



# **Review of the Benefits of Parks and an Inventory of Parks in Benzie County, MI**



Source from [cincinnati magazine](#)

In association with Michigan State University  
Urban Planning Practicum  
Spring 2023

Prepared by: Mary Kate Bejma, Conor Warren, Micheal  
Wilkinson, Xinyi Yao, Heather Zeigler

<b>EXECUTIVE SUMMARY.....</b>	<b>3</b>
<b>1. INTRODUCTION .....</b>	<b>5</b>
1.1. PRACTICUM STRUCTURE.....	5
1.2. CLIENT INFORMATION.....	5
1.3. INTRODUCTION TO BENZIE COUNTY.....	5
<b>2. BENEFITS OF PARKS AND RECREATION .....</b>	<b>7</b>
2.1. PHYSICAL HEALTH BENEFITS.....	7
2.2. MENTAL HEALTH BENEFITS.....	8
2.3. PUBLIC/SOCIAL BENEFITS .....	9
2.4. ENVIRONMENTAL BENEFITS .....	10
2.5. ECONOMIC BENEFITS.....	11
2.6. TOURISM INDUSTRY IN MICHIGAN.....	11
2.7. SUMMARY.....	12
<b>3. SOCIO-ECONOMIC PROFILE FOR BENZIE COUNTY .....</b>	<b>13</b>
3.1. POPULATION.....	13
3.1.1. Age & Gender in Benzie County.....	13
3.1.2. Population over time in Benzie County .....	14
3.1.3. Unemployment and Income in Benzie County compared to The State of Michigan .....	15
3.1.4. Median Household income in Benzie County compared to Michigan .....	16
3.1.5. Educational Attainment in Benzie County compared to The State of Michigan .....	16
3.1.6. Seasonal Population.....	17
<b>4. PARKS AND RECREATION IN BENZIE COUNTY .....</b>	<b>19</b>
<b>5. ANALYSIS OF STRENGTHS, WEAKNESSES, OPPORTUNITIES, AND THREATS .....</b>	<b>20</b>
5.1. STRENGTHS: .....	20
5.2. WEAKNESSES: .....	21
5.3. OPPORTUNITIES:.....	22
5.4. THREATS: .....	22
<b>6. ADMINISTRATIVE STRUCTURE AND FUNDING MODELS .....</b>	<b>23</b>
6.1. FUNDING FOR MICHIGAN’S STATE PARKS .....	25
6.2. PA 90 MILLAGE .....	27
6.3. THE AMERICAN RESCUE PLAN ACT- STATE AND LOCAL FISCAL RECOVERY FUNDS .....	27
6.4. COMPARABLE COUNTIES BUDGETS.....	28
<b>7. RECOMMENDATIONS .....</b>	<b>30</b>
<b>8. INVENTORY OF BENZIE PARKS / COUNTY BROCHURE MAPS .....</b>	<b>31</b>
<b>REFERENCES .....</b>	<b>34</b>
<b>FIGURE AND TABLE REFERENCES .....</b>	<b>37</b>
<b>APPENDICES .....</b>	<b>38</b>
A. COUNTY BUDGETS.....	38
B. GIS MAPS .....	39

## **Acknowledgment of Funding Assistance**

Practicum is supported by our community clients and through generous financial assistance from Michigan State University Extension and the Regional Economic Initiative grant received from the United States Department of Commerce-Economic Development Administration. The statements, findings, conclusions, and recommendations are solely those of the authors and do not necessarily reflect the views of Michigan State University or any federal or state agency.

## **Executive Summary**

### **Benefits of Parks and Recreation**

The following report was completed by students at Michigan State University in collaboration with Networks Northwest. First, we have compiled a comprehensive literature review of the benefits of greenspace and organized parks for a county. The review covers many benefits, including physical, mental, public, environmental, and economic benefits. The physical benefits section is also split into multiple parts, showcasing different types of physical benefits, each with various sources to back them up. Parks and green space have not only been shown to reduce the occurrence of disease due to cleaner air and water, but organized parks also give people a fun, safe place to get outside and exercise. This encouragement of residents getting out and exercising has just as much of a benefit as the reduced risk of diseases. Organized parks benefit mental health by providing an enjoyable, semi-controlled environment to connect with nature. Lower amounts of greenspace have also been linked to higher feelings of loneliness. In a similar vein, organized parks benefit the public by providing a space for people to gather and host events, which has been shown to help increase one's feelings of connection with their community. Public parks are also available to be used by anyone, so as long as they are distributed in communities that most need them, they can be a method of fighting social inequality. For environmental benefits, parks provide an area of nature that is protected from outside development, and can help residents further connect with nature, instilling feelings in people that translate into wanting to protect the nature around them. Finally, parks also have an economic benefit to its surrounding community, not only raising surrounding property values, but bringing more people from outside your region to spend money there. The general increase in the physical health of your community provided by parks keep your workforce healthier, resulting in less use of sick days and higher productivity from healthier and happier workers.

A community's economy is significantly impacted by the tourism industry. Many sectors of the tourism industry provide employment opportunities, including hospitality, transportation, and entertainment. Tourism generates revenue for the government through taxes, such as sales taxes and hotel taxes. Furthermore, tourism income can be used to improve public infrastructure and services in local communities as well as promote local businesses.

