The popularity of state parks may be explained by their public visibility and a lack of information about alternative recreation destinations. Only 3% of respondents reported visiting Big Spencer Mountain, despite the fact that it is a state-owned ecological reserve. It is possible that Big Spencer, one of the immediate area's most prominent peaks, is such a challenging hike that the majority of visitors would not attempt it, but more respondents (5%) reported visiting Baxter State Park and (Mount) Katahdin than Big Spencer. Baxter State Park also offers challenging peaks and requires a one-way trip of approximately 100 miles on public roads from

the Moosehead Lake region (though only about 60 miles on private dirt logging roads). The fact that there are significantly more resources about Baxter State Park (books, maps, and extensive web resources) than Big Spencer Mountain could account for this difference.

Only 4% of survey respondents who participated in outdoor recreation indicated that they utilized “working forestlands,” the “North Woods,” or lands off of the privately-owned Golden Road for recreation. But it is often difficult to separate recreation on public lands from that of private lands in Maine. For instance, visitors who accessed Gulf Hagas (12%) and the 100-Mile Wilderness of the Appalachian Trail (5%) passed through private lands (and almost certainly private gates with fees) or lands owned by a conservation organization to reach state- and federally-owned recreation areas. Considering this, the number of survey respondents confused about whether they recreated on privately owned lands, publicly owned lands, or lands owned by a non-profit organization, was less than anticipated. The rate of “wrong” answers to this question, which was evaluated by which specific destinations visitors’ indicated they had recreated (ex. Gulf Hagas, Lily Bay State Park), was expected to be higher than 12%. This suggests that Moosehead region visitors have a relatively good understanding of whether lands are owned by public or private entities, which may be related to the fact that many visitors to the area have a great deal of experience there.

Most overnight visitors already have personal knowledge of the region.

Forty-two percent of survey respondents indicated their primary source of information about where to recreate was personal knowledge or experience, that is, it can be said with 95% confidence that between a third and a little more than half of summer overnight visitors to the region used personal knowledge or experience to choose where to recreate.

This makes very good sense when one considers that 71% of the survey respondents indicated that they had visited the Moosehead region prior to summer 2013. However, these statistics may also suggest that a newcomer to the Moosehead region may have difficulty knowing where to find quality recreation experiences. Some of the most common survey responses to the question of how visitors' recreation experiences could have been improved were information-based: better maps and other printed information about recreating in the Moosehead region (11%) and improved web resources on recreating in the region (5%).

Overnight visitors are highly satisfied with their experiences and come back again and again.

It can be said with 95% confidence that between 63 and 80% of summer overnight visitors to the Moosehead Lake region visited the region prior to summer 2013 (71% of survey respondents). Fifty-four percent of survey respondents reported coming to visit the region for more than five years, so it can be said with 95% confidence that between 45 and 63% of the summer overnight visitors in 2013 have come back to the Moosehead Lake region year after year. Seventy-nine percent of respondents reported that they were very satisfied with their overall trip experience in summer 2013 and 19% reported that they were satisfied. Not a single respondent reported that they were unsatisfied with their experience.

Many Moosehead region visitors come from Maine.

The survey suggests with 95% confidence that between 31 and 51% of visitors are Maine residents. According to data published by the state Office of Tourism, only 7% of summer overnight visitors statewide and 10% of overnight visitors to The Maine Highlands reported that their primary residence was in Maine. It has already been discussed that a significant percentage of overnight visitors to The Maine Highlands come from maritime Canada, but that these visits are likely concentrated within the city of Bangor. State Office of Tourism data reports that, in 2012, only 17% of overnight summer

visitors to the Kennebec and Moose River Valley region (another popular region for outdoor recreation in the northwestern part of Maine) were state residents. This suggests that the Moosehead Lake region relies much

more heavily on in-state overnight tourism than other parts of Maine, including other North Woods destinations.

