NORTHWEST MICHIGAN SEASONAL POPULATION ANALYSIS

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FRAMEWORK FOR OUR FUTURE
A REGIONAL PROSPERITY PLAN FOR NORTHWEST LOWER MICHIGAN

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BY

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Preface

FRAMEWORK FOR OUR FUTURE: A REGIONAL PROSPERITY PLAN FOR NORTHWEST MICHIGAN

The Northwest Michigan Seasonal Population Study was conducted as part of the Northwest Michigan Regional Prosperity Initiative and the *Framework for Our Future: A Regional Prosperity Plan for Northwest Michigan*, which was undertaken as part of Michigan's Regional Prosperity Initiative, as initiated by Governor Rick Snyder and signed into law as a part of the FY 2014 budget. The Regional Prosperity Initiative encourages local private, public and nonprofit partners to identify regionally aligned growth and investment strategies for the State of Michigan to support, not the other way around. It also proves the framework for streamlining State services and highlighting the regionally defined goals and strategies that will further Northwest Michigan's success.

The *Framework for Our Future* is a regional resource for local governments, community organizations and others working to meet local goals. It includes information and tools that can help stakeholders address issues, such as housing, transportation, land use, energy, arts and culture, workforce and economic development, community health, food and farming systems, and natural resources. Data and information will help communities supplement their local deliberation, planning and decision-making processes, and will help to identify the steps a community can take to address a local issue, if desired. The *Framework for Our Future* is not a mandate, nor does it supersede any local government-decision-making. Moreover, this report, and the information herein, is not intended for, nor shall it be used for, the purposes of infringing on or the taking of personal property rights enjoyed by the citizens of Northwest lower Michigan. Networks Northwest, formerly known as the Northwest Michigan Council of Governments, is and always will be committed to the American principles that provide for opportunity, economic growth and prosperity.

The *Framework or Our Future* was developed in 2014 with input and partnerships from a variety of community stakeholders. The process included a number of public input opportunities, including a variety of events, surveys, focus groups and public discussions. Public input was used to identify priority community issues and concerns.

The *Framework* includes a number of goals, strategies and actions. These strategies and actions were built upon public input heard throughout the process, as well as on existing and adopted goals from local plans and planning initiatives. Strategies are not intended as recommendations, but are instead intended to serve as a compilation of best practices to help guide local decision makers that would like to address the issues identified in the Framework.

The *Framework* also includes a special emphasis on traditionally underrepresented populations, in order to ensure that disabled individuals, minorities, youth and those in poverty have a voice in the planning process.

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Part 1: Introduction

THE PURPOSE OF THIS REPORT IS TO PROVIDE A REASONABLY ACCURATE ESTIMATE OF THE 2012 SEASONAL POPULATION—THAT IS, THE NUMBER OF PERMANENT, SEASONAL AND TRANSIENT RESIDENTS BY CALENDAR MONTH—FOR THE NORTHWEST MICHIGAN COUNTIES OF ANTRIM, BENZIE, CHARLEVOIX, EMMET, GRAND TRAVERSE, KALKASKA, LEELANAU, MANISTEE, MISSAUKEE AND WEXFORD.

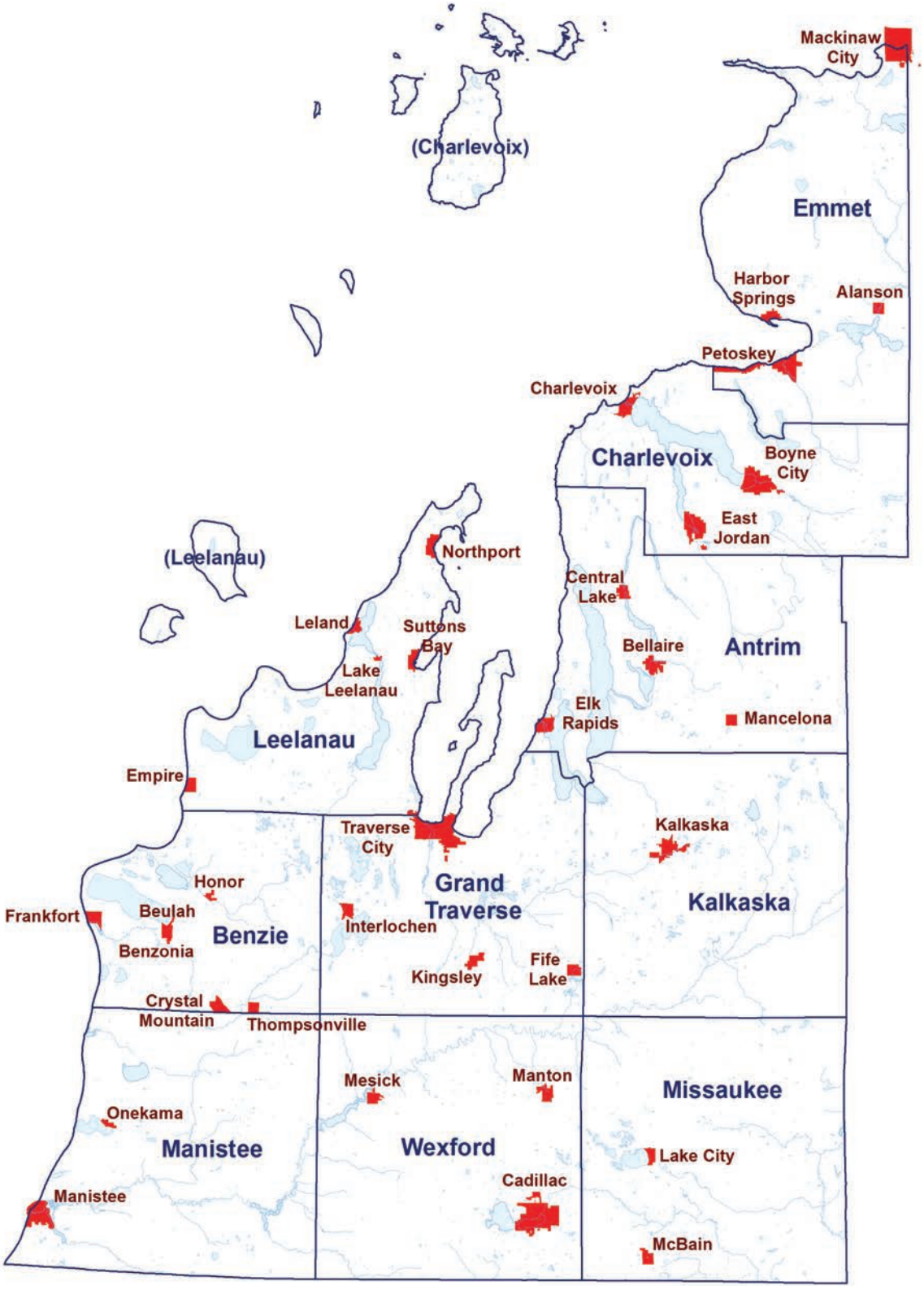
Having an accurate estimate of the population within a geographic area is important for a variety of reasons, ranging from the apportionment of legislative seats to the ability to secure population-based funding to planning for public service provision, such as local police, fire and water. In regions that have a substantial seasonal population with large variations throughout the year, like Northwest Michigan, this population estimate becomes even more critical and, at the same time, more difficult to assess. It is more critical because a large part of the economy in these counties is driven by seasonal residents and tourists who are attracted to the area's pristine land and water assets and recreational opportunities. It is more difficult because most of the current reporting structures for collecting population information are not geared toward identifying seasonal population differences.

The purpose of this report is to provide a reasonably accurate estimate of the 2012 seasonal population—that is, the number of permanent, seasonal and transient residents by calendar month—for the Northwest Michigan counties of Antrim, Benzie, Charlevoix, Emmet, Grand Traverse, Kalkaska, Leelanau, Manistee, Missaukee and Wexford (see Figure 1). Related objectives included:

- Estimate the current number of permanent residents using 2012 U.S. Census Bureau data on population and permanent housing units;

- Estimate the number of seasonal residents (occupants of second homes) by month based on 2012 U.S. Census Bureau data and established seasonal trends;
- Estimate the number of occupants in overnight accommodations, such as hotels and motels, based on readily available data from travel market research and surveys of overnight accommodation businesses;
- Aggregate the permanent, seasonal and transient occupants by month by county for 2012; and
- Evaluate trends in regional population over the past two decades and compare 2012 seasonal population figures to the most recent analysis conducted in 1996.

Figure 1: Ten-County Northwest Michigan Region (Lower Peninsula)



Source: Figure by the Networks Northwest, 2014. From the U.S. Census Bureau, TIGER line/shapfiles, 2014.

Part 2: Background

VISITORS TO A REGION CAN ECONOMICALLY, SOCIALLY AND PHYSICALLY IMPACT ITS COMMUNITIES THROUGH INCREASED DEMAND FOR PUBLIC AND PRIVATE GOODS AND SERVICES, AS WELL AS THROUGH ADDITIONAL STRESS ON THE NATURAL ENVIRONMENT AND PHYSICAL INFRASTRUCTURE. THEY AFFECT TRAFFIC, REAL ESTATE PRICES, RETAIL SALES, CRIME, LITTERING AND POLLUTION, AND LOCAL EMPLOYMENT, AS WELL AS THE USE OF PUBLIC TRANSIT, MEDICAL AND EMERGENCY SERVICES, RECREATIONAL FACILITIES, UTILITIES AND PUBLIC SPACES.

Visitors to a region can economically, socially and physically impact its communities through increased demand for public and private goods and services, as well as through additional stress on the natural environment and physical infrastructure (Smith, 1989). They affect traffic, real estate prices, retail sales, crime, littering and pollution, and local employment, as well as the use of public transit, medical and emergency services, recreational facilities, utilities and public spaces (Smith and House, 2007). For destinations like New York City (NY) that attract a steady flow of visitors throughout the year, these additional demands are relatively constant over time and, thus, have been largely incorporated into the commercial and public systems. Meanwhile, states like Florida and Arizona attract a disproportionate number of visitors during the winter months, while states like Michigan and Minnesota have many more residents in the summer. These types of visitors—most prevalent in retirement and resort communities, college towns and agricultural areas—form what is known as a seasonal population (Smith and House, 2007).