Over 117 million people visited Michigan in 2021. Tourists alone spent \$24.0 billion this year in Michigan, with a total economic impact reaching \$43.1 billion. The economy also sustained 298,818 jobs and generated \$3.0 billion in tax revenue. In Benzie County, there are approximately 18,000 full-time residents and an estimated 235,000 visiting tourists each year.

### **Socio-Economic Profile**

The next section of the report is a Socio-Economic Profile, which paints a picture of how Benzie County Compares to the State of Michigan in aspects such as age structure, population, race & ethnicity, employment, median household income, and educational attainment. The Socio-Economic Profile shows that Benzie is comparable to the rest of the state in many aspects. Benzie County has a population density of 56.07 people per square mile, and the population is mainly comprised of adults 55 years and



older. Benzie's population has grown since 2012, following similar trends to the greater State of Michigan, except for the drop in population that the State experienced after 2020. Benzie has a similar unemployment rate as the rest of the state, with 5.21% of the county being unemployed whereas the State of Michigan has an unemployment rate of 6.21%. Benzie County also has similar Median Household Incomes to the greater State of Michigan, only slightly lower by around \$2,000 in 2016 & 2021. This should be considered an improvement, as in 2011, Benzie County's Median Household income was nearly \$6,000 lower than the State of Michigan in General. Educational Attainment was found to be comparable from the County level to the State of Michigan. Lastly, we see a seasonal population breakdown which shows great increases in population in the summer months due to Benzie's ample recreational opportunities.

### *Park and Recreation in Benzie County*

Among the 48 parks and 17 lakes in Benzie County, Crystal Lake, Sleeping Bear Dunes National Lakeshore and Frankfort Public Beach and Playground offer soft sandy beaches and incredible views of Lake Michigan. There is also public access to the lake.

### *Analysis of Strengths, Weaknesses, Opportunities and Threats*

An analysis of Strengths, Weaknesses, Opportunities, and Threats of various parks located within Benzie County show how Benzie County has a lot of environmental sites as well as many sports fields. Still, the sport fields contain old facilities, and for the waterfront parks, there are no water activity entrances. Benzie County can use the summer months to attract more people; however, they still need to consider the impact of climate change.

### *Admin Structure of Established Parks and Recreation Departments and Funding*

Administrative and funding models for established Parks and Recreation Departments in various Michigan Counties were studied. It was found that all are empowered by the County Board of Commissioners and are overseen by an appointed County Parks and Recreation Commission, as dictated by law.

Funding options, such as through millages and DNR Grants. Provided here are tables which show breakdowns of expenditures and revenues from counties of similar demographics to Benzie County with established Parks and Recreation Departments, which can help Benzie County in determining the needs for a Parks and Recreation Department.

### *Recommendations*

We conclude with a set of recommendations from our team, such as implementing a millage, allocating American Rescue Plan Act dollars, or raising funds through recreational events to raise money for this newly established Parks and Recreation Department.

### *GIS Maps*

The last section of our report is a complete set of GIS maps for the public parks within Benzie County to create a brochure for public use.

# **1. Introduction**

## **1.1. Practicum Structure**

Practicum is a practice-oriented capstone course for graduate and undergraduate students in the Urban and Regional degree programs at Michigan State University. The purpose of this course is for students to apply theoretical and academic knowledge creatively and thoughtfully from their coursework to meet the client's needs. The course requires that practicum teams create a professional and comprehensive report for their client, usually a city government or community organization, through analytical and data-driven problem-solving skills.

## **1.2. Client Information**

Networks Northwest hired our practicum team at Michigan State University to complete this report for the Benzie County Parks and Recreation Committee. Networks Northwest delivers programs and services for the 10 counties of Northwest Michigan. Their primary service categories are: workforce development; business & economic development; and community development.

