

Socioeconomic and Demographic Profiles of Recreating Users of the Great Lakes Maritime Heritage Center and Alpena Shipwreck Tours in Thunder Bay National Marine Sanctuary: Volume 3 (2018)



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A stand up paddleboarder takes in the sunrise in Thunder Bay
National Marine Sanctuary. Photo: Jeff Gray/NOAA



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Abstract

This report (Volume 3) is part of a series of reports that focus on the use of two recreational venues associated with Thunder Bay National Marine Sanctuary. Data were collected from June 2018 to October 2018. Respondents were intercepted at the Great Lakes Maritime Heritage Center, the sanctuary's visitor center, and Alpena Shipwreck Tours, a glass-bottom boat that operates in the sanctuary. Users were both residents of the region (defined as Presque Isle, Alcona, and Alpena counties) as well as visitors to the region. The users were intercepted at both locations and asked to participate in an on-site screener survey that recruited them into a longer survey. The longer survey focused on the importance and satisfaction of various characteristics related to their experience, their expenditures, and the activities they did while in the region. In total, 992 people were intercepted, and 90% of them agreed to take the survey in the on-site screener survey. The response rate for the longer survey of those who completed the screener was 34.8%. This report, Volume 3, presents a socioeconomic profile of those recreating in the sanctuary, including demographic profiles (e.g., age, gender, race-ethnicity, household size, and household type), use, top recreation activities/points of interest, and detail on comparative person-days. Volume 1 addresses the visitors' economic contribution to the region resulting from their expenditures. Volume 2 addresses the visitors' importance-satisfaction ratings for natural resource attributes, facilities, and services. Volume 4 is a technical appendix that explains the survey sampling methodology and the methods of estimation for volumes 1-3.

Key Words

Coastal recreation, demographics, Lake Huron, marine recreation, sanctuaries, socioeconomics, Thunder Bay National Marine Sanctuary, tourism

Key Findings

Socioeconomic and Demographic Profiles: Screener Survey

- *Visitor trips:* More than half, 56.2% of respondents, indicated this was their first trip to the region. The average number of trips each visitor takes to the region annually is 1.9 trips.
- *Importance of the Great Lakes Maritime Heritage Center and Alpena Shipwreck Tours:* Slightly less than half (43%) of visitors reported that the Great Lakes Maritime Heritage Center was the primary reason for or very much influenced their travel plans to Alpena. Roughly one-third (32%) of visitors reported that Alpena Shipwreck Tours was the primary reason or very much influenced their travel plans to Alpena.
- *Visiting the Great Lakes Maritime Heritage Center:* A higher portion of residents, 98.0%, are likely or very likely to visit the Great Lakes Maritime Heritage Center again, compared to 76.8% of visitors.
- *Most memorable:* Sixty-three residents (of 146 that provided a response), and the majority of visitors, reported that the Western Hope exhibit for the Great Lakes Maritime Heritage Center was the most memorable. The most memorable aspects of Alpena Shipwreck Tours were shipwrecks, narration, and the boat ride/being outside.
- *Likelihood of going diving, snorkeling, or paddling:* Most visitors, 58.8%, were unlikely or very unlikely to engage in the activity. A slightly lower share of residents (40.9%) indicated they were unlikely or very unlikely to go diving/snorkeling or paddling.
- *Sources of information:* The largest share of visitors, about one quarter, reported learning about the sanctuary prior to their visit from referral or word of mouth.

Socioeconomic and Demographic Profiles: Longer Mailback/Online Survey

- *Influence on decision to visit the region:* Over 80% of both residents and visitors were influenced by at least Thunder Bay National Marine Sanctuary (TBNMS), the Great Lakes Maritime Heritage Center, and/or Alpena Shipwreck Tours to come to the region.
- *Knowledge of TBNMS prior to visiting:* Most residents knew something about TBNMS prior to visiting the sanctuary. However, nearly half the visitors knew nothing about the sanctuary before coming to the region.

CHAPTER 1: INTRODUCTION

Background

In 2018, the National Marine Sanctuary Foundation conducted pilot surveys at two venues associated with Thunder Bay National Marine Sanctuary (TBNMS): the Great Lakes Maritime Heritage Center, the sanctuary's visitor center, and Alpena Shipwreck Tours, a glass-bottom boat that operates in the sanctuary. The survey took place from June 2018 to October 2018. Respondents were intercepted at both venues and asked to complete a short screener survey, then recruited to complete a longer survey about the importance and satisfaction of various aspects of their experience, their expenditures, and the activities they participated in while in the region. Although the survey does not sample all users of TBNMS, this report does provide a representative snapshot of the larger user population, both residents of the region (Alpena, Presque, and Alcona counties) and visitors to the area.

As discussed more below, when screener respondents indicated they were willing to complete a longer survey, they were either given a mail survey to mail back or a postcard with an online link to SurveyMonkey to complete the survey at a later time. Findings from the longer survey include information about demographics, number of days spent in the region, importance/satisfaction, attitudes and perceptions, and expenditures of respondents.

Survey Methodology

The survey methodology is presented in the technical appendix to this report (Schwarzmann et al., 2019) but is outlined again here. The survey was carried out in a two-tiered approach: an on-site screener survey followed by a longer mailback or online survey.

Respondents from both Alpena Shipwreck Tours and the Great Lakes Maritime Heritage Center were approached and asked to complete the on-site screener (a short survey based upon whether the respondent was a visitor to the region or a resident of the region). The screener survey can be found in Appendix A of the technical appendix to this report (Schwarzmann et al., 2019). If the respondent completed the screener survey, they were then asked to complete a longer version of the survey using either a paper version they would mail back or online via SurveyMonkey.

Findings from the longer survey include information about demographics, number of days spent in the region, attitudes and perceptions, and expenditures of respondents.

The response rate for the on-site short screener was roughly 90% (992 people intercepted). Roughly 35% of the 891 respondents who completed the screener and opted into the mail survey completed the longer survey. Of those who completed the longer survey, roughly 80% of respondents did so online.

Additionally, the data were tested for non-response bias, but that analysis revealed there was no non-response bias for the variables tested. For a more detailed explanation of the non-response bias tests and spatial weighting, see Schwarzmans et al. (2019).

Data Collected

Screener Survey

- User activities (e.g., whether first trip to the region)
- User satisfaction
 - Whether respondent would recommend the Great Lakes Maritime Heritage Center and Alpena Shipwreck Tours
 - Whether likely to visit Alpena Shipwreck Tours or the Great Lakes Maritime Heritage Center again
 - Whether likely to learn more about TBNMS
 - Whether likely to go diving/snorkeling/paddling
 - Level of overall satisfaction with Alpena Shipwreck Tours and the Great Lakes Maritime Heritage Center
- Characteristics of individual
 - Age
 - Gender
 - Group size
 - Transportation mode(s)
 - Sources of information used to learn about TBNMS prior to trip
- Importance of Alpena Shipwreck Tours and the Great Lakes Maritime Heritage Center
 - Influence that either Alpena Shipwreck Tours and/or the Great Lakes Maritime Heritage Center had on their travel plans
 - Agreement that the Great Lakes Maritime Heritage Center is an important cultural attraction
- Open-ended questions
 - How to improve Alpena Shipwreck Tours and the Great Lakes Maritime Heritage Center
 - The most memorable feature at Alpena Shipwreck Tours and the Great Lakes Maritime Heritage Center

Mailback/Online Survey

- Uses
 - Person-days spent in Michigan and Alpena
 - Person-days of activity

- Locations visited
- Expenditures by category of expenditure
 - Per household group per trip (last trip)
 - Per person-trip (last trip)
 - Per person-day (last trip and annual average)
 - Total annual expenditure
- Economic impact/contribution to local area economies for visitors and residents
 - Output
 - Value added
 - Income
 - Employment (full- and part-time jobs)
- Importance-satisfaction ratings for 26 natural resource attributes, facilities, and services
- Demographics

Data Collection Sites

For each of the measures above, data were collected for both the Great Lakes Maritime Heritage Center and Alpena Shipwreck Tours. Table 1.1 presents the total sample size for respondents intercepted at Alpena Shipwreck Tours and the Great Lakes Maritime Heritage Center by resident status. The local region, for the purposes of this report, is composed of Presque Isle, Alpena, and Alcona counties (Figure 1.1).