Seasonality has many benefits. Most significantly, a large number of visitors means more traffic for local businesses, especially because seasonal residents tend to be wealthier (Stynes et al., 1995), and tourists are typically willing to spend more money than the average consumer. Seasonal migration is sometimes a precursor to permanent relocation

(McHugh, 1990), which increases a community's year-round population and further contributes to its economy. Having an off-season allows local residents time to relax, reconnect and travel, and it allows businesses to prepare for the next season by restocking and making repairs without losing substantial revenue (Andriotis, 2005).

Seasonality has many benefits. Most significantly, a large number of visitors means more traffic for local businesses, especially because seasonal residents tend to be wealthier, and tourists are typically willing to spend more money than the average consumer.

On the other hand, seasonal communities often have difficulty accommodating the annual influx of residents and adjusting to their eventual exodus. For instance, Monroe County in Florida

has a land-based hurricane evacuation route that would allow the entire permanent population to escape within 24 hours, but this does not factor in the county's significant seasonal population; estimates of its size suggest that a full evacuation during peak season could take more than 30 hours (Bialik, 2012). Similarly, population size is key in determining the apportionment of legislative seats; the allocation of many kinds of funding, including an annual $400 billion federal dollars (USCB, 2014); and planning for local needs, such as public safety measures. Frequently, non-permanent residents are not considered in these in calculations, resulting in inadequate planning and resource shortages for communities with seasonal populations. In addition, some argue that the tourism industry's reliance on seasonal, unskilled, low-wage jobs and its propensity to increase costs of living could depress local economies rather than strengthen them (Reeder and Brown 2005).

Seasonality in the United States will become even more dramatic as telecommuting makes extended travel more feasible, as life expectancies continue to rise, and as the Baby Boomer generation joins the ranks of "snowbirds," retirees who live in the cooler North during the summer and the warmer South during the winter (Smith and House, 2007). Additionally, the warming of the Earth's atmosphere is projected to extend the summer season, which may increase tourism and seasonal residence in the northern part of the country (Amelung et al., 2007).

Despite the growing importance of this phenomenon, only the permanent population is consistently and comprehensively tracked throughout the country. This is primarily accomplished through the decennial census and the annually-published rolling average of the monthly American Community Survey (ACS) (Van Auken et al., 2006). Although the continuousness of the ACS might present an opportunity to systematically examine seasonal populations, its small sample sizes prevent it from being immediately useful on a local level, and many people criticize its

intrusiveness, making it unlikely that questions about seasonal travel will be added (Bialik, 2012).

ESTIMATING SEASONAL POPULATION

In general, there are two methods for collecting seasonality data: Direct and indirect. Direct approaches use censuses and surveys, in which visitors provide individual answers to researchers' questions about their residence and travel patterns. For example, the travel bureau Visit Florida conducts periodic surveys of visitors to the state, documenting such metrics as motivation, age, income, length of stay and spending. Visit Florida makes this information available to local planning councils to help them create budgets and infrastructure plans that incorporate seasonal tourism (SFRPC, 2001).

Other researchers conduct their own surveys. During 2007, Smith and House used a series of monthly phone calls to homes and hotels in Florida to segment respondents into three categories: 1) Permanent residents, 2) temporary residents (visitors staying at least one month) and 3) travelers (permanent residents of Florida who spend at least one month per year elsewhere). They then used census data to apply the average proportion of each of these types of visitors to all of the housing units and hotels in the state, providing an estimate of the size of each population type during each month of the year. However, this is not necessarily a comprehensive view of the state's seasonal population. Hotel managers may have overstated or incorrectly estimated occupancy rates, and the study did not survey other accommodations, such as RV parks, where many seasonal residents are known to reside. In addition, it ignores short-term visitors, who also exhibit seasonal travel trends.

Direct approaches can be advantageous because they use visitors' own accounts of their travels, but census data is often out of date and lacks seasonality, while survey data can be expensive to implement and is prone to coverage and sampling errors. For these reasons, some researchers prefer the indirect method.

Indirect approaches use "symptomatic variables," which change when the population size changes. These include utility usage, hotel occupancy rates and postal deliveries, among many other metrics (Rigall-I-Torrent, 2010). For example, a 2005 study in Crete (Greece) used monthly hotel occupancy and admissions to museums and archaeological sites to determine the variation in tourism throughout the year (Andriotis, 2005). In Estonia (northern Europe), researchers used a database of outgoing calls and text messages to establish "anchor points" that represented the home location of each individual. If this location changed during a significant portion of the year, a second "anchor point" was established for that individual, reflecting probable seasonal residence. The nature of the data made it extremely precise in time and space (Silm and Ahas, 2010).

Estimating trends with symptomatic variables allows the incorporation of every visitor rather than just a sample, and they can easily show variation throughout the year. These data can also be easy to access with the cooperation of local groups, including realtors, chambers of commerce, local planning officials and managers of overnight accommodations (Smith, 1989). However, symptomatic variables require very careful interpretation. A study in Door County, Wisconsin, used data from the State's Department of Revenue to find each Wisconsin resident's share of taxable retail and service sales. Dividing the total sales in Door County by the statewide average share of sales, one would expect to find 46,538 residents in the County, yet the permanent

population was only 26,589. The study concluded that the excess of 19,949 people must constitute visitors to the County. This assumes that the average Door County resident spends exactly what the average Wisconsin resident spends and also that visitors spend the same amount as average residents in a year, both of which are improbable assumptions.

The same study used a traffic counter at the border of the County to estimate monthly variation in vehicles belonging to seasonal visitors. Five-thousand-six-hundred and three (5,603) cars passed the counter in January, so assuming that the number of seasonal vehicles in January is zero, the researchers subtracted 5,603 from the count in each of the other months to obtain estimates of visitors throughout the year (Lamb, 2010). Of course, the number of seasonal vehicles in January is probably not truly zero, and it is possible that permanent residents also travel between counties more during the summer, so the study might falsely attribute some of the increase in traffic to seasonal residents. Using metrics less responsive to extraneous variables, such as wastewater flow, because it is relatively constant between individuals and over time (Goldschmidt and Dahl, 2006), might avoid some amount of false attribution, but the assumptions inherent in any indirect study still present a problem for researchers.

Some researchers are proponents of a combined method. In 2010, Rigall-I-Torrent suggested surveying permanent households in a community to obtain a monthly average of utility usage per person. The survey could ask about water usage, for example, because most people have access to their exact monthly records. A utility company could then reveal the total residential water usage for that community for each month over the past year. Dividing that monthly number by the survey data of monthly average use per capita would result in monthly estimates of the de facto population. Subtracting the census permanent population from the de facto population in each month would create an estimate of the seasonal population throughout the year. Although this incorporates both direct and indirect data, it does assume that household size and utility usage are the same for permanent and seasonal residents. Furthermore, this method would not include temporary residents staying in overnight accommodations other than residential homes. One might supplement this analysis with occupancy data from hotels, motels and campgrounds. Of course, using all of the available direct information and every conceivable indirect metric would provide the most robust data set possible, but this would be excessively expensive and time-consuming to collect and analyze.

PREVIOUS STUDIES

Although seasonality in the United States is on the rise, particularly in the northern part of the country, few studies have focused on the state of Michigan. This is possibly because seasonality is concentrated in the northern part of Michigan's Lower Peninsula, which contains only a small fraction of the state's total population. Yet the substantial cyclical population changes in this region have a significant impact on the local communities. One of the first studies to examine northern Michigan's seasonality was conducted by Stynes, Zheng and Stewart in 1994–1995. They

mailed two questionnaires, one general and one more detailed, to 1,300 probable seasonal homes (based on tax records) in six representative counties in the northern Lower Peninsula. The number of valid responses totaled 397.

The first survey, sent in May 1994, inquired about home and homeowner characteristics, seasonal patterns of use, recreational activity and annual expenditures. The second survey was sent in three waves to different homes at the end of June, July and August of the same year. It delved into usage patterns over the past month (number and length of trips) and detailed characteristics of the owners' most recent trip to their seasonal residence (date, length of stay, party size, spending and recreation). The study found that seasonal homes cover a wide range of real estate values, 70% are on land parcels of one acre or less and 80% are located on a body of water. Seasonal homeowners are significantly older and wealthier than the average homeowner, with a majority retired or soon to retire, and many purchasing with the intent to convert their seasonal homes into retirement residences. Patterns of use vary to a great extent, but the average home is used 86 days of the year, with usage peaking in July. The average homeowner spent $10,000, in 1994 dollars, in the local community.

While this study did not build a model for a seasonal population in northern Michigan, it did produce vital statistics for doing so. First, it found that the average household size of primary seasonal residents is 3.3, with 2.6 adults and 0.7 children, as well as 2.8 additional guests per trip. Second, it found that the average days of use per season are 48 in the summer, 17 in the fall, eight in the winter and 13 in the spring. This information was used in the 1996 study Northwest Michigan Seasonal Population Model, produced for the NWMCOG by Becker and Kincannon of APB Associates, Inc., and Wyckoff of the Planning & Zoning Center, Inc. (PZC). The objective of this report was to estimate

. . . The average household size of primary seasonal residents is 3.3, with 2.6 adults and 0.7 children, as well as 2.8 additional guests per trip. . .the average days of use per season are 48 in the summer, 17 in the fall, eight in the winter and 13 in the spring.

the population, by month and season, residing in the counties of Antrim, Benzie, Charlevoix, Emmet, Grand Traverse, Kalkaska, Leelanau, Manistee, Missaukee and Wexford.

For this study, the population was estimated in permanent, seasonal and transient components. The permanent component is enumerated in census data, and was obtained by adding the number of occupants in housing units to the number of occupants in group quarters. Neither the seasonal nor the transient components are measured by the census. The seasonal component is composed of occupants of second homes, while the transient component includes migrant workers in labor camp facilities, seasonal occupants of summer camps and overnight accommodations occupants (including hotels, motels, bed and breakfasts, cottage and condominium renters, boaters staying overnight in marina slips, and campers in RV parks or campground sites).