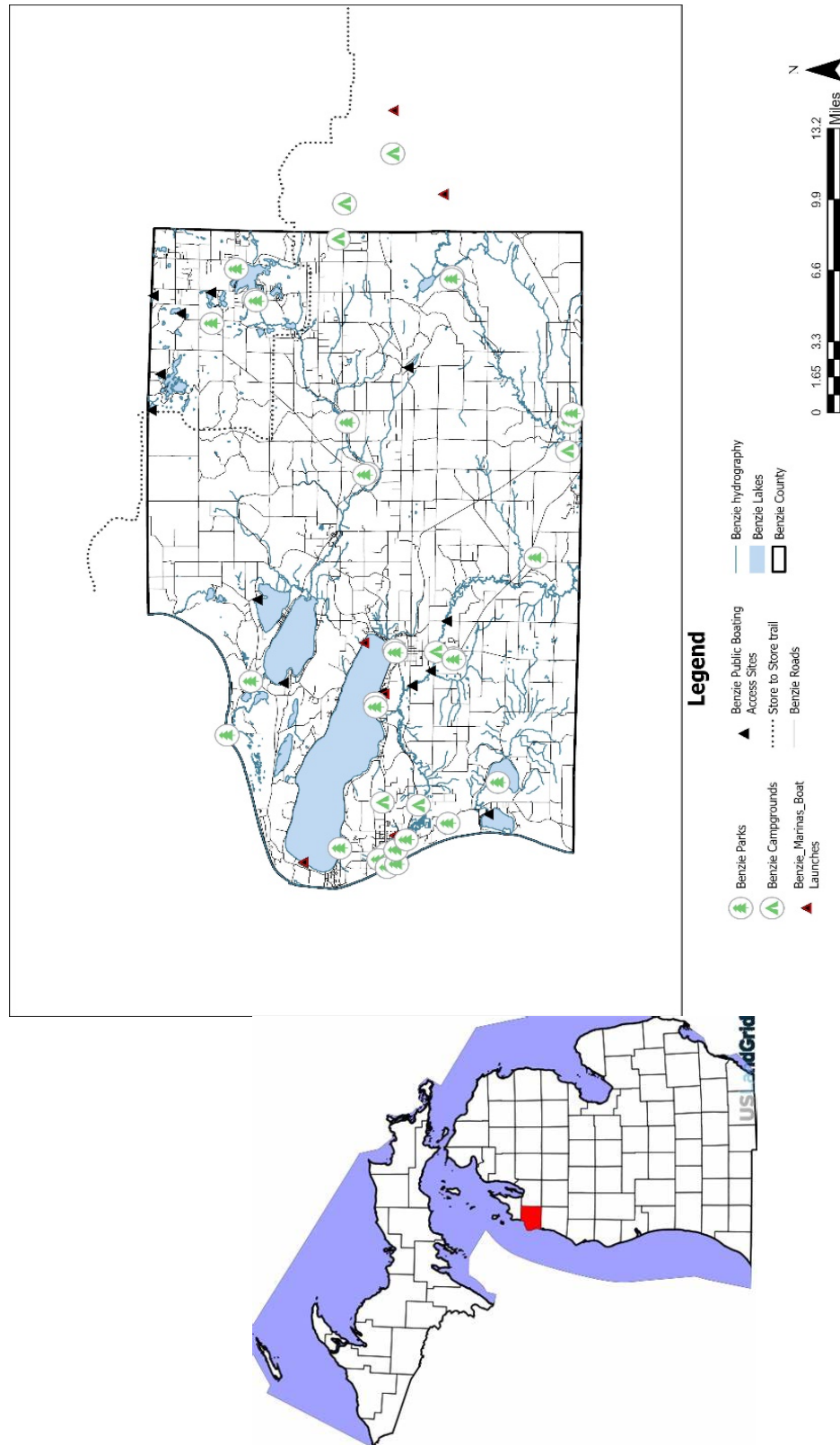
## **1.3. Introduction to Benzie County**

We will assist the Benzie County Recreation Commission and the County Board of Commissioners evaluate and assess the County's ability to have a recreational department, similar to other counties of a similar demographic in the State of Michigan.

The introduction of a parks and recreation department in Benzie County will not only contribute to the health and wellness of the community but create and maintain valuable green space as well. Communities with a 5-year plan on file with the Michigan Department of Natural Resources are eligible for numerous recreational grants as well as access to funding. An increase in funding will allow Benzie County to improve and expand its parks and recreation system. This is important because Benzie County relies on tourism to support their economy six months out of the year.

Benzie county is in the Northwestern lower peninsula along Lake Michigan (See Figure 1). While Benzie County is small geographically, it boasts a wealth of natural resources: it includes 25 miles of Lake Michigan shoreline, along with 135 inland lakes (over 1 acre in size), including Crystal Lake, which is the ninth largest lake in the State of Michigan. The County also includes parts of the Pere Marquette State Forest and the Sleeping Bear Dunes National Lakeshore. Receding glaciers carved out Crystal Lake and the valleys of the Platte and Betsie Rivers, and deposited sand atop bluffs, creating the renowned dunes along the shoreline. This unique topography has helped make Benzie County a recreation destination, providing plentiful opportunities for fishing, boating, alpine and cross-country skiing, snowmobiling, swimming, camping, hiking, and spectacular vistas.

**Figure 1. Map of Benzie County**



## **2. Benefits of Parks and Recreation**

The purpose of this literature review is to understand how parks and recreation are beneficial to residents. The review focuses on how organized green spaces would benefit rural counties like Benzie.. It also reviews the physical and mental health benefits, the environmental ramifications, and the economic benefits parks can have for residents. The following is a literature review on public parks and other organized greenspaces, their benefits, and their impact on a community. Organized parks can benefit communities and its residents in ways such as improvements in physical health, mental health, and a greater sense of community and the social connection. Parks can allow your residents to live longer, be happier, and cause them to want to stay in your region for the foreseeable future.

### **2.1. Physical Health Benefits**

Parks and other types of organized green spaces not only increase tourism and the aesthetic beauty of your county or region but have also been shown to have positive physical and mental health effects on the residents (Ambrey, 2016). This is why parks should not just be looked at as an investment in the tourism industry, but as an investment in your region. Promoting better physical and mental health across your community has many positive benefits for both the individual and the community, as healthier community members are more likely to help improve your community. The longer life expectancies that result also have many positive impacts on your region's residents and the community at large. Green spaces have been shown to reduce the occurrence of many diseases for area residents, specifically a dramatic downtick in the rate of respiratory diseases (Gascon et al.'s 2016).