Table 1.1 Sample sizes for estimation

	Alpena Shipwreck Tours			Great Lakes Maritime Heritage Center		
	Residents	Visitors	Total	Residents	Visitors	Total
Total Screeners Issued	49	269	318	96	578	674
Completed Screeners	49	237	286	93	512	605
Completed Mail Surveys	6	18	24	6	30	36
Completed Online Surveys	21	49	70	20	129	149
Completed Surveys	27	67	94	26	159	185
Completion Rate: Issued Screeners	55.1%	24.9%	29.6%	27.1%	27.5%	27.4%
Completion Rate: Completed Screeners	55.1%	28.3%	32.9%	28.0%	31.1%	30.6%

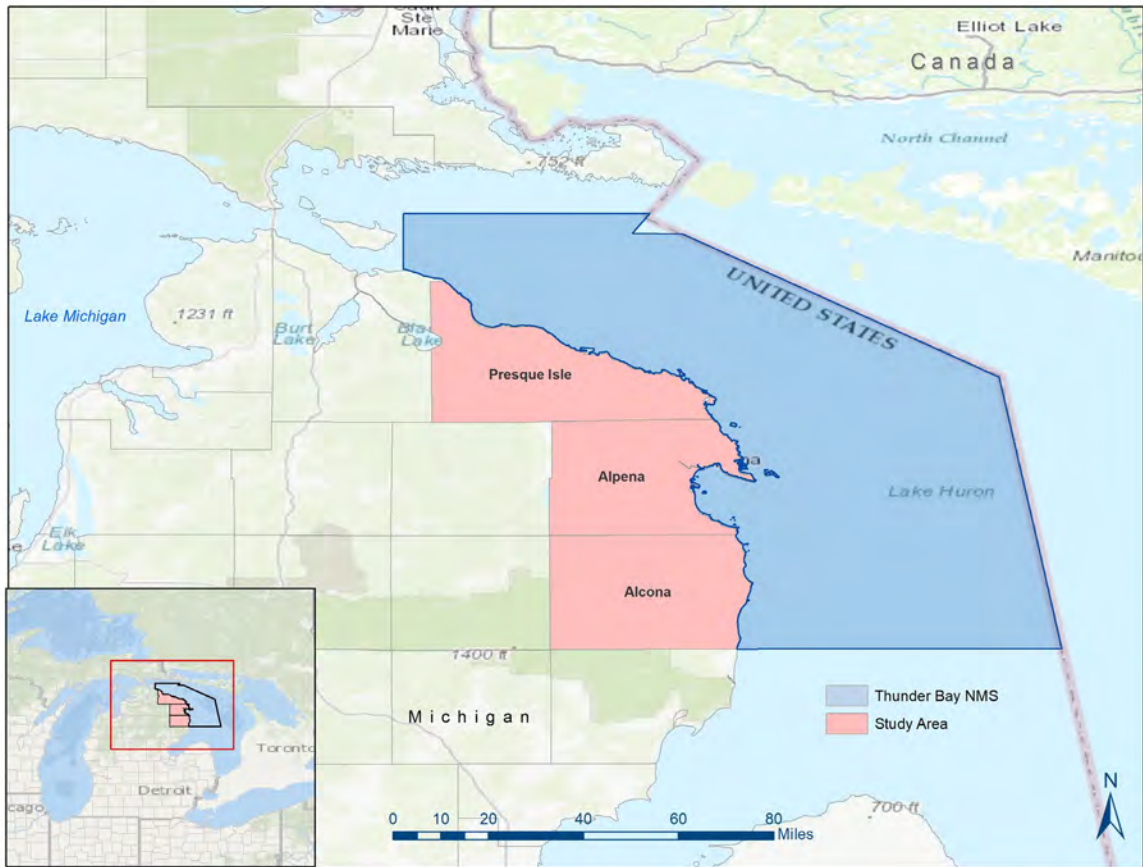


Figure 1.1 Alpena region
Image: Developed by National Marine Sanctuary Foundation in ArcGIS

Chapter 2 discusses the results from the screener survey and the comparative profile of recreators who were intercepted for the on-site survey. Chapter 3 presents the profile of respondents for the longer mailback survey. For more details on respondents' expenditures and contributions to the local economy, as well as respondents' importance-satisfaction ratings, please refer to volumes 1 and 2, respectively.

CHAPTER 2: SCREENER RESULTS - COMPARATIVE PROFILE OF RECREATORS

This chapter presents the demographic results including profiles of uses and the intensity and type of use for TBNMS recreators from the initial, on-site screener survey. For additional detail, see Schwarzmann et al. (2019).

The first question on the screener survey asked respondents if they had visited or were planning to visit the Great Lakes Maritime Heritage Center and Alpena Shipwreck Tours (figures 2.1 and 2.2). The Great Lakes Maritime Heritage Center had the highest rates of visitation, with roughly 95% of residents and 94% of visitors going or planning to go. The visitors had higher rates of visitation to Alpena Shipwreck Tours relative to residents.

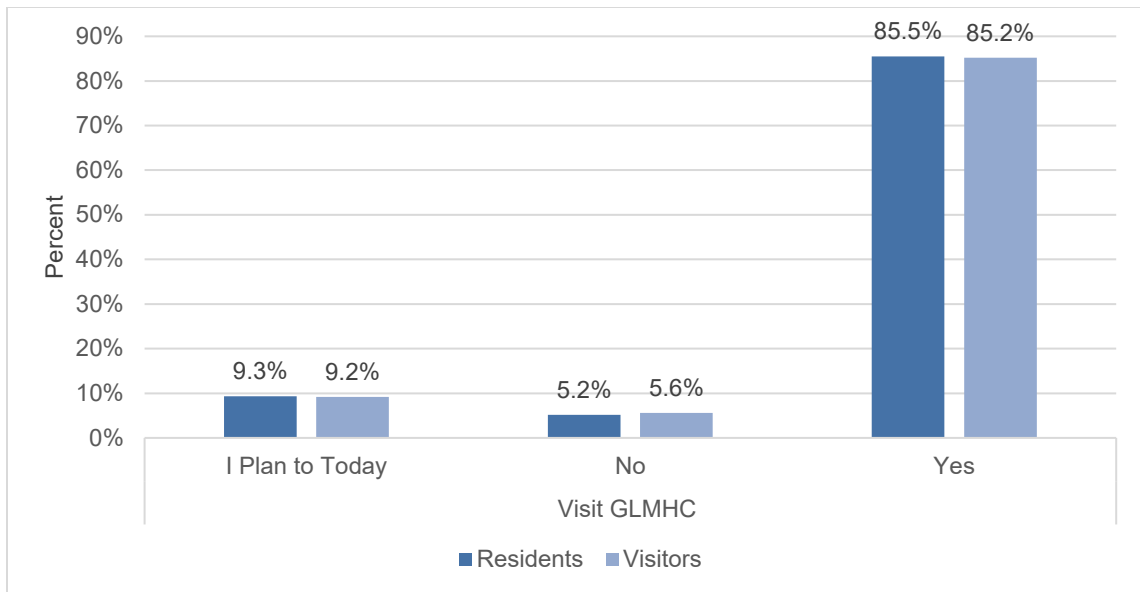


Figure 2.1 Screener Respondents – Users of Great Lakes Maritime Heritage Center (Resident N=172, Visitor N=642)

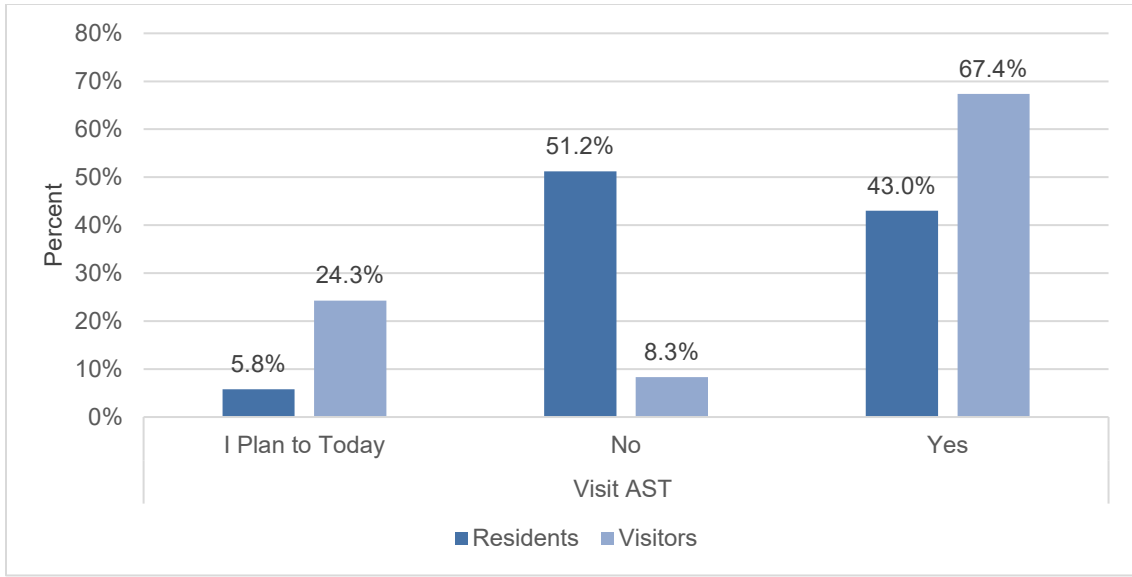


Figure 2.2 Screener Respondents – Users of Alpena Shipwrecks Tour (Resident N=172, Visitor N=350)

User Activities

Visitors were asked if this was their first trip to the region and if not, how many trips they take annually. More than half, 56.2% of respondents (n=362), indicated this was their first trip to the region (Figure 2.3). The average number of trips each visitor takes to the region is 1.86 trips annually.

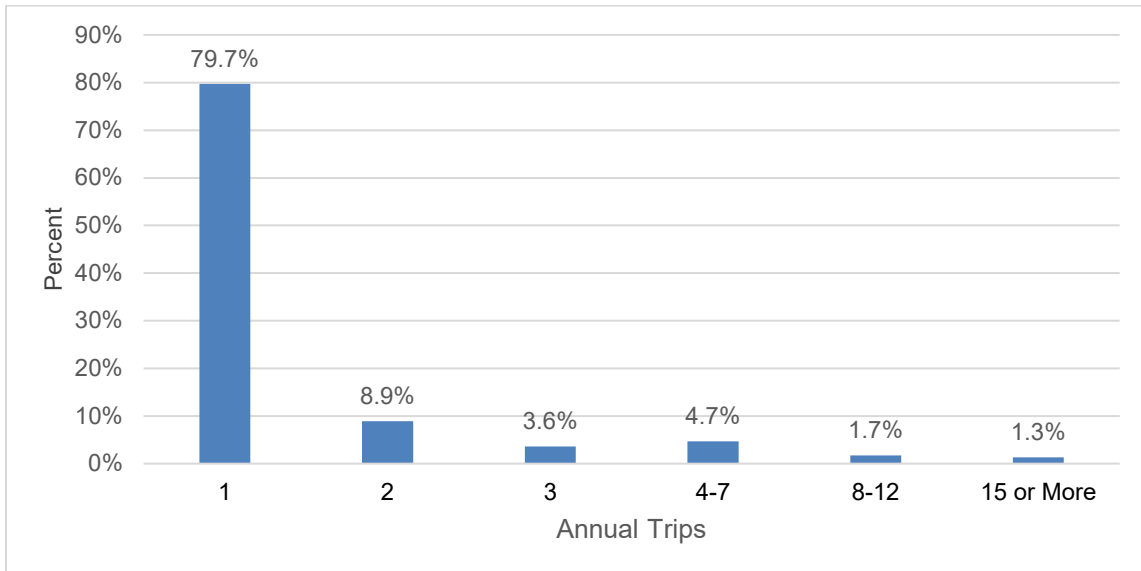


Figure 2.3 Visitor trips within the past 12 months to region for screener respondents

Respondents were also asked how likely they were to go diving/snorkeling or paddling. Most visitors, 58.8%, were unlikely or very unlikely to engage in the activity. The rate was slightly lower for residents: 40.9% indicated they were unlikely or very unlikely to go diving/snorkeling or paddling. It is possible the rates of likely or very likely are lower, relative to the other questions in this section, because of the cost of these activities.