To find the seasonal occupants of second homes, this study used the Stynes et al. (1995) average household size and seasonal use patterns in conjunction with census data on seasonal homes to estimate the number of seasonal home occupants in each county by season. A survey of overnight accommodations was conducted to obtain average occupancy rates and room counts in each county, and the average number of occupants per room was estimated by industry standards and interviews with facility managers. When all the estimates were compiled, the study concluded that about one in six people in the region was not part of the permanent population. It also included a summary of statistics by county for each season and each type of overnight accommodation.

Much of the methodology for the current study, described in the next section, is drawn from these two previous studies conducted in northern Michigan.

Part 3: Methodology

THIS SEASONAL POPULATION STUDY CONSISTED OF THREE MAIN ANALYSES OF REGIONAL POPULATION TYPES: 1) PERMANENT, 2) SEASONAL (USE OF SECOND HOMES) AND 3) TRANSIENT (OVERNIGHT ACCOMMODATIONS).

This seasonal population study consisted of three main analyses of regional population types: 1) Permanent, 2) seasonal (use of second homes) and 3) transient (overnight accommodations). The objectives and estimation techniques for each population segment are described below.

PERMANENT RESIDENTS

The Northwest Michigan permanent resident population was estimated using 2012 U.S. Census Bureau data. Initially, the proposed approach for obtaining a permanent resident population figure was to start with 2010 U.S. Census data on current residents and add an estimated number of new residents based on 2011–2012 building permits and average household size; however, the American Community Survey (ACS) now provides an annual estimate of permanent residents (defined as living in the home at the time of the survey or absent for no more than two months). This figure was compared to the estimated number of new residents based on 2010 U.S. Census and 2011–2012 building permits and average household size, and discovered to be relatively similar. It is expected that the ACS data is more accurate because it may account for demolitions, as well as new builds.

SEASONAL RESIDENTS

The estimate of the seasonal population was based on the number of seasonal housing units in 2012 and seasonal occupancy multipliers. Seasonal housing units are defined by the U.S. Census Bureau as:

"…vacant units used or intended for use only in certain seasons or for weekends or other occasional use throughout the year. Seasonal units include those used for summer or winter sports or recreation, such as beach cottages and hunting cabins. Seasonal units also may include quarters for such workers as herders and loggers. Interval ownership units, sometimes called shared-ownership or time-sharing condominiums, also are included here."

A literature review was conducted to determine whether any studies of seasonal home size or occupancy rates have been performed in this area or similar regions more recently than 1995, when the Stynes, Zheng and Stewart study was conducted. Unfortunately, no study with more recent, relevant data was uncovered, so the multipliers from the Stynes et al. (1995) study were used in this analysis. It is possible that the average number of visitors per stay estimated in

this study (3.3) has decreased over the past nearly two decades, if this figure followed a similar trend to the decrease in permanent household size in the Northwest Michigan Region and in Michigan. However, it is also possible that this figure increased due to potentially larger household sizes for seasonal populations or an increase in the general party size for seasonal visits. Without more recent primary data collected from seasonal residents, there is not enough justification for modifying the average number of visitors per stay in the model.

The occupancy rates for seasonal homes, or the portion of nights in a season that the home was occupied, was drawn from the Stynes et al. (1995) study as well. Leelanau and Manistee counties were included in the original study and, therefore, the exact occupancy rates from these counties were included. Occupancy rates for Kalkaska, Missaukee and Wexford counties were estimated based on an average from Clare and Roscommon (inland counties), while Antrim, Benzie, Charlevoix, Emmet and Grand Traverse counties occupancy rates were based on an average from Leelanau and Manistee (coastal counties). This method is similar to that used in the Becker at al. (1996) study.

The estimated number of visitors to seasonal homes was calculated by multiplying the number of seasonal homes by the portion of the nights that were spent in the seasonal home each month (see Table 1) by the average number of visitors per stay (3.3). As in the Becker et al. (1996) study, the number of guests (visitors, friends and relatives) staying in permanent or seasonal homes was not included in the analysis.

OVERNIGHT ACCOMMODATIONS

The seasonal transient population analysis was conducted primarily using secondary overnight accommodation data purchased from Smith Travel Research, Inc. (STR). The STR provided a database of all hotels and motels in the 10-county region, including the number of rooms available in each establishment. This database was supplemented with information from the Pure Michigan website (www.michigan.org/), which contains contact information for hotels, motels, bed & breakfast establishments, campgrounds, RV parks and marinas across the state. Where possible, the number of available rooms was found and/or confirmed at the individual establishments' websites.

The data on hotel and motel occupancy rates (i.e., the number of rooms occupied divided by the number of rooms available) was more limited than initially expected. The STR's data-sharing policy restricts the provision of information for counties with fewer than four hotels reporting, or where one property/brand has more than 40% of the total rooms. In addition, no hotels or motels from two counties in the region, Missaukee and Leelanau, reported their occupancy rates to STR. Therefore, only three counties (Grand Traverse, Emmett

Table 1: Seasonal Monthly Home Occupancy Rate by County

County	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Antrim	8%	8%	12%	12%	12%	64%	64%	64%	18%	18%	18%	8%
Benzie	8%	8%	12%	12%	12%	64%	64%	64%	18%	18%	18%	8%
Charlevoix	8%	8%	12%	12%	12%	64%	64%	64%	18%	18%	18%	8%
Emmet	8%	8%	12%	12%	12%	64%	64%	64%	18%	18%	18%	8%
Grand Traverse	8%	8%	12%	12%	12%	64%	64%	64%	18%	18%	18%	8%
Kalkaska	9%	9%	15%	15%	15%	47%	47%	47%	18%	18%	18%	9%
Leelanau	9%	9%	12%	12%	12%	69%	69%	69%	17%	17%	17%	9%
Manistee	7%	7%	13%	13%	13%	59%	59%	59%	18%	18%	18%	7%
Missaukee	9%	9%	15%	15%	15%	47%	47%	47%	18%	18%	18%	9%
Wexford	9%	9%	15%	15%	15%	47%	47%	47%	18%	18%	18%	9%

Source: Adapted from *Seasonal Homes in Michigan*, by Stynes, Zheng and Stewart, Department of Park, Recreation & Tourism Resources, Michigan State University, 1995.

and Wexford) had full occupancy data to use in the study. To account for this data gap, the STR combined five counties that had fewer than four reporting hotels to provide an average occupancy rate for hotels and motels in Antrim, Benzie, Charlevoix, Kalkaska and Manistee.

In addition, a survey of all hotels, motels and bed & breakfast establishments in the entire Northwest region was conducted. This survey included questions about overall occupancy rates by the calendar months, number of available rooms, types of rooms and occupancy rates by room, by calendar month. Finally, the survey requested an estimated average number of guests per room, since this was information that STR's database did not provide. The survey instrument is provided in Appendix A.

The survey response rate for the region was approximately 18% overall, though it was higher for some counties and lower for others. In addition, hotels/motels had different response rates from bed & breakfast establishments. The STR occupancy data was used in the analysis for hotels and motels for Grand Traverse, Emmett, Wexford, Benzie, Kalkaska, Manistee and Missaukee counties. Since the LPI survey achieved better response rates than the STR for Leelanau, Antrim and Charlevoix, the hotel and motel occupancy survey data was utilized for these counties. Because the STR data does not include bed & breakfast establishments, survey data was also used for these occupancy rates. The regional survey response rate for bed & breakfasts was 26%. Therefore, the regional occupancy rates by month were used for all counties.

Using data on room counts, occupancy rates and the average number of guests per room from these sources, the number of transient occupants in hotels, motels and bed & breakfast establishments for each month in 2012 was assessed for each county. Using the best available data, the total number of rooms from all establishments was aggregated and then multiplied by the occupancy rate and the average number of guests per room to obtain an overnight population by month. For illustrative purposes, Table 2 provides the room count for each county in the region (including hotels, motels and bed & breakfast

Table 2: Number of Rooms, Annual Occupancy and Average Guests per Room by County

County	# of Rooms*	Annual Occupancy Rate**	Average # of Occupants †
Antrim	1,003	34%	2
Benzie	695	41%	2.76
Charlevoix	1,253	37%	2.5
Emmet	2,026	47%	2.34
Grand Traverse	3,908	55%	2.03
Kalkaska	220	—	—
Leelanau	683	33%	2.3
Manistee	1,098	36%	2
Missaukee	144	—	1.5
Wexford	664	34%	2
Region	11,692	40%	2.2

* **Source:** Pure Michigan, 2014.
** **Source:** Land Policy Institute Survey (not enough survey responses received for Kalkaska or Missaukee counties), Michigan State University, 2014.
†**Source:** Land Policy Institute Survey (not enough survey responses received from Kalkaska County), Michigan State University, 2014.

establishments), the average annual occupancy rates and the average number of guests per room based on survey responses.

In addition, the Pure Michigan database included a list of campgrounds and RV parks in the Northwest Michigan region, as well as the number of camping sites at each location. Because the number of camping sites from this database was considerably less than in the Becker et al. (1996) study, the total number of camping sites used in this analysis came from the previous study. During 2008, the Michigan Department of Natural Resources conducted a vacancy assessment of state park campgrounds from June–August. Though limited to these warm-weather months, the number of overnight campers was added to the overall estimate using these data. Occupancy rates for the other nine months, as well as the average number of campers per site (3.6), were drawn from the Becker et al. (1996) study. The number of campers was calculated by multiplying the number of campground sites by the county occupancy rates by the average number of people per site.

Finally, since the STR database includes hotel occupancy rates for some establishments back to 1987, a trend analysis was conducted. An assessment of other population trends, such as seasonal proportion, vacancy rates and age demographics, was also included. The results of the seasonal population estimate calculations and the trend analyses are included in the next section.

Part 4: Results

THE RESULTS OF EACH ANALYSIS FOR THE DIFFERENT POPULATION SEGMENTS—PERMANENT, SEASONAL AND TRANSIENT—AS WELL AS THE AGGREGATE REGIONAL POPULATION ESTIMATE, ARE REPORTED IN THE FOLLOWING DESCRIPTIONS AND GRAPHICS.

The results of each analysis for the different population segments—permanent, seasonal and transient—as well as the aggregate regional population estimate, are reported in the following descriptions and graphics.