Another study showed the risk of developing type 2 diabetes was significantly lower in areas where 40% or more of the area was considered green space (Astell-Burt et al., 2014). Physical activity has been shown to affect several other positive health outcomes, including reductions in the incidence of type 2 diabetes, with particularly strong impacts among those at highest risk (Helmrich, Ragland, and Paffenbarger 1994; Manson et al. 1992). One study associated moderate exercise with a reduction in diabetes incidence of 40 to 60 percent over three to four years for high-risk populations (Williamson, Vinicor, and Bowman 2004). Physical activity has similar effects on cancer incidence, particularly colon cancer, associated with a 30 to 40 percent reduction, and breast cancer, associated with a 20 to 30 percent reduction (Kampert et al. 1996; Lee 2003; Sternfield et al. 2009). All of these factors then lead to lower hospital bills and a more active, healthy workforce.

Parks also benefit residents by giving them an enjoyable, well maintained area to exist within nature. Park access is associated with increased levels of physical activity across several studies. Evidence shows that proximity to and use of parks, green space, and tree cover correlate with greater levels of physical activity (Eichinger et al. 2015; Pretty et al. 2005). Parks and green spaces generate more benefits when they are accessible and when users have a general sense of safety inside of these parks.

When parks are perceived as unsafe, users miss out on the positive outcomes of green spaces (Williams et al. 2020). Research shows that parks that are well maintained are safer, encourage community building, and promote civic trust (MacCleery, McConville, and Hammerschmidt 2021). Empirical evidence suggests that perceptions of park quality are positively associated with park use and subsequently with higher rates of physical activity among those with positive park perception (Bai et al. 2013). Green spaces provide better, more enjoyable areas to undertake physical activities, as well as providing areas to perform physical activities that could not be done without them (Coombes et al., 2010; Toftager et al., 2011; James et al., 2015). Having the facilities for events like this could also draw in larger events looking for locations capable of hosting them.

Some ways you can encourage the use of your park for physical activity and for your community to gain all the benefits it brings are through maintaining your parks, keeping them safe to use, and community outreach. People's perceptions of safety and their willingness to use a space can be affected by the design and maintenance of a park. It is well documented that architectural design of built and natural environments that maximize visibility, encourage activity, and improve accessibility can reduce crime and the fear of crime (Stanley 1977). The distribution of amenities such as lighting, call boxes, signage, and other features can eliminate deserted areas and reduce senses of loneliness (MacCleery, McConville, and Hammerschmidt 2021). Further, lack of maintenance contributes to the perception of unsafety. The presence of garbage, damaged equipment, and damaged trees deter park users, and on a 2020 survey, respondents did not feel safe visiting parks with these concerns (Lopez, Kennedy, and McPhearson 2020). Strong evidence also suggests recreational programming and outreach and communication activities have significant impacts on usage and rates of physical activity in parks. Rigorous research on the impact of marketing training for park staff and funds for outreach shows that dual approaches that combine park improvements and outreach campaigns significantly impact physical activity in parks and green spaces (Cohen et al. 2013; Hunter et al. 2019). Overall, encouraging physical activity in your parks can have many positive effects on your community and its residents as shown by these many studies.

## **2.2. Mental Health Benefits**

Parks and green spaces can also greatly help the mental health of residents. Green spaces and nature reduce stress and mental disorders directly improving public health (Ward Thompson et al., 2012; Annerstedt et al., 2012). Studies have also shown that purposely spending time in green space has been linked to better mental health and increased vitality (Van den Berg et al. 2016). These positive mental health effects caused by these areas can be gained from any sort of park, large or small. A study using images of small parks to gauge perceived likelihood for restoration (positive impact on mood) found that the share of ground surface covered by grass, visible tree cover, and park size were most correlated with restorative impact (Nordh et al. 2009). This anecdotal evidence suggests smaller parks may retain some of the positive impacts on mental health and well-being and social connectedness of larger parks. Another important

aspect of good mental health is having strong social connections with other people in one's life. Humans are very social creatures, so good connections with others and their community can be essential to staying mentally healthy. Lower levels of parks or other green spaces have been shown to be linked with greater feelings of loneliness, and the perception by residents of a lack of social support from their peers (Maas et al., 2009). This can lead to the development of more mental issues beyond this, such as depression. Communities with higher levels of green space and tree cover have lower usage of mental health services and treatments, controlling for demographics and economic status (Nutsford, Pearson, and Kingham 2013; Taylor et al. 2015). This study demonstrates that, on average. Communities with more parks have less need for these mental health services as they are generally more mentally healthy.