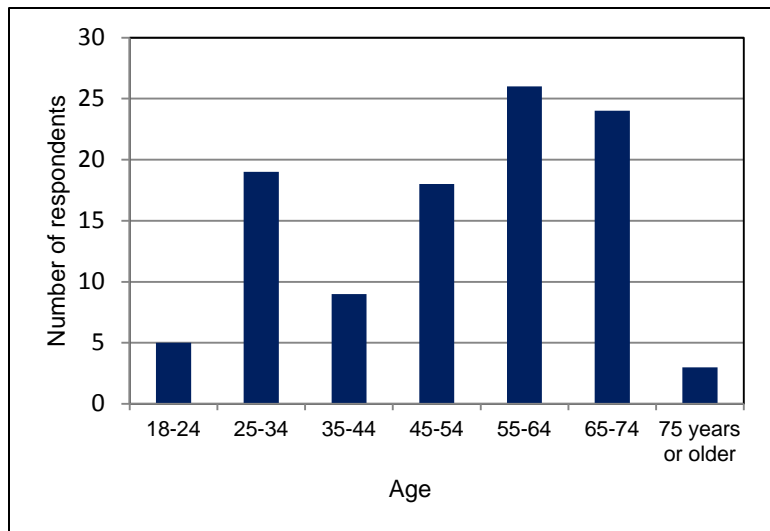


Figure 5 Age distribution of Moosehead region survey respondents.

Visitors to the Moosehead Lake region are older than average.

The average reported age of Moosehead Lake region survey respondents was 51, compared to a statewide reported average of 49 and an average of 45 years of age among overnight visitors to The Maine Highlands. (The median age of Moosehead region survey respondents was 55 and the range was 18 to 81 years.) Although nearly 20% of survey respondents reported their ages as being 25 to 34, more than half of all respondents were age 55

or older. Considering that such a large percentage of visitors to the Moosehead Lake region return year after year, the fact that these visitors are aging may be cause for concern. If a very large share of the market for overnight lodging is purchased by repeat visitors, as these visitors age and are no longer able to visit, the region may experience a decline in tourism activity.

Opportunities and Challenges Ahead

There are at least two potentially significant changes on the horizon for the Moosehead Lake region and its tourism and outdoor recreation economy. First, in 2009, the state Land Use Regulation Commission (or LURC; now called the Land Use Planning Commission), the agency in charge of regulating development projects in Maine's unorganized territories, approved a concept plan for the Moosehead Lake region submitted by Plum Creek Timber Company, a national timber investment and management organization. LURC's decision was contested over a procedural issue, but it was upheld in 2012 by Maine's highest court, granting Plum Creek a 30-year window in which to apply for permits to develop in designated areas. The concept plan envisions two resorts, together offering about 1,200 units, and another 820 units of residential development.

In addition to opening the door for permitted development, the concept plan permanently conserved approximately 400,000 acres in the Moosehead Lake region, prohibiting development and securing public access to these lands for recreation. The majority of these lands are owned and managed for forest products by Plum Creek, but held in conservation easement by the Forest Society of Maine. The concept plan also required Plum Creek to provide financial support to develop new trails and other recreation amenities on easement lands in the region. (Plum Creek Timber Company, 2009)

The concept plan was controversial and elicited anti-development campaign from a few of the leading environmental groups in Maine, as well as some citizens and among them some Moosehead region residents. It is unknown how the addition of two resorts and several hundred new residential units will affect the character of the Moosehead Lake region. On the one hand, extensive new development could alienate the visitors who already love the region and return year after year to vacation there. But on the other hand, the Plum Creek Concept Plan is an opportunity to grow the Moosehead Lake region's tourism market.

According to data published by the Maine Office of Tourism, in the summer of 2012, only 6% of visitors to Maine stayed in a cabin, cottage, or condominium but almost half of summer visitors stayed in a hotel, motel, or resort. There are currently no large-scale resorts located in the Moosehead Lake region (The Birches in Rockwood might come the closest to meeting this criteria) and hotels and motels make up the smallest percentage of the four lodging types examined in this survey study (an estimated 8% market share). Considering that the category of lodging businesses that are most common in the Moosehead Lake region, sporting camps and cabin rentals, is one of the least frequently purchased lodging types across the state, and that one of the most popular lodging types statewide is underrepresented in the Moosehead Lake region, it is reasonable to suggest that the addition of resort facilities may grow the region's market share of overnight tourism in Maine. Development has yet to begin (notably, the market for housing dropped out while the concept plan was still being contested in court), but the concept plan was recently touted by GrowSmart Maine Executive Director Nancy Smart at the 2013 Growth Summit as the largest "conservation development" plan that has ever been proposed and approved in the U.S. If development is eventually permitted under the terms of the

concept plan, it is unknown how this will affect existing lodging businesses and their customer base.