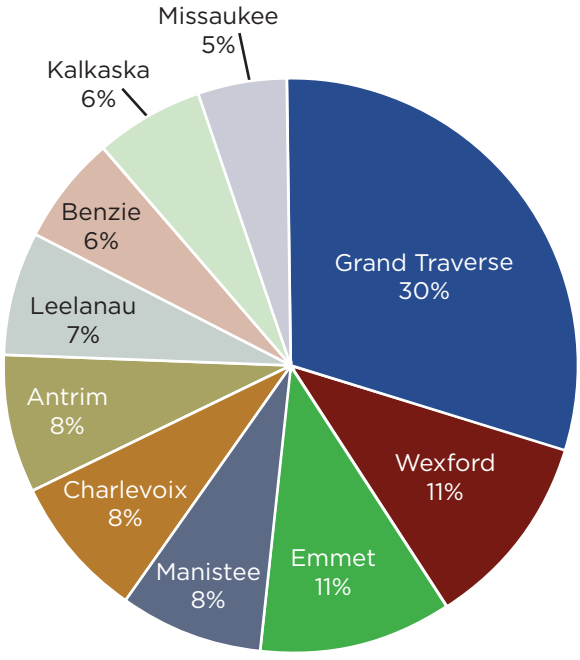
PERMANENT RESIDENTS

The estimated permanent population for the 10-county Northwest Michigan region for 2012 was 299,938 (about 84% of the region's total population, including permanent, seasonal and transient residents). Figure 2 shows the distribution of this population between counties. As expected, Grand Traverse is the most populous county, with Wexford and Emmet counties running a distant second and third, based on permanent population. The smallest county, in terms of permanent population, is Missaukee.

SEASONAL RESIDENTS

The number of regional Units for Seasonal, Recreational or Occasional Use for 2012 is estimated at 42,952. As described in the methodology section, the number of seasonal homes was multiplied by the monthly occupancy rates by county and an average seasonal trip party size of 3.3. The annual average seasonal population is 35,172, or about 10% of the region's total population.

Figure 2: 2012 Distribution of Permanent Residents by County



Source: U.S. Census Bureau, 2014.

Figure 3 shows the distribution of seasonal residents by county. The county with the largest number of seasonal residents is Antrim, followed closely by Emmet, Charlevoix and Leelanau counties. Wexford and Missaukee are the least populous counties, in terms of people staying in second homes.

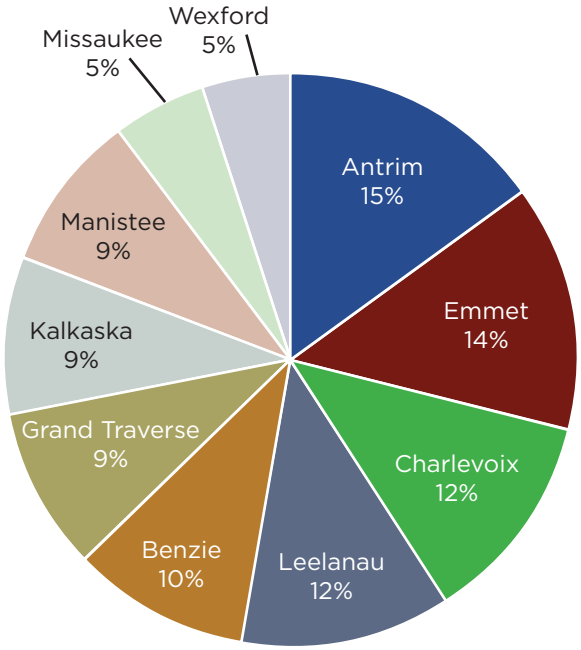
OVERNIGHT ACCOMMODATIONS

The number of transient residents in overnight accommodations includes people staying in hotels, motels, bed & breakfast facilities and campgrounds. These estimates were achieved by multiplying the number of available spaces by the average number of occupants by the monthly occupancy rate. The annual average number of transient residents in 2012 was estimated at 19,990. This figure suggests that, on the average day, there are nearly 20,000 people visiting the Northwest Michigan region, making up about 6% of the total population.

Figure 4 below shows the distribution of overnight visitors by county. Clearly, Grand Traverse County receives the lion's share of these guests, at nearly one-third, while Kalkaska and Missaukee (inland counties) receive only small portions. Coastal counties make up 87% of the transient population for the region.

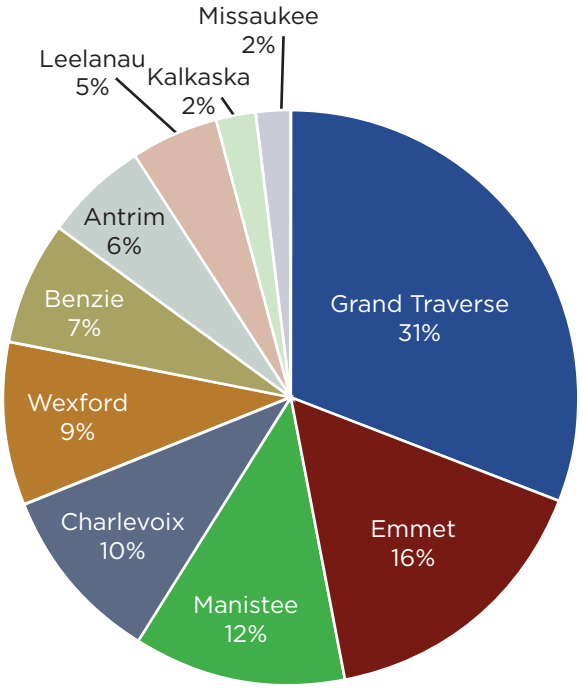
Figures 5 and 6 show the distribution of occupants in hotels and motels and bed & breakfast establishments. Grand Traverse County hosts more than one-third of the region's annual hotel and motel visitors. In this type of overnight accommodation, the coastal communities make up 91% of the transient population.

Figure 3: 2012 Distribution of Seasonal Residents by County



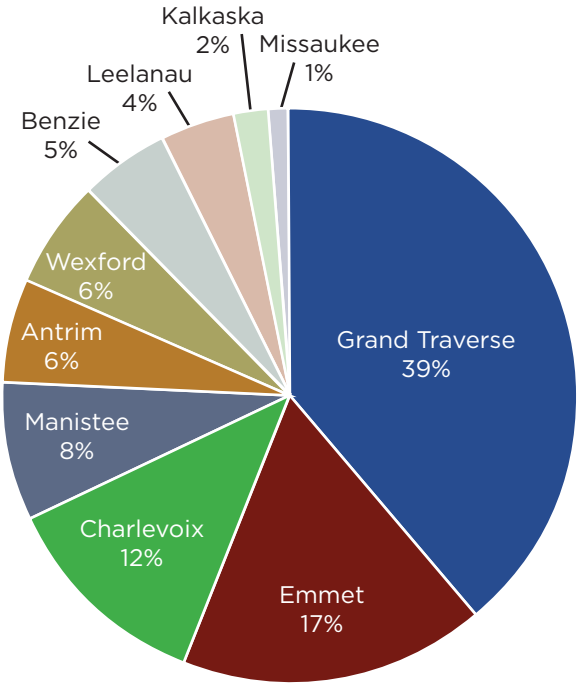
Sources: Land Policy Institute Survey, Michigan State University, 2014; the U.S. Census Bureau, 2014; and *Seasonal Homes in Michigan*, by Stynes, Zheng and Stewart, Department of Park, Recreation & Tourism Resources, Michigan State University, 1995.

Figure 4: 2012 Distribution of Overnight Visitors by County



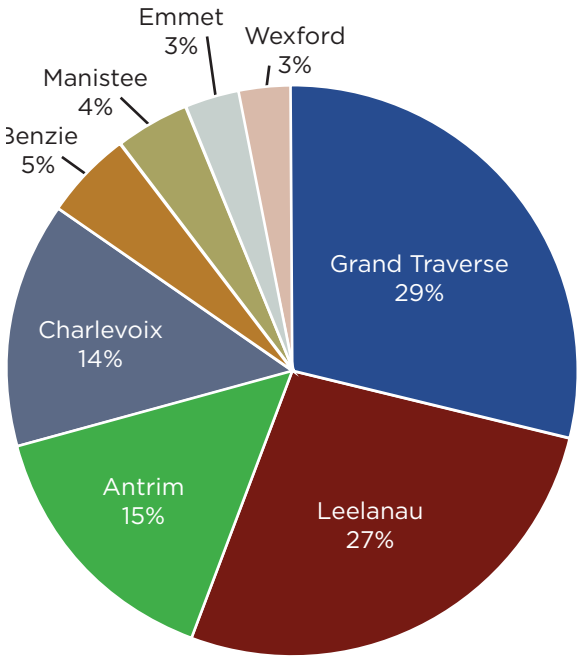
Sources: Land Policy Institute Survey, Michigan State University, 2014; and Smith Travel Research, 2014.

Figure 5: 2012 Distribution of Annual Hotel and Motel Visitors by County



Sources: Land Policy Institute Survey, Michigan State University, 2014; and Smith Travel Research, 2014.

Figure 6: 2012 Distribution of Annual Bed & Breakfast Visitors by County



Source: Land Policy Institute Survey, Michigan State University, 2014.