### **2.3. Public/Social Benefits**

Parks also provide great areas for assembly through their ability to be used by anyone. This can include anything from casual get-togethers between friends, the hosting of community events, or even larger-scale events that draw in visitors from around the state and country. Evidence suggests that parks positively affect social cohesion and sense of belonging (a critical measure in surveys of social cohesion), and engagement with park spaces can facilitate attachment to communities (Peters, Elands, and Buijs 2010). For example, statistically significant relationships were found between recreational and walking space availability and community satisfaction in rural Iowa (Payne and Schaumleffel 2008). While this can lead to better overall mental health for your residents, as explored above, strengthening social connections and a sense of belonging among your community can cause people to want to stay in the area longer and help it grow (Peters, Elands, and Buijs 2010). How parks are activated can also significantly impact their contribution to social health.

Environmental education programs, volunteer programs, and community-led stewardship are associated with increased levels of social capital (Krasny et al. 2015). In the survey this study used, social capital was defined as features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit (Krasny et al. 2015). The questions given to residents discuss social trust, informal socializing, diversity of friendship networks, civic leadership, and associational involvement, and eliminated faith-based engagement, giving and volunteering, conventional politics participation, protest politics participation, and equality of civic engagement (Krasny et al. 2015). Parks can also allow young people to connect with other individuals from different cultures they may have never met otherwise (Seeland et al., 2009), further solidifying parks and green spaces as places that encourage social interaction and stronger community bonds.

The benefits of park planning and design in maintaining community relations mentioned in various studies are worth examining. Benzie County has a large population of seniors and children, and more families come to the area each summer because of the popularity of the area's water programs. This is why green space and parks are relevant to public participation and social stability. Green spaces are inclusive

and allow people to feel a sense of belonging, so green building in Benzie County would allow the county residents to build relationships and promote healthy socialization (Julian D, et al. 2019).

Finally, creating more parks and inhabitable green space is one good way to fight against social inequality. Many of the health benefits we will discuss are contingent on community access to park space and on the quality of that space. Unfortunately, park spaces are inequitably distributed. Policies, procedures and decisions for parks and green space have been designed to concentrate quality parks and park programming in predominantly white and higher-income neighborhoods, leaving people of color and low-income residents lacking the same quality of amenities as white people (Yañez et al. 2021). Not every household has equal access to quality green spaces, and in fact, access is often constricted along racial and socioeconomic lines. Formerly redlined communities have the least access to green space (Nardone et al. 2021), communities that are still in large part inhabited by minorities. Building more parks, and nicer parks, would go a long way in combating these inequalities.

## **2.4. Environmental Benefits**

Connecting with nature during their travels can lead them to appreciate it more and become invested in protecting it (Brajcich, 2022). This can result in more money being put into the community from the outside to protect the environment and better equip its residents with ways to do so. Money from tourism can also be pumped directly back into protecting the nature which draws people in, and in many cases is required due to lack of funding (Brajcich, 2022).

Parks also allow residents to better connect with the nature around them. While they may already be surrounded by nature, a lack of paths, boat docks, bathrooms, and other amenities can be discouraging for more casual nature enthusiasts. The addition of these to areas previously not looked at as an ideal nature getaway spot can also create new locations to visit, exercise, and relax in that one may have never thought of before. Physical activity is associated with improvements to measures of health such as mood and self-reported well-being, and these factors can be increased even more when exercising in a more natural environment. One study compared participants who exercised while viewing images of nature with those who exercised without such exposure and found that activity benefits, such as resistance to disease, increased stamina, and longer overall lifespans, are stronger when in or viewing natural surroundings (Pretty et al. 2005). Volunteering on environmental projects in your local parks has been shown to be linked with increasing one's connectedness with nature, which has many positive mental and physical health benefits, as detailed above (Molsher and Townsend, 2015). Individuals have also been shown to have gained greater sense of self through natural environments, which can mean becoming more in tune with your own feelings, values, and goals in life (Peters et al., 2016).

## **2.5. Economic Benefits**

Parks and green space can also have useful economic benefits to the communities they are in as well. Increased economic activity can be spurred on by more visitors coming to the area where the parks are, but the parks also directly benefit residents. Increased investment in green spaces has been shown to lead to rises in property values in the surrounding community (Troy and Grove, 2008). This is due to green spaces being viewed as aesthetically pleasing, as well as something that is physically and mentally healthy to live near. The physical and mental health benefits of green space also help the economy, as healthier workers take less time off of work and are more motivated, increasing productivity for businesses in the area (Barton et al., 2009; Chalquist, 2009). These less thought-about effects on the economy are just as in building a strong solid economic base for your community, and do well to show that creating parks or designated green spaces is not simply an investment in the tourism industry. Environmental tourism can also have positive effects on your region's population, and the environment that is being visited. In total, wildlife tourism now supports nearly 22 million jobs around the world and contributes more than \$120 billion to global GDP (Brajcich, 2022). While tourism can be a great boost to an economy, healthy regions also do well not to entirely rely on it. For a region like Benzie, tourism may spike in the warmer, summer month, while dipping down low during the cold months, which can outnumber the warm months in a northern state like Michigan. For people that work in the tourism industry, their jobs are only viable for a certain number of months, and after the season has ended, many are left without income (Ingram, 2020). While it may not be as extreme of a shift in Benzie County as it would be elsewhere, any kind of seasonal jobs need to be accounted for when structuring a healthy economy.