User Satisfaction

The screener also asked residents and visitors a series of questions regarding their satisfaction. The first set of questions asked about whether or not they would recommend Alpena Shipwreck Tours or the Great Lakes Maritime Heritage Center (figures 2.4 and 2.5). All the residents were likely or very likely to recommend Alpena Shipwreck Tours, where 97.5% of visitors were likely to very likely to recommend Alpena Shipwreck Tours.

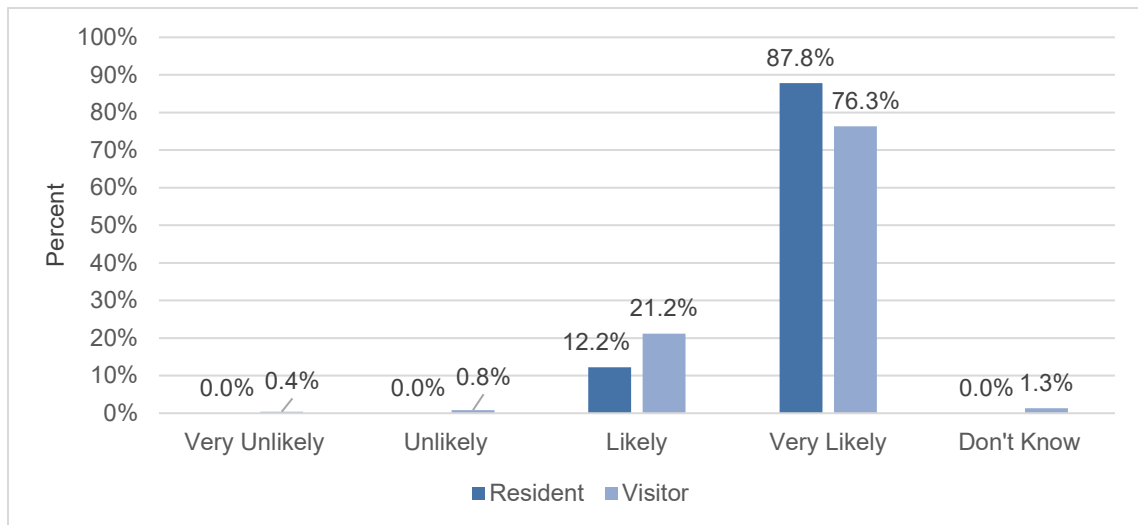


Figure 2.4 Recommend Alpena Shipwreck Tours by resident status for screener respondents (Resident N=74, Visitor N=236)

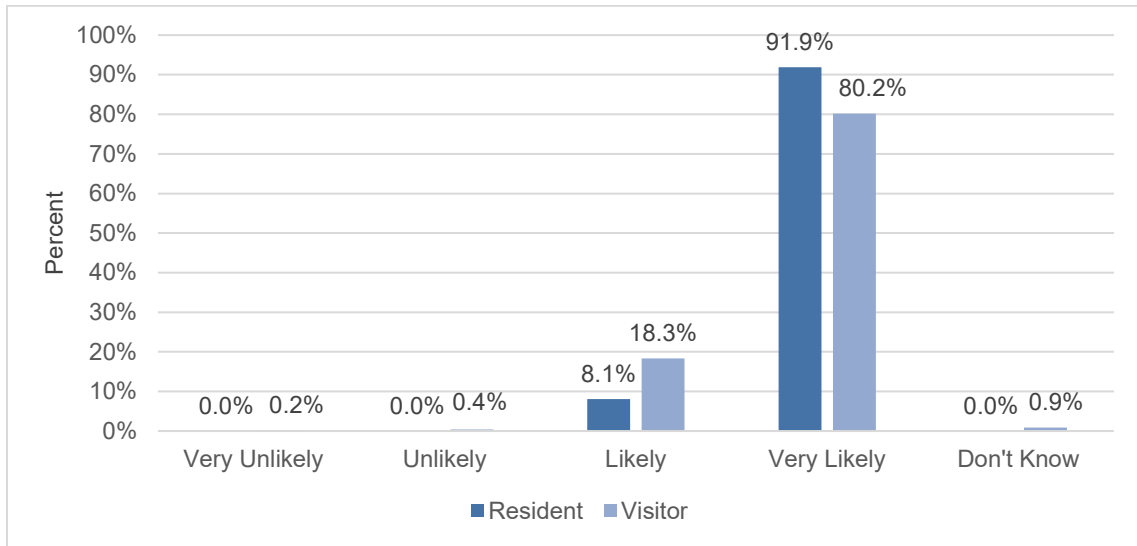


Figure 2.5 Recommend the Great Lakes Maritime Heritage Center by resident status for screener respondents
(Resident N=149, Visitor N=541)

A higher portion of residents, 94.6%, were likely or very likely to visit Alpena Shipwreck Tours again compared to 79.5% of visitors (Figure 2.6). This result is not surprising given there is a larger investment of time and money for visitors to come to the region. A small portion of visitors (13.2%) were unlikely or very unlikely to visit Alpena Shipwreck Tours again. About three-quarters (76.8%) of visitors were likely or very likely to visit the Great Lakes Maritime Heritage Center again, while 98.0% of residents were likely to visit the Great Lakes Maritime Heritage Center again (Figure 2.7).

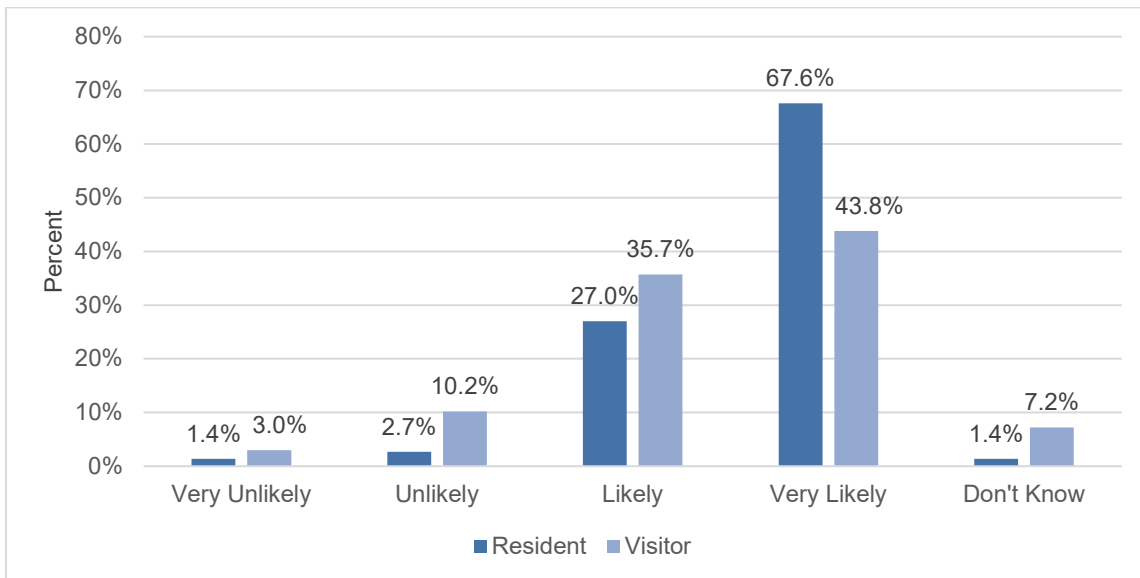


Figure 2.6 Visit Alpena Shipwreck Tours again by resident status for screener respondents
(Resident N=74, Visitor N=235)