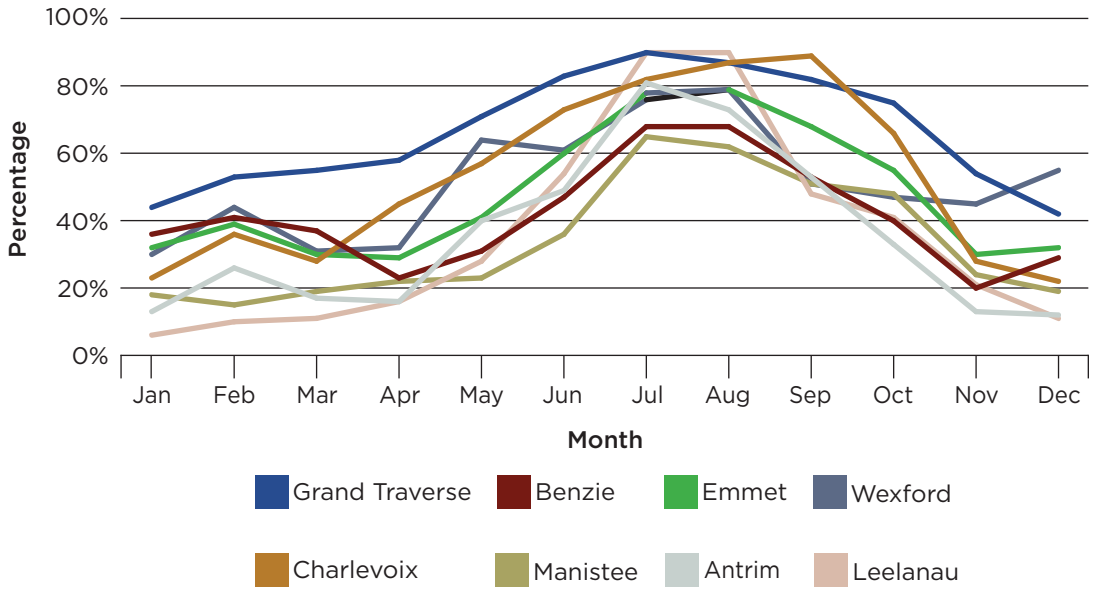
Leelanau County has almost an equal share of bed & breakfast visitors to Grand Traverse County. Antrim and Charlevoix counties see the next highest numbers of B&B occupants, at 15% and 14% respectively. Kalkaska and Missaukee counties did not have any bed & breakfast establishments listed in the Pure Michigan database, though there may be omissions.

Some counties appear to experience a greater variation of hotel/motel occupancy rates between months than other counties, as is illustrated in Figure 7. For instance, while all counties experience higher occupancy rates in the summer months, Grand Traverse County appears to have steadier rates through the year, varying from around 42% in December to 90% in July. However, Leelanau County's occupancy rates vary from about 6% in January to 90% in July and August. This means that some counties are especially sensitive to swings in seasonal population.

There appears to be even greater variation in occupancy rates for bed & breakfast establishments, as illustrated by Figure 8. Some of these facilities may even be closed during the winter months.

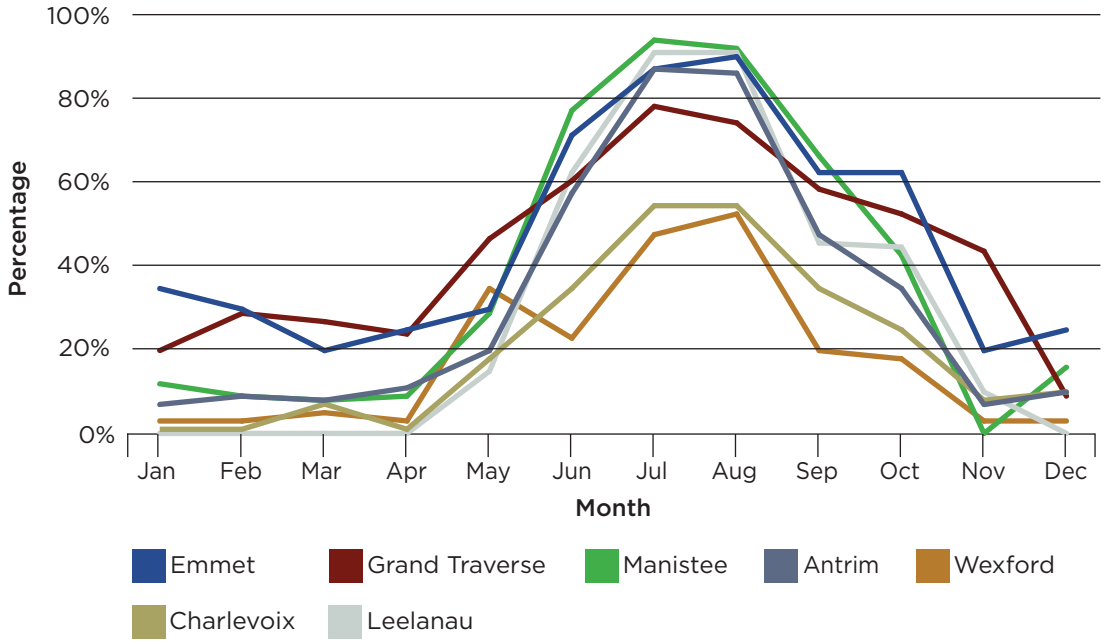
The estimated number of average daily campers for the region is 7,635. It ranges from 188 in off-season

Figure 7: Average Monthly Occupancy Rates for Hotels and Motels by County



Source: Land Policy Institute Survey, Michigan State University, 2014.

Figure 8: Average Monthly Occupancy Rates for Bed & Breakfasts by County



Source: Land Policy Institute Survey, Michigan State University, 2014.

months like March, to 31,080 in the peak month of July. The distribution of campers by county is shown in Figure 9.

While Grand Traverse still has the largest portion of campers at 18%, there appears to be a more even distribution of this type of visitor between the counties.

TOTAL POPULATION

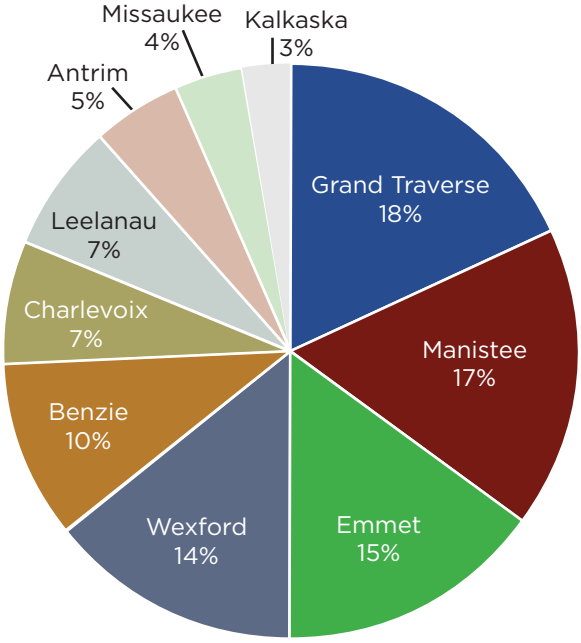
The total population on an average day in Northwest Michigan, including all permanent, seasonal and transient residents, is 355,100. Figure 10 illustrates the distribution of this total population between these counties. Since permanent population makes up the biggest share of the total population, it is not surprising that this pie chart looks similar to Figure 2.

Figure 11 provides a different representation of the components of total population. It is clear from this chart just how much the population of these counties fluctuates, particularly during the summer months. June, July and August witness the most use of seasonal homes and the largest number of transient visitors to hotels, motels, bed & breakfast establishments and campgrounds.

Figure 12 provides a closer look at the breakdown of seasonal and transient population.

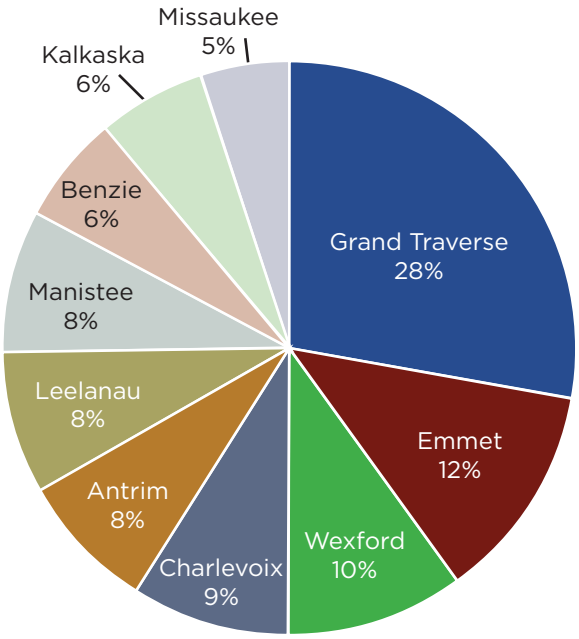
Finally, Figure 13 shows just how much the seasonal population varies through the year in each county. Counties like Wexford and Grand Traverse experience lower fluctuations in the seasonal portion of their population. In the case of Wexford County, it is due to a smaller seasonal population, while in Grand Traverse, it is because the County has a larger permanent population as a base. On the other hand, coastal counties like Antrim, Benzie, Leelanau, Emmet, Charlevoix and Manistee have

Figure 9: 2012 Distribution of Annual Campground Visitors by County



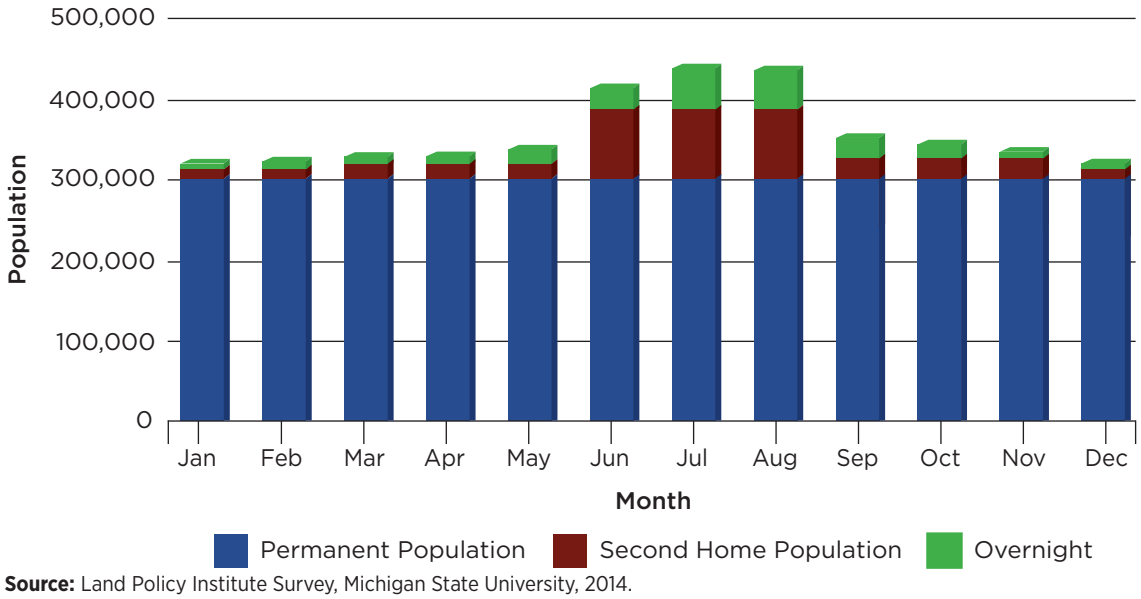
Sources: *Northwest Michigan Seasonal Population Model*, by Becker, Kincaid and Wyckoff, 1996; and the Michigan Department of Natural Resources, 2009.