## **2.6. Tourism Industry in Michigan**

According to the Michigan Economic Development Corporation & Networks Northwest, the tourism industry significantly impacts a community's economy. The tourism industry provides employment opportunities for people in many sectors, including hospitality, transportation, and entertainment. Tourism generates revenue for the government through taxes, such as sales tax, hotel tax, and other fees. In addition to promoting local businesses, tourism can also improve the economy of local communities, as well as improving public infrastructure and services funded by tourism revenue.

In 2021, visitation in Michigan exceeded over 117 million people. There was a significant increase in visitor activity this year. This is 93% of the total visitors we had in 2019. We are seeing numbers returning to what they were before the pandemic, which is very promising for Michigan's tourism industry. A total of \$24.0 billion was spent by tourists alone this year. When combined with capital expenditures and governmental support, the total economic impact on the state of Michigan reached a staggering \$43.1 billion. A total of 298,818 jobs were sustained and \$3.0 billion in tax revenue was generated this year due to tourism.



According to the seasonal population study from Networks Northwest (Figure 9), Benzie County welcomes, on average, roughly 235,000 tourists every year. Benzie County has a full-time population of approximately 18,000 residents year-round. This estimate of permanent residents is sourced from the 2020 census. This number inflates to roughly 60,000 during the summer months. There is a substantial increase in activity during the summer months among part-time residents; this group comprises approximately 10,000 residents who have second homes in the area. The basis for this estimation was calculating the number of seasonal homes located in the region provided by the United States Census Bureau. Using census data is the most precise way to calculate population estimates but transitory populations are much harder to count as they are difficult to record with surveys. The most accurate and efficient way to estimate this group's population is by surveying many lodging options in the area, such as hotels, campgrounds and short-term rentals. This study reports that Benzie County receives an average of 30,000 tourists each month from May to October. Although this methodology has proven to be the most practical way of gathering this specific information, for a place like Benzie County the actual total of visitors may be higher. People are believed to stay overnight in Traverse City, then drive down to Benzie for the amenities offered such as beaches, dunes and recreational activities.

## **2.7. Summary**

Parks and other types of organized green spaces, are extremely beneficial to any community as they can improve the physical and mental health of residents, as well as bringing them closer together through the strengthening of social capital. Parks can also bring people closer to nature in an inviting and safe way, as well as boost the local economy through increased tourism, the hosting of large events, and the improved health of the community.

### 3. Socio-Economic Profile for Benzie County

This section outlines Population, Race and Ethnicity, Unemployment, Median Household income, Educational Attainment, and Seasonal Population as they relate to Benzie County, as well as how they compare to the state of Michigan in some instances. These factors and their significance will be discussed along with planning and recreational implications. Understanding these factors will be vital to decide on the feasibility of hiring a recreational director for the county.

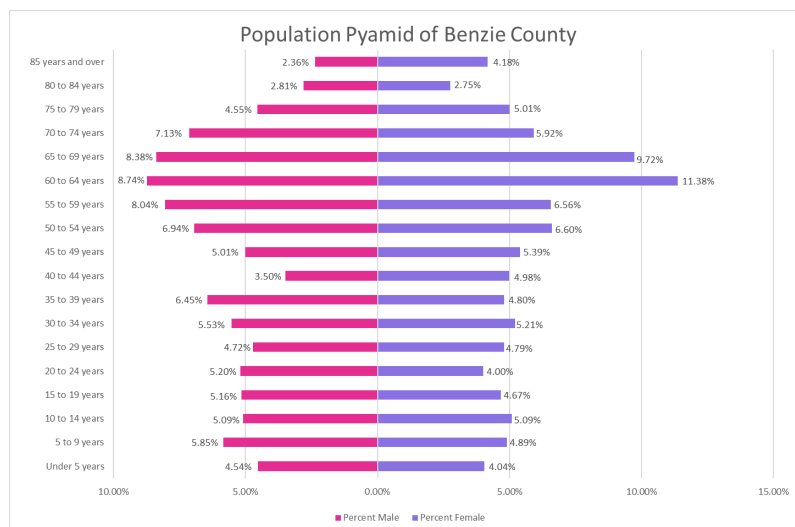
#### 3.1. Population

Benzie County is 319.7 square miles and has a population of 17,920 people, giving it a population density of 56.07 people per square mile. Benzie is in the northwest lower peninsula along Lake Michigan and borders Leelanau County on the north, Grand Traverse County on the east, and Manistee County on the south. Benzie County's population is mostly comprised of people over the age of 55 years old. As shown in the seasonal population study, residents often migrate the area to warmer climates such as Florida and Arizona in the cold months. The county also sees a rise in population in the summer months, as residents who leave in the winter months return, as well as many tourists visit for recreational opportunities in the summertime. Analyzing population over time, shown in Figure 3, we can see that Benzie is experiencing unprecedented growth since the year 2015.

##### 3.1.1. Age & Gender in Benzie County

In Figure 2, the largest age group in Benzie County are individuals aged between 60 and 69, followed by the age category 50-59. The smallest age group in Benzie County are the individuals 80 years and above.