Another important proposed land use change in the larger Maine Highlands region is the proposed Katahdin Woods and Waters National Park. This proposed park would encompass about 70,000 acres owned by Elliottsville Plantation, Inc. (EPI) along the East Branch of the Penobscot River. EPI was founded by Roxanne Quimby, co-founder and former co-owner of the popular beauty product brand Burt's Bees. Currently Quimby's son Lucas St. Clair heads EPI and the campaign to establish a new national park in the Maine woods. The lands in question are east of Baxter State Park and more than 60 miles east of Moosehead Lake via the Golden Road (and nearly twice that distance using public roads). The tourism economies of the Moosehead and Katahdin regions are connected: the areas are geographically near; both are part of The Maine Highlands; both are access points to Maine's 100-Mile Wilderness, and they share the cultural history of Maine North Woods.

A recent study commissioned by EPI and the Natural Resources Council of Maine suggest that creating a national park would have significant economic benefits for the Katahdin region. Presumably it could also be an opportunity for Moosehead region lodging and recreation businesses to attract more visitors, but the effects that a national park in an adjacent recreation area would have on the Moosehead Lake region are unclear. It is possible that potential new visitors to the Moosehead Lake region may decide to visit a national park in the Katahdin region, instead. From another perspective, and perhaps the more likely scenario, creating a national park in the Katahdin region would strengthen the outdoor recreation brand for all of Maine's North Woods and attract more visitors, including to the Moosehead Lake region.

To date, plans to establish a park are not moving very quickly, as neither of Maine's senators has so far been willing to support the idea. Interestingly in Maine, plans to preserve lands can be just as contentious as plans to develop them. Creating a national park is perceived by some to be a threat to Maine's forest products industry. Some believe that the proposed 70,000-acre park will be a seed for a larger, 3.2 million-acre federal 'land grab' in Maine's North Woods. Despite the controversy, EPI continues to advocate for the idea. Lucas St. Clair and Roxanne Quimby have publicly announced that their goal is to cut the ribbon on a new national park in 2016.

Conclusions and Recommendations

Outdoor recreation is essential to the tourism economy, but non-parklands are underutilized.

This study demonstrates the importance of outdoor recreation opportunities to the summer tourism economy of the Moosehead Lake region. It can be said with 95% confidence that 85% or more of summer overnight visitors engaged in outdoor recreation activities while vacationing in Maine's Moosehead Lake region in summer 2013. This is significantly higher than the percentage of visitors surveyed statewide (57% reported participating in an outdoor activity while in Maine) and in The Maine Highlands (34%) in 2012. (Davidson Peterson Associates, April 2013) Overnight visitors participated in a number of diverse outdoor activities but wildlife watching and photography and hiking were some of the most popular. Survey respondents reported high levels of satisfaction with their outdoor recreation experiences.

The most popular recreation destinations in the region were state parks, Mt. Kineo and Lily Bay. Yet in recent years hundreds of thousands of acres surrounding Moosehead Lake have been permanently conserved using a combination of land and conservation easement acquisitions

by conservation organizations and the state of Maine. All of these lands are accessible for public recreation, but only 4% of survey respondents who participated in outdoor recreation indicated that they utilized “working forestlands,” the “North Woods” or lands off of the privately-owned Golden Road for recreation. The survey provided no evidence that newly conserved lands in the Moosehead Lake region, such as privately owned lands held in conservation easement, are attracting new visitors to the region.

The most common response for how a visitor’s recreation experience might have been improved was “better maps and other printed information about recreating in the Moosehead region,” which was selected by 11% of respondents. Conservation organizations, local tourism development groups, and the state might consider partnering to develop educational resources about the opportunities for recreation provided by privately owned and non-park public lands in the Moosehead Lake region, such as Maine Public Reserve and conservation easement lands. Providing improved written and web-based information about the area’s many recreational opportunities may help attract more first-time visitors. It may also encourage traditional visitors to the region to explore new places, reducing pressure on state parks. The Moosehead region is part of a nearly 2.5 million-acre network of contiguous conservation lands in Maine’s North Woods that stretch from Baxter State Park towards the Canadian border. This publicly accessible land base is a tremendous asset for the region, but it is one that local citizens, business owners, and economic development officials need to understand better, in order for this asset to be used to the Moosehead Lake region’s market advantage.