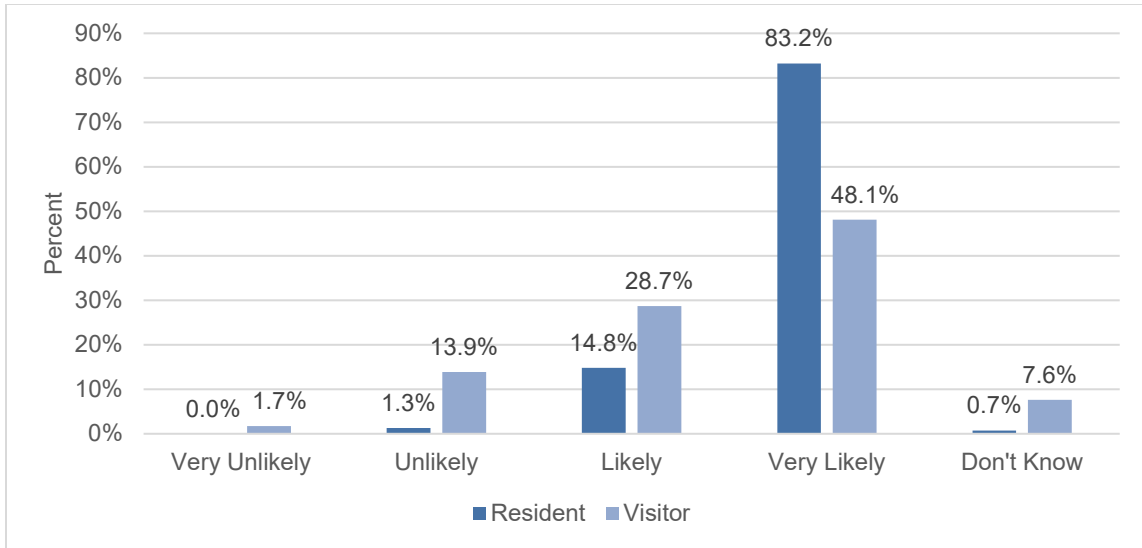


Figure 2.7 Visit the Great Lakes Maritime Heritage Center again by resident status for screener respondents (Resident N=149, Visitor N=540)

Lastly, respondents were also asked how satisfied they were with the Great Lakes Maritime Heritage Center and Alpena Shipwreck Tours. All of the resident respondents were very much satisfied with the Great Lakes Maritime Heritage Center and Alpena Shipwreck Tours. Nearly all visitors (97.2%) were very much satisfied with the Great Lakes Maritime Heritage Center (Figure 2.8) as well as Alpena Shipwreck Tours (99.1%). Only one visitor indicated being not at all satisfied with the Great Lakes Maritime Heritage Center.

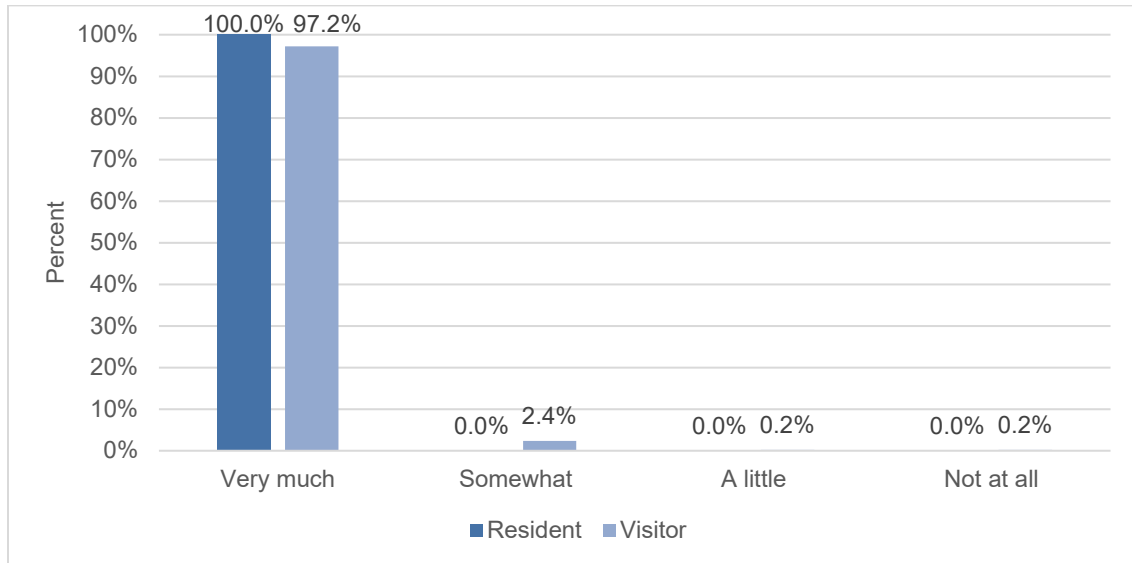


Figure 2.8 Level of satisfaction with the Great Lakes Maritime Heritage Center by resident status for screener respondents (Resident N=111, Visitor N=425)

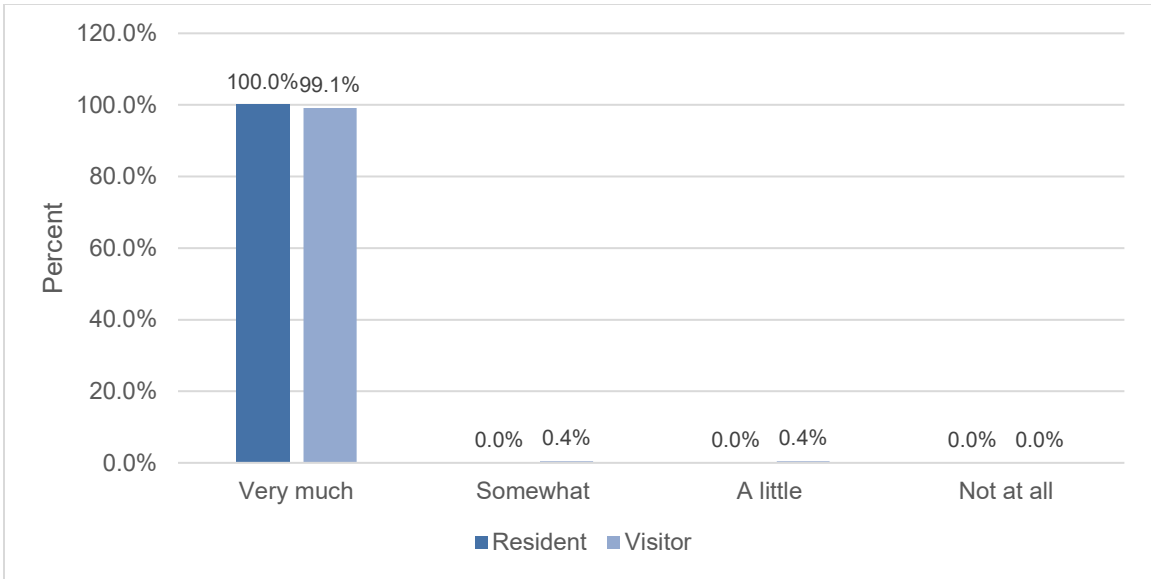


Figure 2.9 Level of satisfaction with Alpena Shipwreck Tours by resident status for screener respondents (Resident N=74, Visitor N=231)

User Demographic Profiles

Age

Respondents were asked about their age. Nearly half the visitors (48.5%) to Alpena Shipwreck Tours or the Great Lakes Maritime Heritage Center were over 60 years old; the percentage of residents in that category was slightly lower at 38.0%. Residents had a higher percentage of the 18-to-30-year-old demographic (19.3%) compared to visitors in that age group (6.7%).

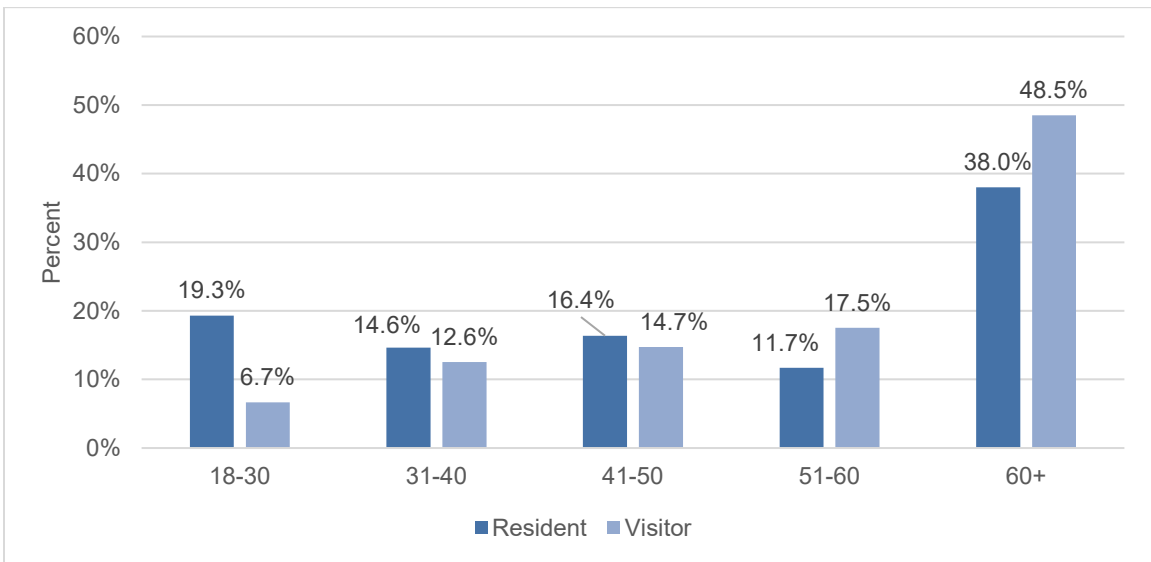


Figure 2.10 Age by resident status of screener respondents (Resident N=171, Visitor N=645)

Gender

Figure 2.10 below presents the gender of respondents to the survey. The majority of residents and visitors who completed the screener were women.