**Figure 2: Population Pyramid of Benzie County**

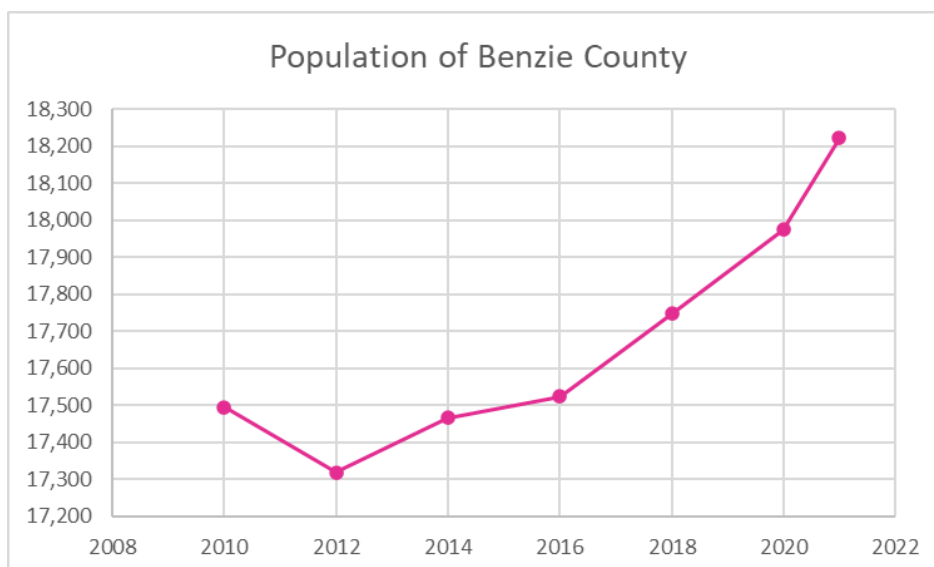


Source: US Census Data

### 3.1.2. Population over time in Benzie County

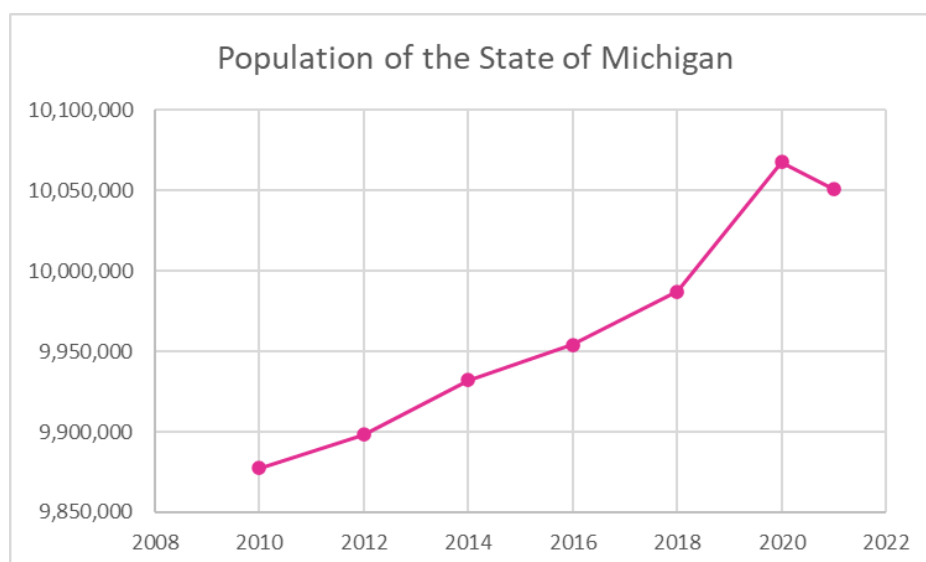
Figures 3 & 4 show how Benzie County's population has grown since 2012. Benzie follows a similar trend to the rest of the state, with the exception of the drop in population that the state experiences after 2020. In Benzie County, 92.30% of the population is white, with the second largest category of the population being Hispanic, at 2.53%.