Figure 10: 2012 Distribution of Annual Total Residents by County



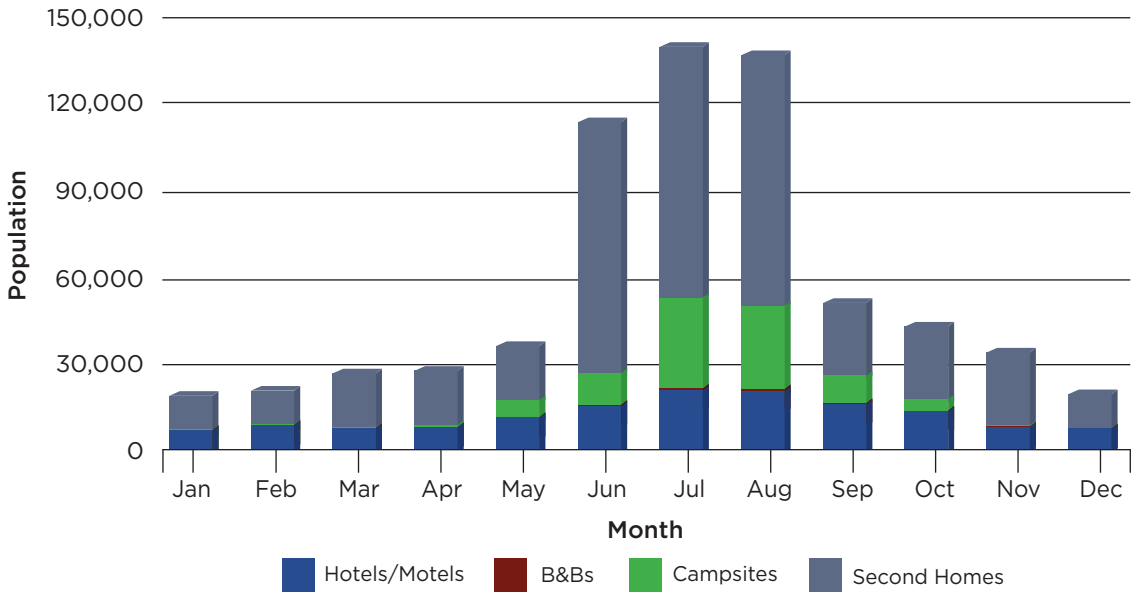
Source: Land Policy Institute, Michigan State University, 2014.

Figure 11: 2012 Total Regional Population Components by Month



Source: Land Policy Institute Survey, Michigan State University, 2014.

Figure 12: 2012 Regional Breakdown of Seasonal and Transient Population Components by Month



Source: Land Policy Institute Survey, Michigan State University, 2014.

a much higher percentage of summer population devoted to seasonal residents, which illustrates both the potential benefits and the dependence of these economies on the summer tourism season.

The table containing estimates for total, permanent, seasonal and transient populations for each county in the Northwest Michigan region is available in Appendix B (Table 3).

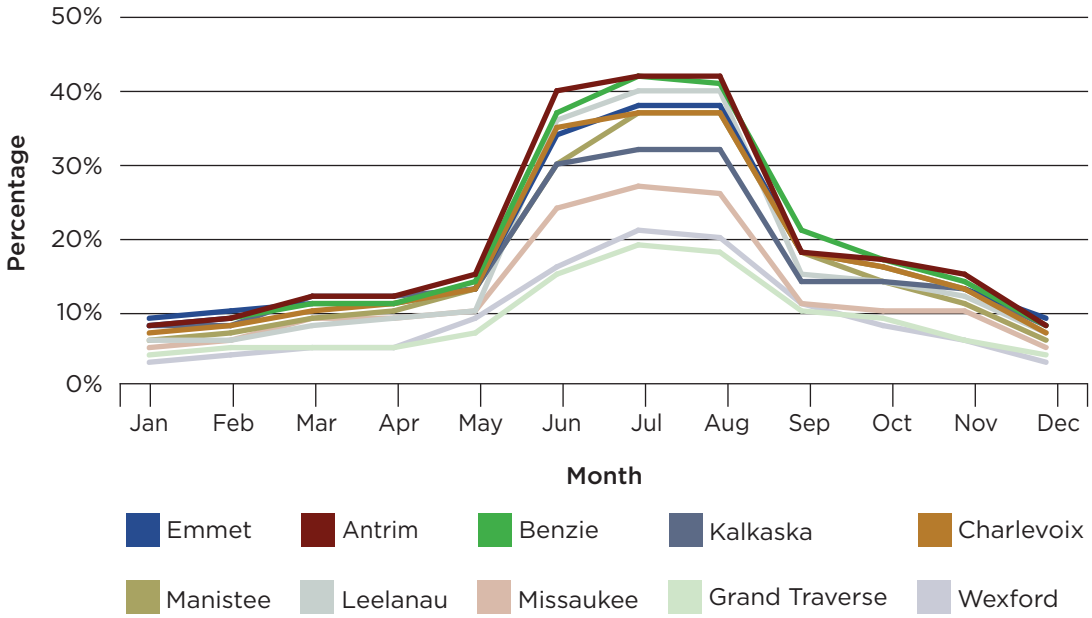
TRENDS

The Northwest Michigan region has experienced substantial growth in permanent population, expanding 29% from 1990 to 2010. Growth was not, however, consistent. During the 1990s, the population grew by 22%. During the first decade of the 21st Century, the region's permanent population only grew by 6%.

In addition, household size is on a downward trend, falling from 2.6 people per household in 1990 to 2.38 in 2010. Approximately 80% of occupied homes are owner-occupied, as opposed to rentals; that rate has not changed much since 1990. Vacancy rates have remained relatively steady from 1990 to 2010; vacant housing units were 34% of the total housing units in 1990, 29% in 2000 and 32% in 2010. Similarly, there has not been much change in the proportion of total housing devoted to seasonal use; the seasonal housing unit percentage was 24% in 1990, 2000 and 2010.

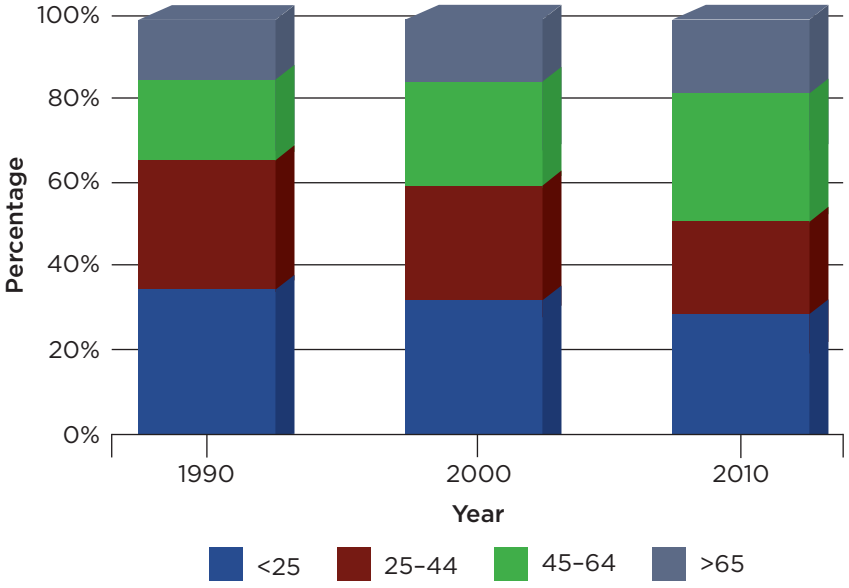
Another important trend to note is the change in age distribution of the permanent population since 1990, as shown in Figure 14. As the Baby Boomer generation ages, so does this region's population. The portion of 45- to 64-year-olds increased from around 19% to 31% in 2010. Conversely, the number of people in the 25- to 44-year-old age bracket decreased from 31% in 1990 to about 22% in 2010. This trend can affect the region's population make-up in a number of ways. For instance, more Baby Boomer retirees could mean more snowbirds in the permanent population, more second homes becoming retirement homes,

Figure 13: 2012 Seasonal Population Percentage by County



Source: Land Policy Institute Survey, Michigan State University, 2014.

Figure 14: Regional Age Distribution Change, 1990–2010



Source: U.S. Census Bureau, 2014.

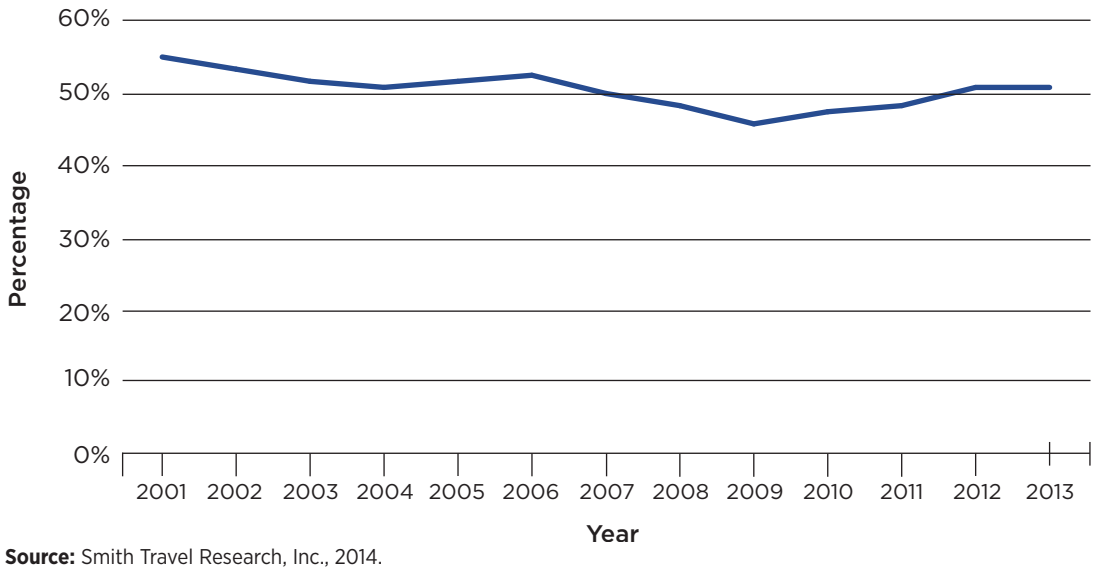
and more second home purchases. It may also mean that the region's population will grow at a slower pace, due to fewer young people having children, unless there is additional in-migration from other areas.