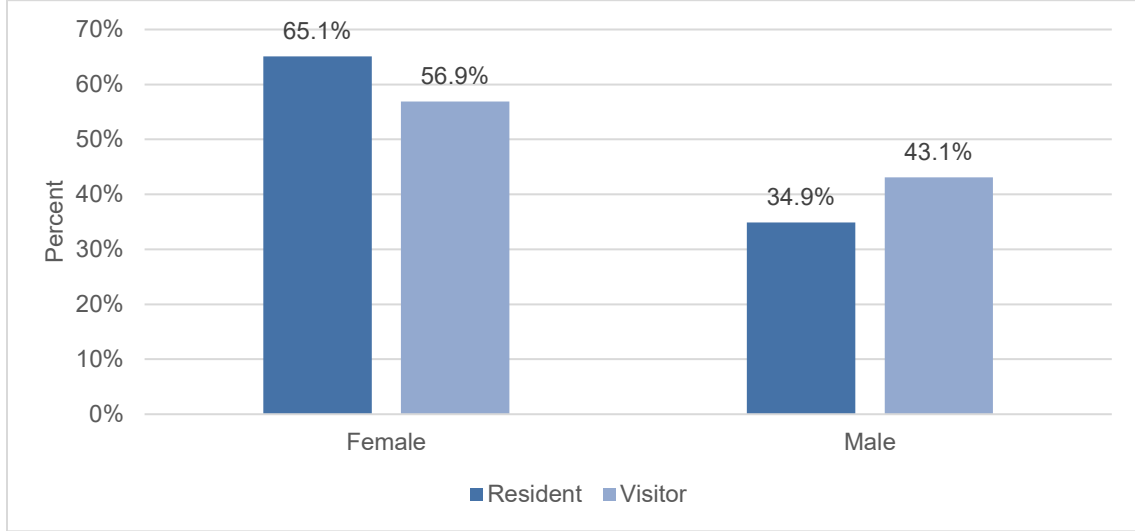


Figure 2.11 Gender by resident status of screener respondents
(Resident N=172, Visitor N=643)

Group Size

The number of adults and children was also reported by screener respondents. In general, the average party size was larger for visitors (6.3), compared to residents (3.4). Further, roughly 54% of residents and 72% of visitors reported having no children in their party. While visitors were more likely to travel without children, when they reported doing so, they traveled with 1.3 more children than residents on average.

Modes of Transportation for Visitors

Visitors were asked what mode of transportation they took to get to the region. The majority of visitors used their personal vehicles at 78.5% (Figure 2.11). The next most frequent mode of accessing the region was tours (5.5%) of visitors. The table below shows the full results.

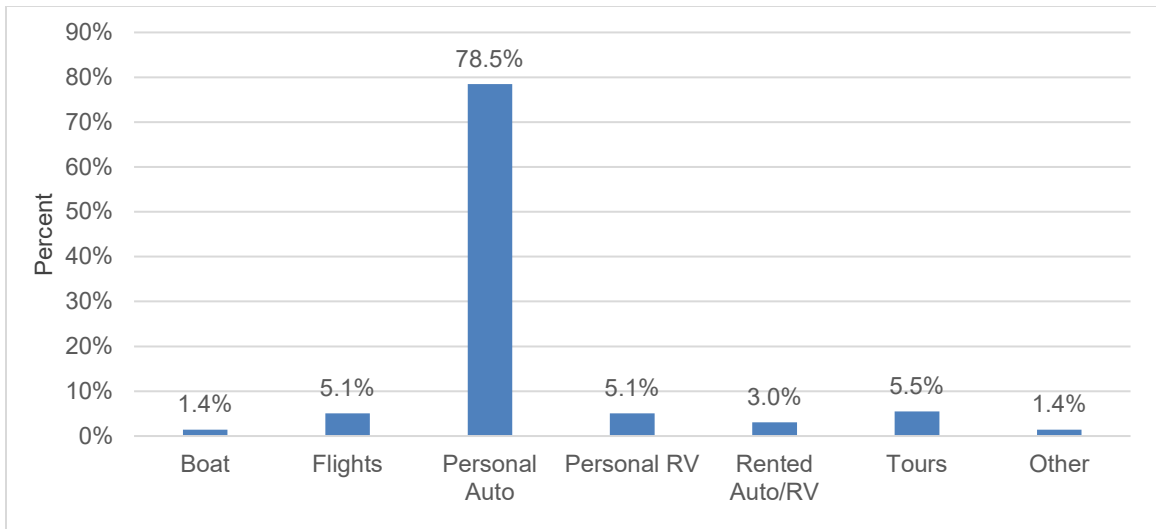


Figure 2.12 Visitors' transportation mode for screener respondents (N=692)

Sources of Information

Most visitors, about one quarter, reported learning about the sanctuary prior to their visit from referral or word of mouth (Figure 2.12). The second most common way to learn about the sanctuary was from different Alpena sources. The Pure Michigan website was used by 7.5% of visitors and 1.7% of visitors learned about the sanctuary from Alpena Shipwreck Tours. Of those that learned about the sanctuary from Alpena Shipwreck Tours, 88.5% reported they used the website and 11.5% reported learning from a brochure.

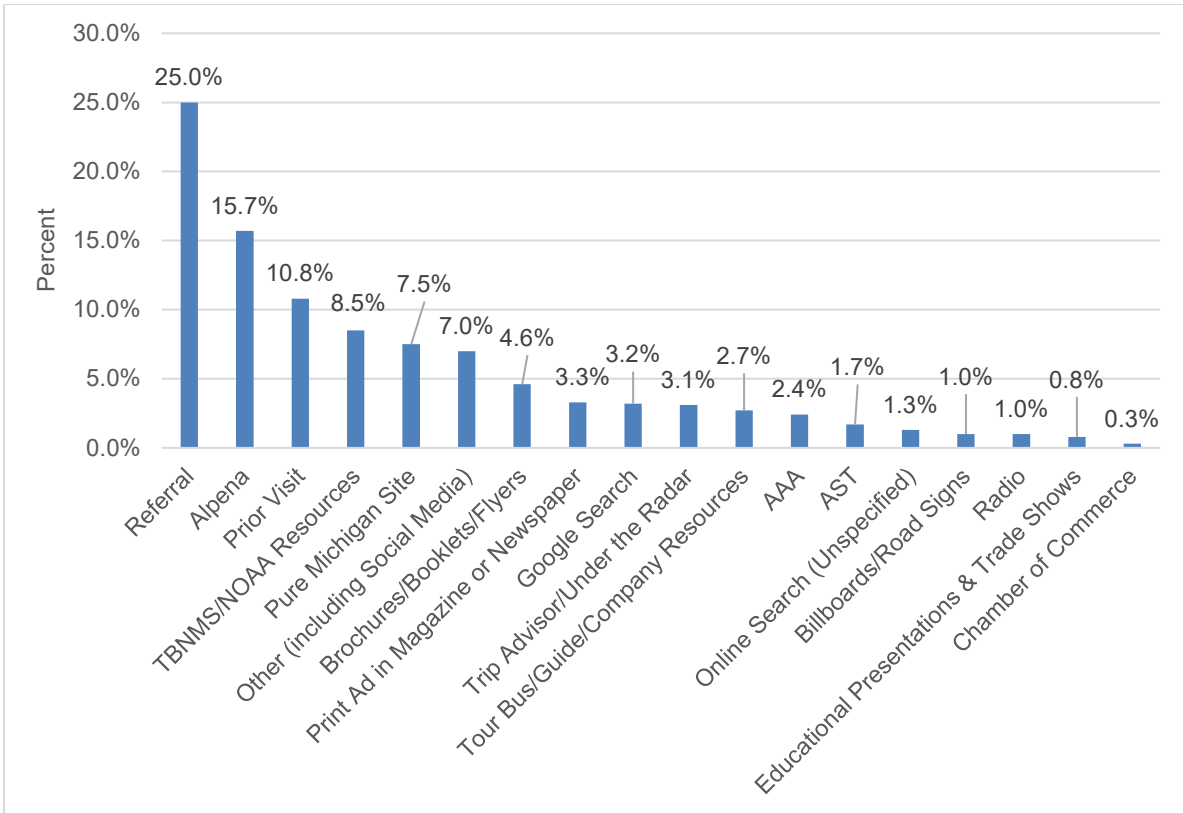


Figure 2.13 Visitors' sources of information about TBNMS prior to visiting Alpena for screener respondents (N=644)

Importance of the Great Lakes Maritime Heritage Center and Alpena Shipwreck Tours

Visitors were asked how much influence either the Great Lakes Maritime Heritage Center or Alpena Shipwreck Tours had on their travel plans to Alpena (Figure 2.13). Slightly less than half of visitors reported that the Great Lakes Maritime Heritage Center was the primary reason or very much influenced their travel plans to Alpena. Roughly one-third of visitors reported that Alpena Shipwreck Tours was the primary reason or very much influenced their travel plans to Alpena.