Visitors are satisfied and loyal. They are also aging, and mostly from Maine.

Based on this study's survey results, it can be said with 95% confidence that between one-third and half of summer overnight visitors to the Moosehead region were Maine residents in July and August 2013, compared to 7% statewide and 10% in The Maine Highlands in summer 2012. (Davidson Peterson Associates, April 2013; also see table 2) This suggests that the Moosehead region tourism economy has an unusual dependence on in-state visitors. To grow its market share of out-of-state visitors, the region may want to consider new ways of marketing Moosehead Lake to potential tourists that live outside of Maine's borders. That being said, it will be important moving forward to understand and continue to grow the apparently strong connection between the Moosehead Lake region and residents in other parts of Maine. Future studies of visitors to the Moosehead Lake region would benefit from learning where in Maine (town, county) those visitors keep their primary residences.

Lodging business owners in the Moosehead Lake region can feel very proud of the exceptional experiences that they provide to their guests. Not a single survey respondent reported that they were unsatisfied with their experience in the Moosehead Lake region in summer 2013. Seventy-nine percent of survey respondents reported that they were very satisfied with their overall trip experience and 19% reported that they were satisfied.

Visitors' high levels of satisfaction with their experiences in the Moosehead Lake region are clearly related to their decision to return over and over again. Based on the survey results, it can be said with 95% confidence that between 62% and 80% of overnight visitors to the Moosehead Lake region have visited the region previously (71% of respondents). More than half of respondents reported visiting the region consistently for more than five years.

Although the loyal nature of the region's visitors is extremely positive, the Moosehead Lake region is not unique in this regard. In summer 2012, 85% of visitors surveyed statewide

and 78% of visitors surveyed in The Maine Highlands reported having visited the state or region previously; both even greater percentages than reported by visitors to the Moosehead region in 2013 (table 2). Furthermore, the average age of visitors surveyed in the Moosehead Lake region was 51 years of age (median age, 55), compared to a mean age of 49 years statewide and 45 years in The Maine Highlands. These results suggest that while visitors to the Moosehead Lake region are very loyal, these loyal visitors are aging, and it is unclear whether there is a new generation of visitors to take their place.

Based on the survey findings, lodging business owners in the Moosehead region and their chamber of commerce may want to focus some of their marketing efforts on finding and cultivating a new generation of visitors who will make multi-day summer trips to the Moosehead Lake region their new tradition. The area has a wonderful base of loyal visitors who come back year after year, love the region, and know a lot about it. These visitors deeply appreciate the region's many opportunities for outdoor recreation and the quality experiences that local business owners provide to their customers. But whether a younger generation is poised to replace them is uncertain. Business owners and tourism development staff in the region may want to seek professional consult and explore ways to address this uncertainty.

One of the unique insights that this survey provided is that many visitors to the Moosehead Lake region rely on their own personal knowledge or experience to make decisions about where to recreate in the region. While this is related to the fact that so many visitors are repeat customers, it also may suggest that there is a lack of information available about the region and its recreational opportunities, which are so essential to visitors' experiences. A recommended first step is to make information about the region's diversity of recreational

opportunities easily accessible on the internet. This is connected to the need to find ways to promote the region's enormous base of publicly accessible recreation lands, discussed above.

Relatively few survey respondents reported using a local business's website, the local chamber of commerce website, or the chamber's visitors' center as their primary source of information on where to recreate in the Moosehead Lake region. This suggests that individual businesses and the chamber of commerce could educate a much greater number of new and returning visitors by investing in website improvements and improving the visibility of the visitors' center. The region may also want to find ways to introduce business owners to low-cost but relevant skills, such as social media marketing, that can help introduce and attract a younger generation of potential visitors.