The seasonal population size estimated in this analysis is based upon the number of units for seasonal, recreational or occasional use, from the U.S. Census Bureau. The number of these units grew from 34,804 in 1990 to 42,952 in 2012, a roughly 23% growth. These two decades saw different rates of growth, however. During the 1990s, the number of seasonal units grew by 7%, while during the 2000s, they grew by 15%.

It is clear from Figure 15, which averages occupancy rates for eight of the 10 counties, that the region experienced a drop in overnight occupancy rates in 2009 during the economic recession. While levels are slowly increasing, the 2013 average annual occupancy rate (51%) still has not caught up to the 1993 rate (54%). It is important to note that some counties were more affected by the recession than others, so averaging across the region flattens the trend line. For instance, Wexford County experienced a decline in annual occupancy rate from 55% in 2001 to 38% in 2009.

These trends in permanent, seasonal and transient population in Northwest Michigan reflect external forces, like the state and national economy, as well as how things are changing within the region. During the 1990s, the region saw many new permanent residents, a few new second homes and a relatively steady transient population overall. During the 2000s, permanent population growth slowed and more second homes came into use. This trend could be the result of Baby Boomers nearing retirement purchasing vacation homes. The decline in overnight accommodations during the latter part of this decade could be caused by the rise in second home usage, as well as the economic recession that began in 2009. These changes in the regional population suggest the need to revisit regional and local policies and programs to ensure that they are responsive to the needs of today's population.

Figure 15: Regional Overnight Visitor Trends, 1993–2013



Source: Smith Travel Research, Inc., 2014.

Part 5: Conclusions

THE 2012 ANNUAL AVERAGE POPULATION FOR THE NORTHWEST MICHIGAN REGION IS ESTIMATED AT 355,100 PEOPLE, WHICH IS APPROXIMATELY 50,000 MORE THAN THE ANNUAL AVERAGE OF 305,468 IN 1996. . . THE TOTAL PERMANENT POPULATION APPEARS TO HAVE THE BIGGEST IMPACT ON THAT GROWTH, INCREASING FROM 255,684 PEOPLE IN 1996 TO 299,938 IN 2012 (A GROWTH OF ABOUT 17%). THE SEASONAL PROPORTION OF THE TOTAL POPULATION APPEARS TO HAVE GROWN AT A SLOWER RATE, INCREASING ONLY FROM 30,723 IN 1996 TO 35,172 IN 2012 (A GROWTH RATE OF ABOUT 14.5%). FINALLY THE TRANSIENT POPULATION APPEARS TO HAVE EXPANDED THE SLOWEST, WITH 19,061 AVERAGE DAILY VISITORS IN 1996 TO 19,990 IN 2012 (ABOUT 5%).

The 2012 annual average population for the Northwest Michigan region is estimated at 355,100 people, which is approximately 50,000 more than the annual average of 305,468 in 1996, from the Becker et al. (1996) study. The total permanent population appears to have the biggest impact on that growth, increasing from 255,684 people in 1996 to 299,938 in 2012 (a growth of about 17%). The seasonal portion of the total population appears to have grown at a slower rate, increasing only from 30,723 in 1996 to 35,172 in 2012 (a growth rate of about 14.5%). Finally, the transient population appears to have expanded the slowest, with 19,061 average daily visitors in 1996 to 19,990 in 2012 (about 5%). Even adding in overnight stays in marina slips, which were not included in this study, at 1990 levels (353) does not increase the growth rate by much (less than 2%).

Grand Traverse County has the largest number of permanent residents and overnight visitors, while Antrim County has the largest number of people in seasonal homes. Antrim County also has the highest percentage of population that is seasonal. Grand Traverse County has the largest number of overnight visitors in hotels and motels; Leelanau County hosts a large share of the bed & breakfast visitors; and campers are distributed relatively evenly throughout the region's counties.

Similarly to the 1996 assessment, the overall population peaks in July and is smallest in January, with a difference of about 93,322 people between these two months. That's like adding a city the size of Lansing, MI, every year for the summer season. This large change in the number of people who need to get around, demand public services and generate economic activity requires a good deal of planning and mobilization of resources, particularly in the counties that see the greatest population fluctuations. Furthermore, with the decline in overnight accommodations, the population could be experiencing a shift toward greater permanence, which has economic and public service implications. It is important for regional economic development goals and strategies to reflect and respond to seasonal population effects.

CHALLENGES AND LIMITATIONS

As with any study that relies on secondary data sources, there are some limitations to how much the analysis can tell us. Although the decennial census focuses on permanent population, it does produce a count of housing units held for seasonal, recreational or occasional use, defined as units whose residents have lived in them for less than half of the past year. However, this count provides an incomplete picture of seasonal populations. For instance, many people migrate to RV parks (Happel and Hogan, 2002) or choose to live with family members or friends rather than maintaining second homes. Many vacationers stay in hotels, motels, bed and breakfasts, resorts and campgrounds whose populations go undocumented by the census. Furthermore, these estimates of seasonal homes and total populations are produced only once every 10 years so that they rapidly become obsolete and have no capacity for showing population variance throughout the year. And because April 1 is the deadline for submitting census forms, the level of seasonal residents is still near its peak in the South and its nadir in the North when the forms are sent out in March. It has been argued that this leads some people to list their southern address as their permanent one even if they spend more than half of the year in a northern state, resulting in a disproportionate allocation of resources to communities that have high winter populations.

Respondents may also falsely indicate their permanent residence, because of personal attachments, or because they believe it will affect their taxation status (Bialik, 2012). Others may simply misunderstand the question: In a 2007 Florida study using census language, 22% of self-identified "temporary" residents stated that they planned to stay in Florida for more than half of the year and 14% of "temporary" residents intended to live in Florida for the entire year or longer (Smith and House, 2007). Clearly, these individuals are not truly temporary residents of Florida, but the census indicates them as such. It is likely that this mislabeling occurs in other states with seasonal populations, as well.

Another population that is substantial and growing is referred to as "snowbirds," or those people who live in Michigan during the warmer weather months and migrate to Florida, Arizona or another southern location for the winter. Due to the wording of decennial census questionnaires, many snowbirds likely list Michigan as their permanent residence. Therefore, the permanent population count is inflated by the assumption that these people are in their houses all year round. A survey could help to identify the portion of snowbirds who identify as permanent residents (or seasonal residents) and what part of the year they are absent from their homes.

Due to the lack of more recent data on seasonal home occupancy rates and party size, this analysis relied on 1995 data, which is out-of-date and likely not reflective of current trends. In addition, without updated campground data for the non-summer months and a more accurate count of camping sites, this estimate could be misrepresented. While the estimated population is as close to reality as possible given current data sources, additional steps could be taken to achieve a more precise result.

Finally, this analysis, like the Becker et al. (1996) study, did not include the number of guests (visitors, friends and relatives) staying in permanent or seasonal homes. This number could be potentially large, and can really only be understood through primary data collection using a survey. It is possible to identify some homes that are rented out to third parties

through the internet, but this list is unlikely to be comprehensive and very unlikely to include occupancy rates.

These challenges and limitations of the current study were not surmountable within the time frame and available project resources, but could potentially be addressed through a second phase analysis, which is described below.

RECOMMENDATIONS

Phase I of this project consisted of estimating the 2012 permanent, seasonal and transient population for Northwest Michigan based on existing data sources and established seasonal trends; the resulting population figure includes permanent residents, second home occupants and occupants of overnight accommodations. A second phase analysis could estimate the permanent, seasonal and transient population for Northwest Michigan based on new primary data collection methods; the resulting population figure would include a more accurate figure for permanent residents (excluding snowbird absences); a more precise estimate of second home occupants (based on more up-to-data estimates of occupancy and average party size per visit); the number of visitors, friends and relatives; overnight accommodations (with more rigorous survey methods to enhance response rates); campground, marina and related facility occupants; and migrant populations.

A helpful supplemental activity would be to interview local realtors in the region and assess trends in housing prices for permanent and secondary homes. Variations or trends in the housing market (such as price and length of time on the market) could help to explain the patterns in seasonal population. Also, in order to predict what the future regional population will look like, it would be valuable to do an analysis of how many baby boomers own these properties and what might happen to them when this sizable generation leaves the housing market.

Better and more detailed information about the make-up of the regional population through this suggested second phase analysis can lead to better regional, as well as local, planning, policy development and resource allocation, and more effective community and economic development efforts.

Part 6: Appendices

APPENDIX A: SURVEY OF OVERNIGHT ACCOMMODATIONS FACILITIES

Northwest Michigan Council of Governments

MICHIGAN STATE UNIVERSITY | Land Policy Institute

April 10, 2014

Dear Sir or Madam:

We all know that tourism is a major part of the Northwest Michigan economy, providing jobs for our residents, revenues to local businesses and tax dollars to our local governments. Furthermore, the fluctuations in the region's population throughout the year due to tourism opportunities and a large number of seasonal residents have a sizable impact on business decisions and policy direction for Northwest Lower Michigan.

Having a better understanding of the number of permanent residents, seasonal residents and visitors to this area would be beneficial for tourism-related businesses and public service providers (such as community planners, utilities, transportation authorities, etc.) in the counties of Antrim, Benzie, Charlevoix, Emmet, Grand Traverse, Kalkaska, Leelanau, Manistee, Missaukee, and Wexford. In an effort to estimate seasonal population trends, the Northwest Michigan Council of Governments (NWMCOG) has partnered with the Michigan State University (MSU) Land Policy Institute (LPI) to conduct this survey of area hotels, motels and bed & breakfast establishments.