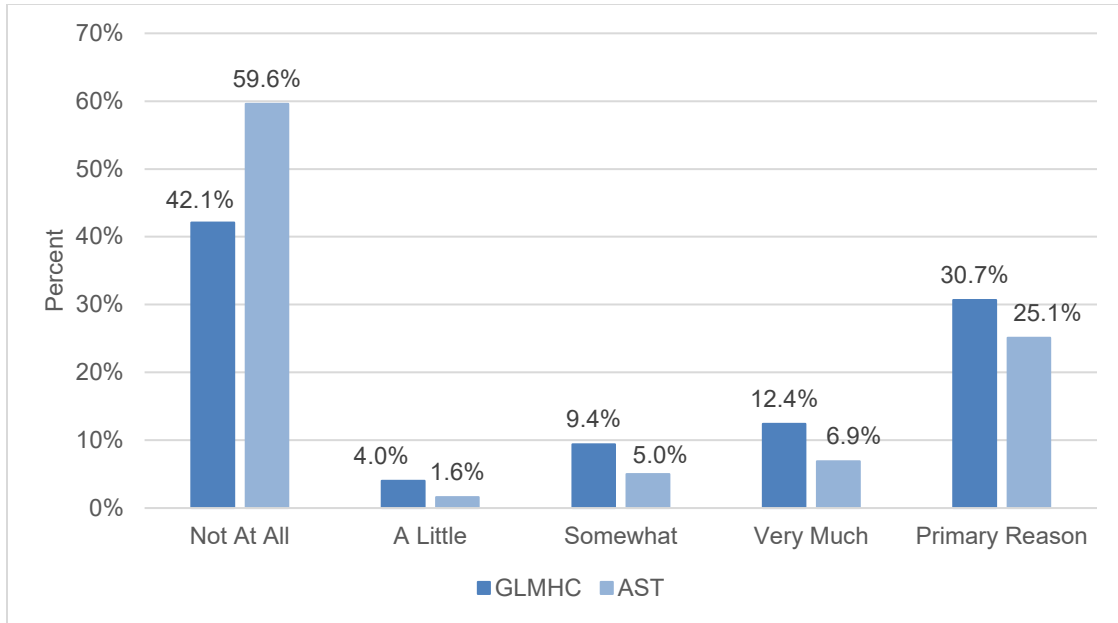


Figure 2.14 Influence of the Great Lakes Maritime Heritage Center or Alpena Shipwreck Tours on visitors' travel plans to Alpena for screener respondents (the Great Lakes Maritime Heritage Center N=637, Alpena Shipwreck Tours N=626)

Open-Ended Questions

Respondents were also asked open-ended questions, such as how to improve Alpena Shipwreck Tours and the Great Lakes Maritime Heritage Center. Of the 77 resident respondents who provided a response to how Alpena Shipwreck Tours could be improved, 57 said there was nothing to improve. The second most common response was more shipwrecks. For the Great Lakes Maritime Heritage Center, 109 of 145 residents reported that there was nothing to improve. Second to nothing to improve was more hands-on activities (9), some specifically stating for kids.

For visitors, 386 of the 524 who provided a response to how the Great Lakes Maritime Heritage Center could be improved stated that there was nothing to improve. Other less common responses (15 or fewer) were better signage (both to get to the Great Lakes Maritime Heritage Center and within the center); that they would have liked to have gone out on the boat; tables and chairs for sitting; better lighting for the exhibits; and more hands-on activities. Three-quarters of the visitors (178 of 237) stated they had no recommendations for improvements to Alpena Shipwreck Tours.

Respondents were also asked what was most memorable about their experience. Sixty-three residents (of 146 that provided a response) named the Western Hope exhibit for the Great Lakes Maritime Heritage Center. Visitors also rated the Western Hope exhibit at the Great Lakes Maritime Heritage Center as being the most memorable part of their experience. Over half (212 of 408) of those who responded stated the Western Hope and/or specific aspects such as the unique perspective, appeal to kids, the audio, and the realism of the exhibit. Other items respondents found memorable include: Science On

a Sphere[®], artifacts, exhibits for kids, and the films shown in theater. The most memorable aspects of Alpena Shipwreck Tours were shipwrecks (148 of 238 responses), narration (29), and the boat ride/being outside (17).

CHAPTER 3: MAILBACK SURVEY - PROFILE OF RECREATORS

User Demographic Profiles

This chapter presents results from the users who completed the longer mailback/online version of the survey. Results from users by resident status are presented for various questions: knowledge of TBNMS prior to visiting; the influence that TBNMS attractions (Alpena Shipwreck Tours and the Great Lakes Maritime Heritage Center) had on the decision to visit Alpena; household size; and demographic characteristics (age, sex, race, income, and employment status).

Knowledge of TBNMS Prior to Visit

In the longer survey, respondents were first asked “Prior to your most recent visit to the Alpena Region, how much did you know about Thunder Bay National Marine Sanctuary?” Most residents knew something (roughly 86%) about TBNMS. However, nearly half of the visitors knew nothing about the sanctuary before coming to the region (Figure 3.1).

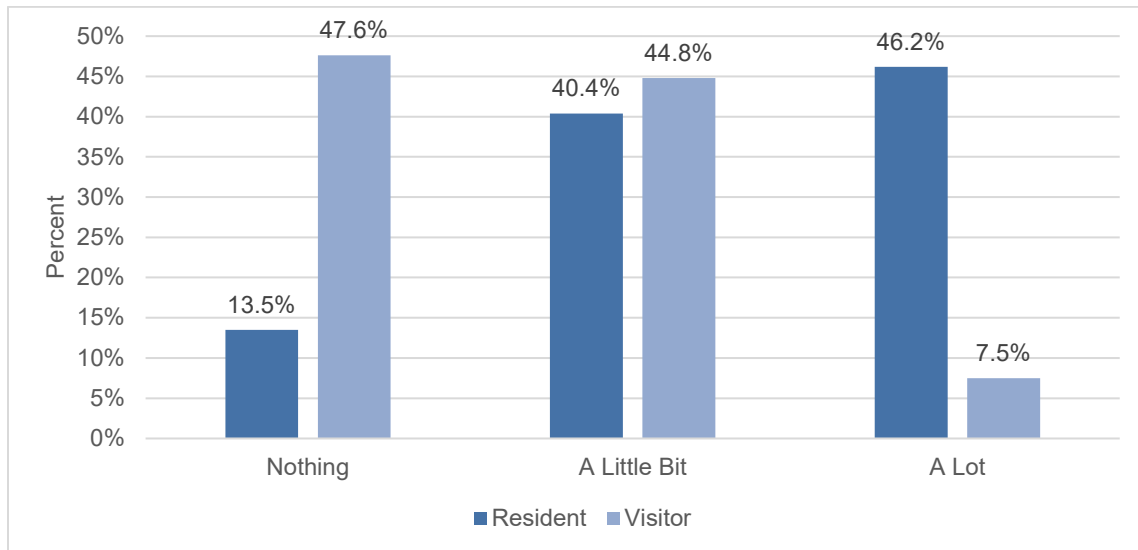


Figure 3.1 TBNMS knowledge prior to visit for longer survey respondents (Resident N=57, Visitor N=253)

Influence of TBNMS, the Great Lakes Maritime Heritage Center, and/or Alpena Shipwreck Tours on Decisions

Respondents were also asked how much of an influence TBNMS, the Great Lakes Maritime Heritage Center, and Alpena Shipwreck Tours had on their decision to select the Alpena region as a travel destination. Notably, roughly three-quarters of respondents reported that the sanctuary or the Great Lakes Maritime Heritage Center had a little bit or a lot of influence on their decision to come to the region (Figure 3.2). Similarly, respondents were asked about the influence that Alpena Shipwreck Tours had on their decision to visit (Figure 3.3). More than 40% of visitors reported that Alpena Shipwreck Tours had no influence on their decision to come to the region. Despite this, most respondents indicated that Alpena Shipwreck Tours had a little bit or a lot of influence on their decision.

When considering whether either TBNMS and the Great Lakes Maritime Heritage Center or Alpena Shipwreck Tours had an influence on the respondent's decision to come to the region, only 19.6% of residents reported that neither had an influence on their decision. The rate was slightly lower for visitors. This means that for both residents and visitors over 80% were influenced by at least one of the above to come to the region.

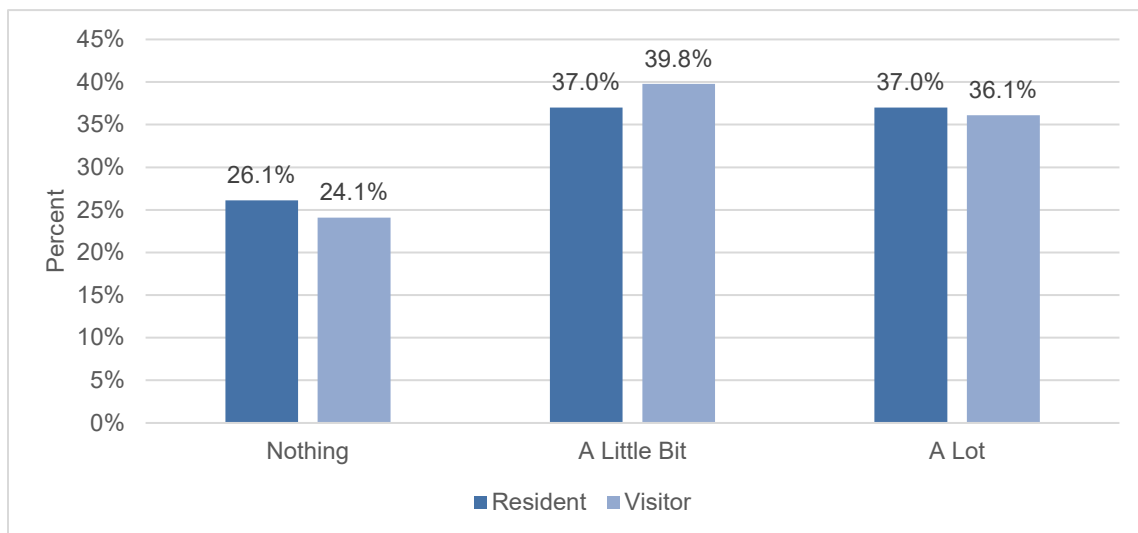


Figure 3.2 the Great Lakes Maritime Heritage Center influence on trip decision for longer survey respondents
(Resident N=57, Visitor N=253)