Change presents both challenges and opportunities, but most importantly, it cannot be ignored.

It has already been noted above that the types of lodging businesses that are the most common in the Moosehead Lake region, sporting camps and cabin rentals, are some of the least frequently purchased types of lodging across the state. In the summer of 2012, only 6% of visitors to Maine stayed in a cabin, cottage, or condo, and almost half of statewide summer visitors stayed in a hotel, motel, or resort. There are comparatively few hotels and motels in the Moosehead Lake region, and currently no significant resorts exist. The Plum Creek Concept Plan could change this by developing two resorts and hundreds of seasonal homes over the course of the next three decades. If permits are approved and development plans proceed, the local market for overnight will certainly be expanded. This could breathe new life into the region as a tourism destination, but it could also alienate the loyal visitors who already love the Moosehead Lake region, the way it is. Similarly, the affect that establishing a new national park

in the nearby Katahdin region might have on small lodging businesses in the Moosehead region, is unknown.

This study makes no attempt to say whether developing resorts on Moosehead Lake or establishing a national park are good or poor policy decisions, simply that both present challenges and opportunities for the Moosehead Lake region. There is a natural tension between the desire to pursue increased local economic activity through development and the desire to maintain the unique quality and experience of the Moosehead Lake region, which is rooted in outdoor recreation and small lodging businesses. It is important to remember, though, that change will happen, whether it is development, an aging customer base, or some other source entirely. But whatever form this change takes, it is up to local leaders and business owners to embrace and shape opportunities for growth that fit the area's special character and assets. Many communities resist change due to fear of the unknown. Conducting more detailed studies about how existing businesses and the economy of the greater Moosehead Lake region may be affected by changes on the horizon, like the Plum Creek Concept Plan development and the proposed national park, may help businesses owners and local economic development staff understand how the region can prepare for and possibly benefit from these plans.

Regional tourism data does not accurately reflect visitor trends in the Moosehead Lake region.

There were some notable differences between the results of a visitor survey conducted in summer 2012 in The Maine Highlands and this study. The Maine Highlands survey reported a very high rate of overnight summer visitors from Canada and in particular the maritime province of New Brunswick. The majority of visitors to The Maine Highlands reported engaging in retail shopping activities, in contrast to the Moosehead Lake region, where nearly all visitors

participated in outdoor recreation. This suggests that state tourism data for The Maine Highlands region does not accurately reflect visitor trends in the Moosehead Lake region. It also seems likely that the state data does not accurately reflect trends in the Katahdin region, which is more similar in most respects to the Moosehead Lake area than to Bangor. If this data is used by the Maine Office of Tourism to make strategic decisions for The Maine Highlands unit, such as where to concentrate marketing efforts, it is possible that the more rural regions are negatively affected by this misrepresentation of their tourism market by the state's data.

While surveys were being distributed to businesses, one business owner complained that the Moosehead Lake region's brand was negatively affected when the region was grouped into The Maine Highlands. It was the opinion of this business owner that the city of Bangor has more political influence at the state level and is able to capture more funding from the state Office of Tourism than rural areas like the Moosehead Lake region. This study cannot speculate on whether these business owner's opinions are true, but it raises questions about how regional tourism data is used, at the state level, to make decisions that impact tourism development in Maine's rural communities.

Acknowledgments

Special thanks to the owners of the Moosehead Lake region lodging businesses who participated in this survey study, and their staff members. This study would not have been possible without their gracious assistance. They are: Matt and Jamie at Balsam Woods Campground, Jeff and Terry at the Greenville Inn, Diane and George at Kineo View Motor Lodge, Gail and Bill at Maynards in Maine, Bob and Lillian at Moosehead Family Campground, and Ron and Bonnie at Rockwood Cottages.

Thank you to Al Leighton at the University of Southern Maine Survey Center for his help collecting mail-in surveys and to Karin Tilberg at the Forest Society of Maine for reviewing an early draft of the survey. Thank you to Charlie Colgan, Capstone project advisor, for his help and feedback throughout this project's many stages.

Disclosure Statement

In the interest of full disclosure, the author of this paper is employed by the Forest Society of Maine, the land trust that holds and oversees the conservation easement lands associated with the Plum Creek Concept Plan.

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