This seasonal population study involves determining the number of overnight guests who stay in each county during different times of year. To collect this information, we would like to request your participation in the attached brief survey. Please complete the survey and mail it back to us using the enclosed envelope.

We are mindful of your busy schedule, and we will greatly appreciate your cooperation in returning your completed survey by April 28, 2014.

If you have any questions or comments, please contact Mary Beth Graebert via telephone (517–355–3378) or email (lakemary@msu.edu). Thank you in advance for your participation.

Sincerely,

Mary Beth Graebert
Associate Director
MSU Land Policy Institute

Mathias McCauley
Director of Regional Planning
Northwest Michigan Council of Governments

Northwest Michigan Seasonal Population Study

Survey of Overnight Accommodations

Please correct the name of your establishment or address, if necessary.

Please answer the following questions with estimates only if exact figures are not available.

1. What is the total number of rooms available for overnight accommodation? _____

2. What is the average number of occupants per room? _____

3. What is the occupancy rate (percentage of rooms occupied) during each month of the year?

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Are these rates EXACT or ESTIMATED? (Circle one)

4. How many of each of the following types of rooms are at this location, and how many people stay in these types of rooms, on average?

Room Type	Standard Single	Standard Double	Suite	Other: _____	Other: _____
# of Rooms					
Average # of Occupants/Room					

5. What is the occupancy rate for each type of room during each month of the year?

Room Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Standard Single												
Standard Double												
Suite												
Other: _____												
Other: _____												

Survey continued on next page. . .

6. Do you own another overnight accommodation business in one of the following counties? Circle: YES or NO

   If you answered YES to this question and did not receive a survey at that location, please email Mary Beth Graebert at lakemary@msu.edu or call 517-355-3378, and we will promptly send another survey.

7. If you would like a copy of the final seasonal population report, please provide your email address: _____

Thank you for your assistance! It is deeply appreciated.

TO SUBMIT THIS SURVEY:
Seal this paper inside the envelope that was included in the original mailing. The envelope has already been stamped and addressed. **Please return your completed survey by May 19th.**

Table 3: Monthly Permanent, Seasonal Transient Residents by County

County	Population Type	January	February	March	April	May	June	July
Antrim	Permanent population	23,406	23,406	23,406	23,406	23,406	23,406	23,406
	Second home population	1,707	1,707	2,672	2,672	2,672	13,762	13,762
	Overnight	364	635	462	430	1,494	1,565	3,145
	TOTAL	25,477	25,748	26,540	26,509	27,572	38,733	40,312
	% Seasonal	8%	9%	12%	12%	15%	40%	42%
Benzie	Permanent population	17,465	17,465	17,465	17,465	17,465	17,465	17,465
	Second home population	1,057	1,057	1,655	1,655	1,655	8,525	8,525
	Overnight	455	593	519	503	1,086	1,847	3,970
	TOTAL	18,977	19,116	19,640	19,623	20,207	27,837	29,960
	% Seasonal	8%	9%	11%	11%	14%	37%	42%
Charlevoix	Permanent population	26,023	26,023	26,023	26,023	26,023	26,023	26,023
	Second home population	1,353	1,353	2,118	2,118	2,118	10,910	10,910
	Overnight	620	965	752	1,216	1,794	2,845	4,356
	TOTAL	27,996	28,341	28,894	29,357	29,963	39,778	41,289
	% Seasonal	7%	8%	10%	11%	13%	35%	37%
Emmet	Permanent population	32,915	32,915	32,915	32,915	32,915	32,915	32,915
	Second home population	1,535	1,535	2,403	2,403	2,403	12,377	12,377
	Overnight	1,652	1,930	1,615	1,551	2,439	4,287	7,631
	TOTAL	36,102	36,380	36,933	36,870	37,758	49,578	52,923
	% Seasonal	9%	10%	11%	11%	13%	34%	38%
Grand Traverse	Permanent population	89,112	89,112	89,112	89,112	89,112	89,112	89,112
	Second home population	943	943	1,476	1,476	1,476	7,599	7,599
	Overnight	2,809	3,721	3,661	3,599	5,737	7,560	13,847
	TOTAL	92,864	93,776	94,248	94,186	96,325	104,271	110,557
	% Seasonal	4%	5%	5%	5%	7%	15%	19%
Kalkaska	Permanent population	17,099	17,099	17,099	17,099	17,099	17,099	17,099
	Second home population	1,248	1,248	2,184	2,184	2,184	6,700	6,700
	Overnight	148	191	176	162	307	605	1,313
	TOTAL	18,495	18,538	19,459	19,442	19,590	24,404	25,112
	% Seasonal	8%	8%	12%	12%	13%	30%	32%
Leelanau	Permanent population	21,607	21,607	21,607	21,607	21,607	21,607	21,607
	Second home population	1,340	1,340	1,831	1,831	1,831	10,751	10,751
	Overnight	103	160	173	240	695	1,591	3,359
	TOTAL	23,049	23,107	23,611	23,678	24,134	33,949	35,717
	% Seasonal	6%	6%	8%	9%	10%	36%	40%

Source: Land Policy Institute, Michigan State University, 2014.

August	September	October	November	December	Annual Average
23,406	23,406	23,406	23,406	23,406	23,406
13,762	3,767	3,767	3,767	1,707	5,477
2,869	1,467	924	377	354	1,174
40,036	28,640	28,097	27,550	25,467	30,057
42%	18%	17%	15%	8%	22%
17,465	17,465	17,465	17,465	17,465	17,465
8,525	2,334	2,334	2,334	1,057	3,393
3,758	2,214	1,255	473	441	1,426
29,748	22,012	21,054	20,271	18,963	22,284
41%	21%	17%	14%	8%	22%
26,023	26,023	26,023	26,023	26,023	26,023
10,910	2,986	2,986	2,986	1,353	4,342
4,400	2,844	1,922	767	591	1,923
41,333	31,853	30,932	29,776	27,967	32,288
37%	18%	16%	13%	7%	19%
32,915	32,915	32,915	32,915	32,915	32,915
12,377	3,388	3,388	3,388	1,535	4,926
7,956	4,000	2,684	1,407	1,625	3,231
53,248	40,303	38,987	37,710	36,075	41,072
38%	18%	16%	13%	9%	20%
89,112	89,112	89,112	89,112	89,112	89,112
7,599	2,080	2,080	2,080	943	3,024
12,146	7,903	6,283	3,630	2,984	6,157
108,857	99,095	97,475	94,822	93,038	98,293
18%	10%	9%	6%	4%	9%
17,099	17,099	17,099	17,099	17,099	17,099
6,700	2,519	2,519	2,519	1,248	3,163
1,242	342	248	147	141	419
25,041	19,960	19,866	19,765	18,488	20,680
32%	14%	14%	13%	8%	17%
21,607	21,607	21,607	21,607	21,607	21,607
10,751	2,628	2,628	2,628	1,340	4,137
3,551	1,130	823	347	162	1,028
35,909	25,365	25,058	24,582	23,109	26,772
40%	15%	14%	12%	7%	19%

Table 3: Monthly Permanent, Seasonal Transient Residents by County (cont.)

County	Population Type	January	February	March	April	May	June	July
Manistee	Permanent population	24,672	24,672	24,672	24,672	24,672	24,672	24,672
	Second home population	931	931	1,678	1,678	1,678	7,546	7,546
	Overnight	725	947	829	995	1,898	2,984	6,853
	TOTAL	26,328	26,550	27,179	27,345	28,248	35,202	39,071
	% Seasonal	6%	7%	9%	10%	13%	30%	37%
Missaukee	Permanent population	15,031	15,031	15,031	15,031	15,031	15,031	15,031
	Second home population	751	751	1,314	1,314	1,314	4,030	4,030
	Overnight	96	125	111	105	374	604	1,445
	TOTAL	15,877	15,907	16,456	16,450	16,719	19,665	20,506
	% Seasonal	5%	6%	9%	9%	10%	24%	27%
Wexford	Permanent population	32,608	32,608	32,608	32,608	32,608	32,608	32,608
	Second home population	666	666	1,165	1,165	1,165	3,573	3,573
	Overnight	465	671	518	689	1,991	2,769	5,342
	TOTAL	33,739	33,944	34,291	34,462	35,764	38,951	41,523
	% Seasonal	3%	4%	5%	5%	9%	16%	21%
NWMCOG	Permanent population	299,938	299,938	299,938	299,938	299,938	299,938	299,938
	Second home population	11,530	11,530	18,497	18,497	18,497	85,772	85,772
	Overnight	7,435	9,939	8,816	9,490	17,817	26,657	51,261
	TOTAL	318,903	321,407	327,251	327,925	336,252	412,367	436,971
	% Seasonal	6%	7%	8%	9%	11%	27%	31%

Source: Land Policy Institute, Michigan State University, 2014.

August	September	October	November	December	Annual Average
24,672	24,672	24,672	24,672	24,672	24,672
7,546	2,327	2,327	2,327	931	3,121
6,829	2,969	1,816	731	698	2,356
39,046	29,968	28,815	27,730	26,301	30,149
37%	18%	14%	11%	6%	18%
15,031	15,031	15,031	15,031	15,031	15,031
4,030	1,515	1,515	1,515	751	1,902
1,352	394	195	101	92	416
20,413	16,940	16,741	16,648	15,874	17,350
26%	11%	10%	10%	5%	13%
32,608	32,608	32,608	32,608	32,608	32,608
3,573	1,344	1,344	1,344	666	1,687
4,655	2,507	1,636	602	485	1,861
40,836	36,459	35,588	34,554	33,759	36,156
20%	11%	8%	6%	3%	10%
299,938	299,938	299,938	299,938	299,938	299,938
85,772	24,889	24,889	24,889	11,530	35,172
48,757	25,769	17,786	8,572	7,574	19,990
434,466	350,596	342,613	333,409	319,042	355,100
31%	14%	12%	10%	6%	16%

Part 7: References

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