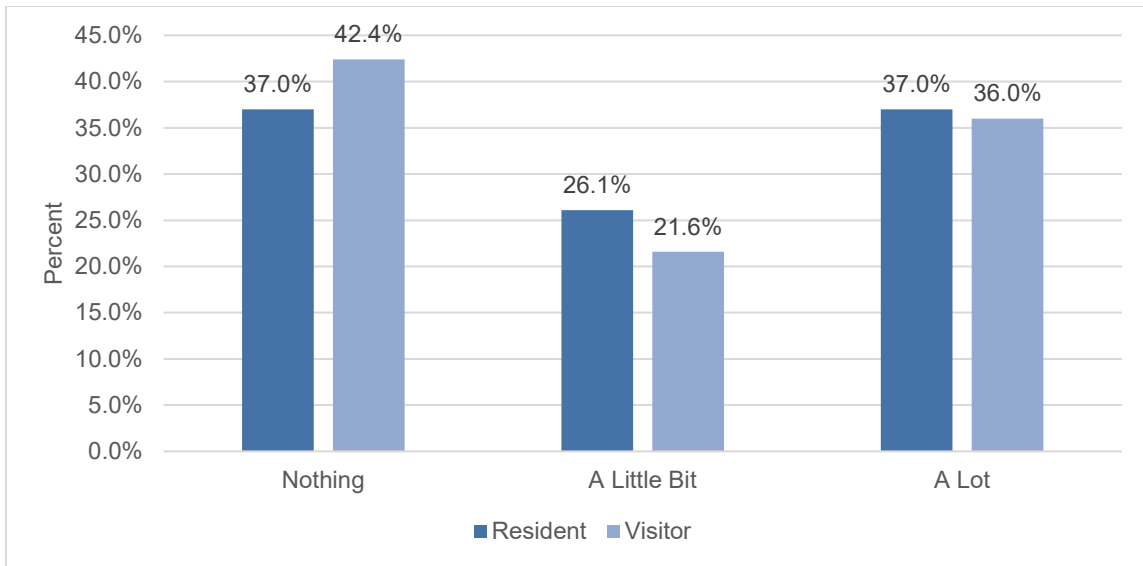


Figure 3.3 Alpena Shipwreck Tours influence on trip decision for longer survey respondents (Resident N=57, Visitor N=253)

Household Size

Most of the respondents lived with at least one other adult (Figure 3.4). Roughly 20% of respondents are the only adult in the household. A large share of respondents, roughly three-quarters, had no children in their household.

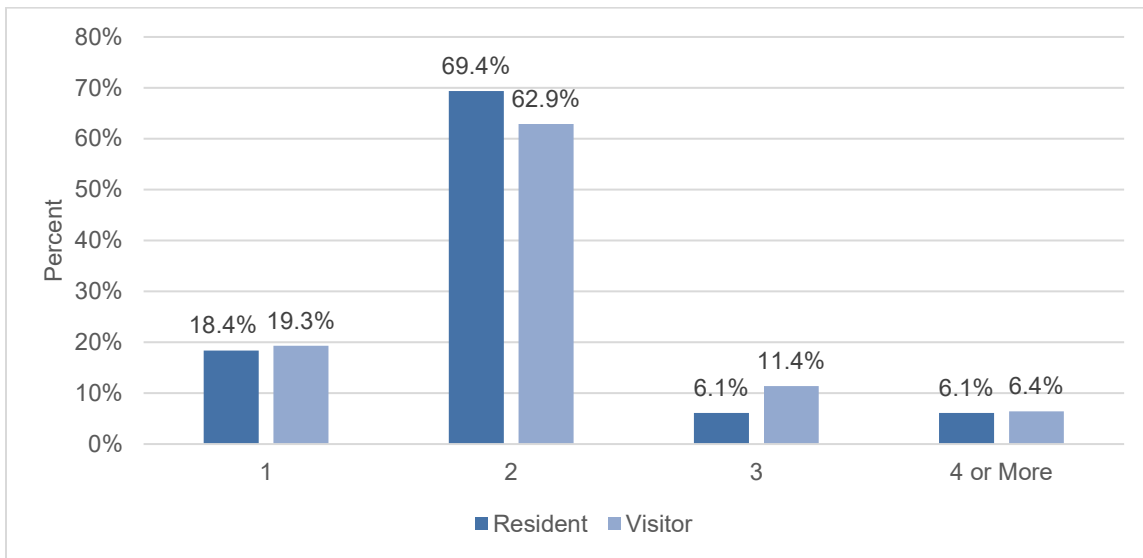


Figure 3.4 Number of adults in household for longer survey respondents (Resident N=, Visitor N=)

Age

When looking at age for both residents and visitors, roughly half (50.0% and 50.2%, respectively) were age 60 or older (Figure 3.5). Residents were younger, with 17.3% of respondents under the age of 40, while 13.9% of visitors were under 40.

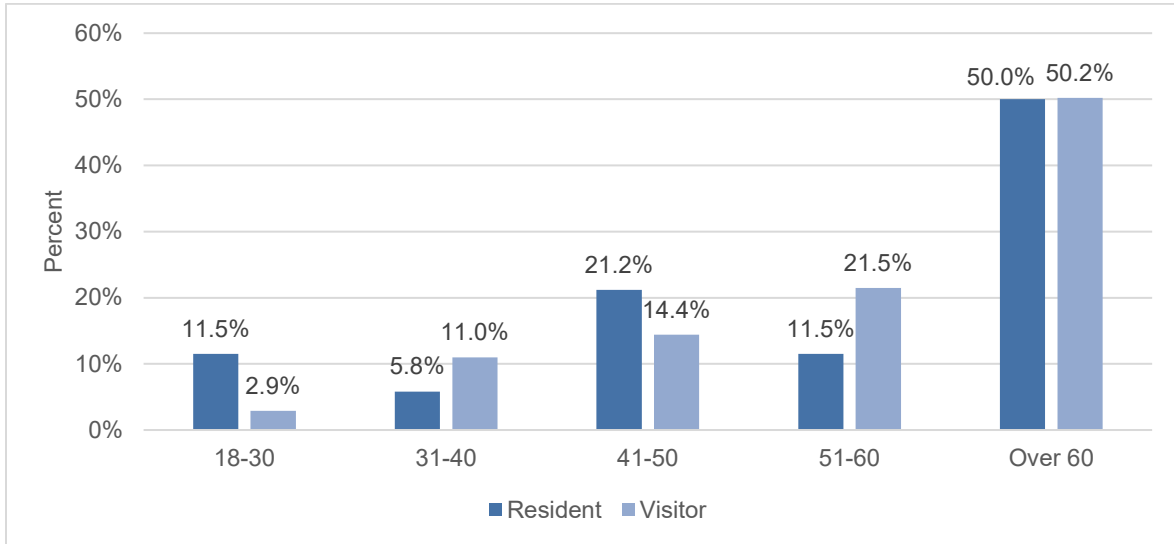


Figure 3.5 Age of longer survey respondents
(Resident N=52, Visitor N=209)

Gender

The majority of respondents were female. More than two-thirds (67.3%) of residents who completed the longer survey were female (Figure 3.6).

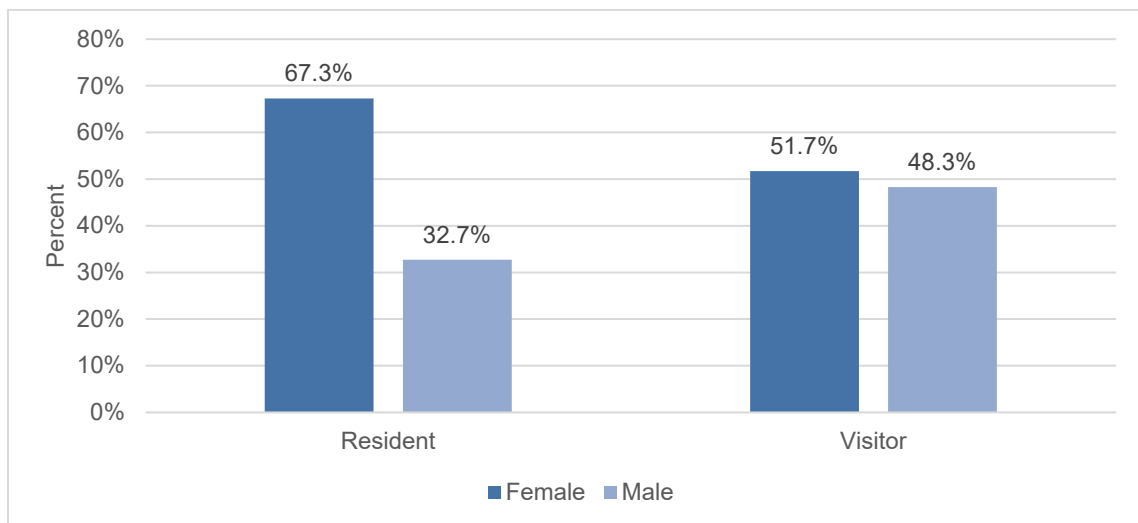


Figure 3.6 Gender of longer survey respondents
(Resident N=52, Visitor N=211)

Race and Ethnicity

The majority of respondents for both residents and visitors were white (Figure 3.7). No African Americans, Asians, or Native Hawaiians responded. Just over one percent of Native Americans or Alaskan Natives reported visiting the area. Nearly all of respondents were not Hispanic; one percent of all visitors reported being Hispanic.

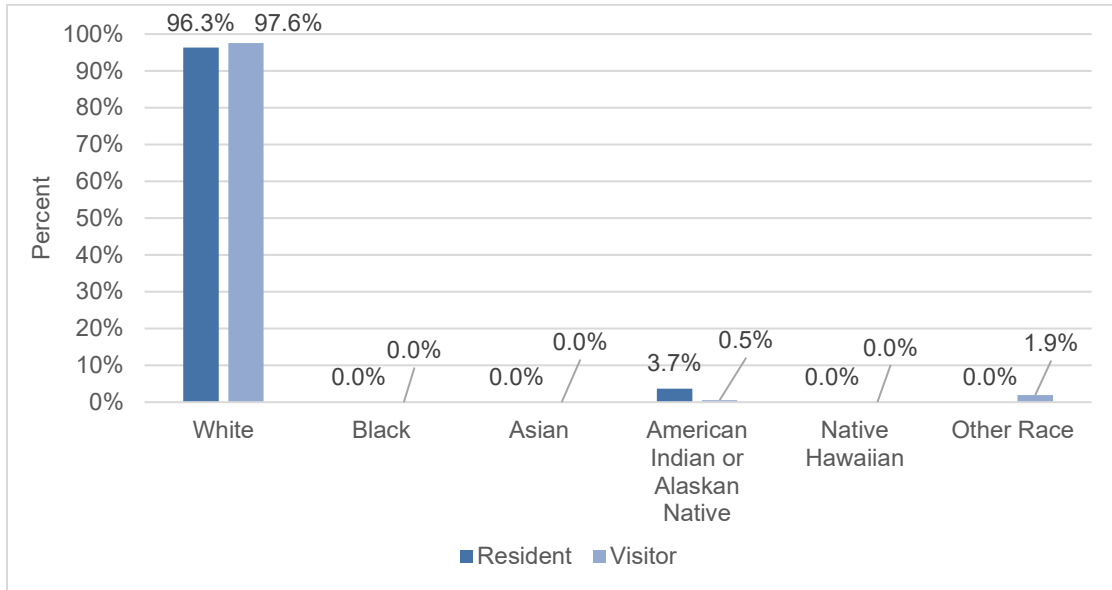


Figure 3.7 Race of longer survey respondents
(Resident N=57, Visitor N=253)

Household Income

In general, the visitors had higher incomes than residents (Figure 3.8). This makes sense given visitors may have extra expenses, like air travel, hotels, and rental cars. More than half of visitors had incomes of \$75,000 or more, versus 35% of residents.

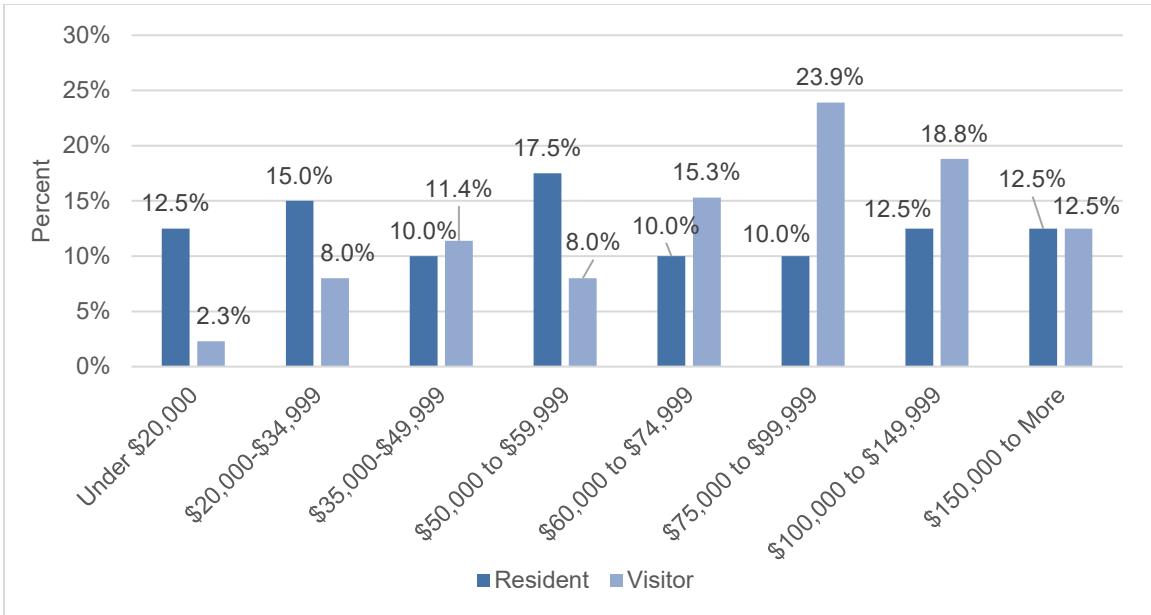


Figure 3.8 Household income distribution of longer survey respondents (Resident N=40, Visitor N=176)

Current Employment Status

A higher percentage of visitors to the area (41%) compared to residents (33%) were employed full-time. Roughly the same amount of residents (43%) and visitors (42%) were retired (Figure 3.9).

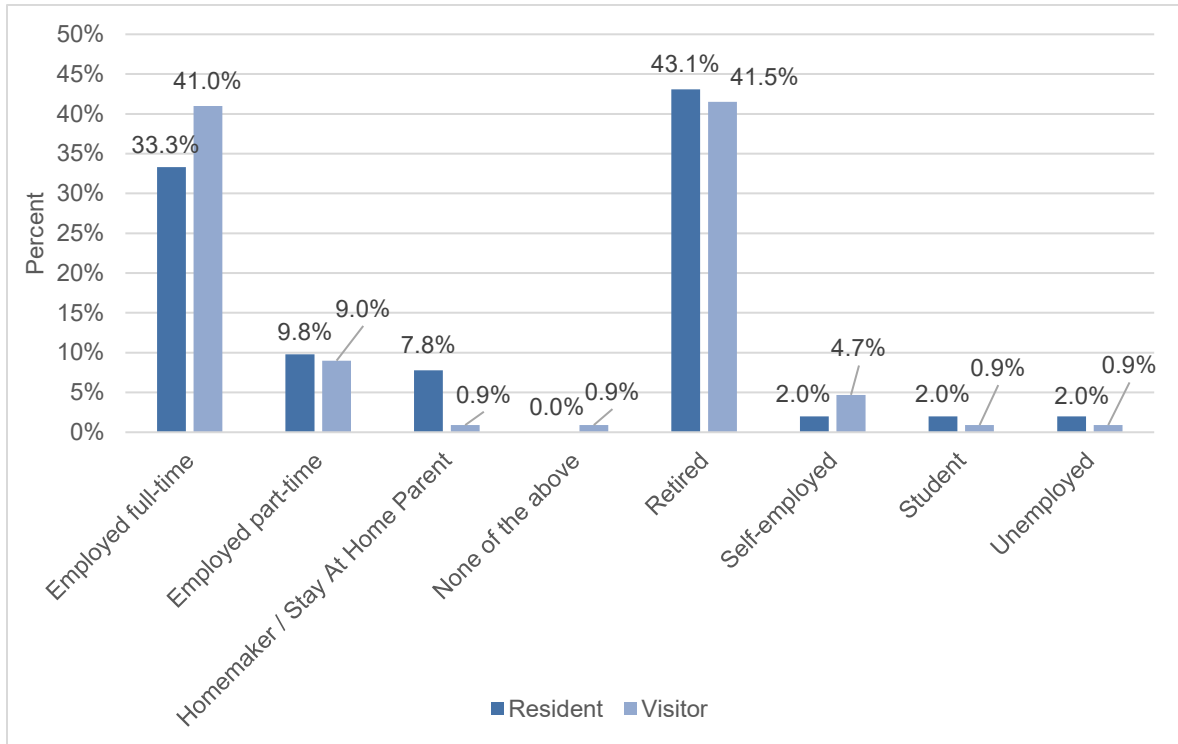


Figure 3.9 Current employment status for longer survey respondents (Resident N=51, Visitor N=212)

CHAPTER 4: CONCLUSIONS AND FUTURE RESEARCH

A two-tiered survey was carried out concerning TBNMS visitation to glean sociodemographic characteristics of Alpena Shipwreck Tours and the Great Lakes Maritime Heritage Center users (both external visitors and local residents). The surveys inquired about aspects including general individual characteristics, knowledge about TBNMS, and whether Alpena Shipwreck Tours and/or the Great Lakes Maritime Heritage Center was the driving factor in a respondent's decision to visit Alpena.

Several notable differences by user resident status were found in results from both the screener survey and the longer mailback surveys. Knowing how recreators differ in terms of their general preferences, knowledge, or other aspects can inform programs or initiatives carried out by sanctuary staff. For example, most residents knew something about TBNMS prior to visiting. This result is to be expected given they live nearby. However, nearly half the visitors knew nothing about the sanctuary before coming to the region. This finding suggests perhaps there is a gap that can be filled regarding educational and ad campaigns amongst potential visitor populations to augment awareness regarding the amenities that the sanctuary offers.

Limitations

Developing an understanding of visitation, visitors' expenditures, and users' various activities in and around the sanctuary helps both management and the local community. While this study developed a significant body of socioeconomic information, it was limited to only those who use Alpena Shipwreck Tours or the Great Lakes Maritime Heritage Center. In other words, this study did not capture the entire population of users, including those who visit the sanctuary but do not visit the Great Lakes Maritime Heritage Center or Alpena Shipwreck Tours. It is possible that the users who visit the sanctuary but do not visit these two sites could have different results than what is presented herein.

Future Research

Future work will seek to survey the entire population of users, including those who visit the sanctuary but do not visit the Great Lakes Maritime Heritage Center or Alpena Shipwreck Tours. Additionally, ensuring a large enough sample to discern expenditure estimates by resident status (visitor vs. resident) will be a focus in future studies. More generally, NOAA Office of National Marine Sanctuaries and TBNMS staff can use this information as groundwork to inform future studies and understand who the users are, what they are doing, how they perceive the condition of natural resources they use during their activities, and how they value those resources.



LITERATURE CITED

Schwarzmann, D., Ondatje, C., and Tagliareni, M. 2020. Thunder Bay National Marine Sanctuary: An analysis of visitors and residents of the Great Lakes Maritime Heritage Center and Alpena Shipwreck Tours. Marine Sanctuaries Conservation Series ONMS-20-01. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Office of National Marine Sanctuaries, Silver Spring, MD. 89 pp.



AMERICA'S UNDERWATER TREASURES