**Figure 3: Population of Benzie County**



Source: US Census Data

**Figure 4: Population of the State of Michigan**

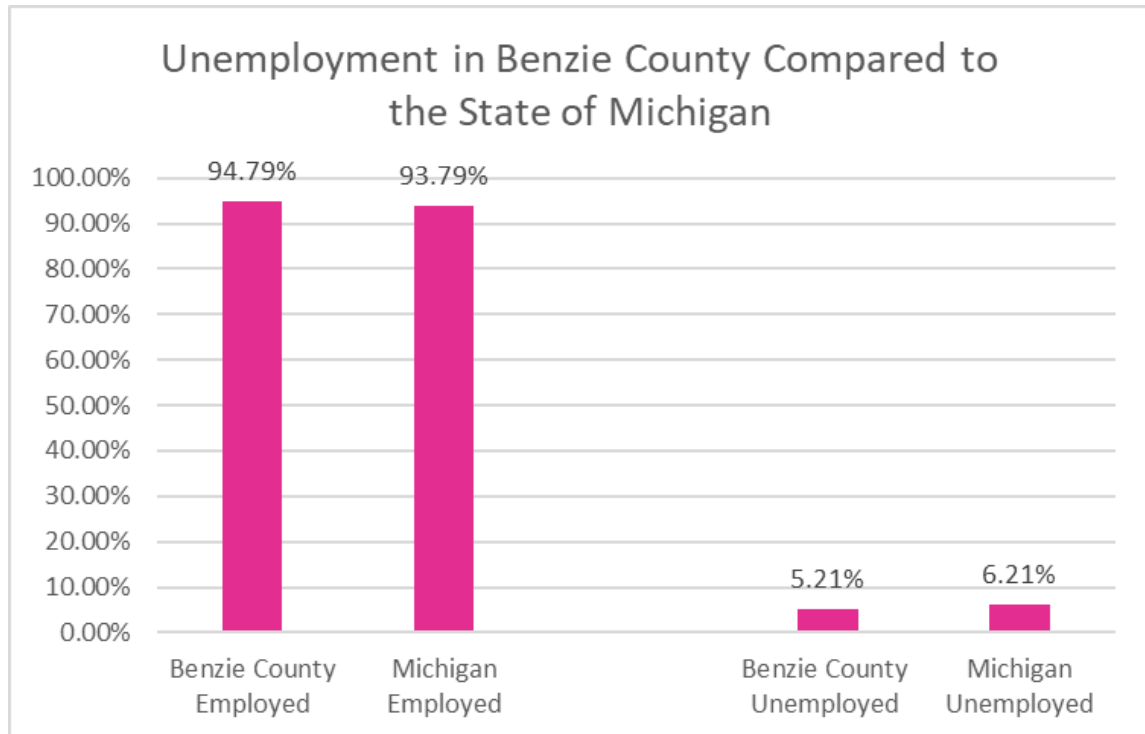


Source: US Census Data

### 3.1.3. Unemployment and Income in Benzie County compared to The State of Michigan

As shown in Figure 5, Unemployment in Benzie County is similar to the general State of Michigan, with 5.21% of Benzie County's population being unemployed, and slightly more for the general State of Michigan, at 6.21%.

**Figure 5: Unemployment in Benzie County compared to The State of Michigan**

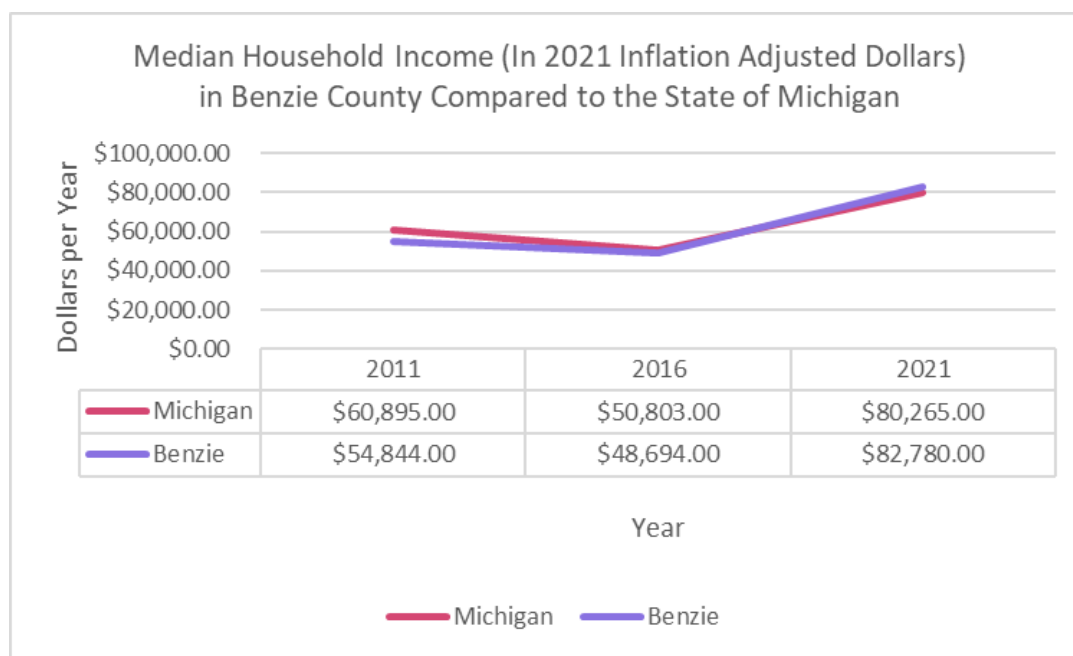


Source: Social Explorer

### 3.1.4. Median Household income in Benzie County compared to Michigan

Median Household per capita overtime for Benzie County is shown in Figure 6, showing how income drops slightly from 2011 to 2016, from \$60,895 to \$50,803.00 for the State of Michigan, and from \$54,844 to \$48,694 for Benzie County. After this, income increases from 2016 to 2021 for both Benzie County and the State of Michigan, with Michigan going from \$50,803 to \$80,265 and Benzie County rising from \$48,694 to \$82,780.

**Figure 2: Median Household income (In 2021 Inflation Adjusted Dollars) in Benzie County Compared to the State of Michigan**



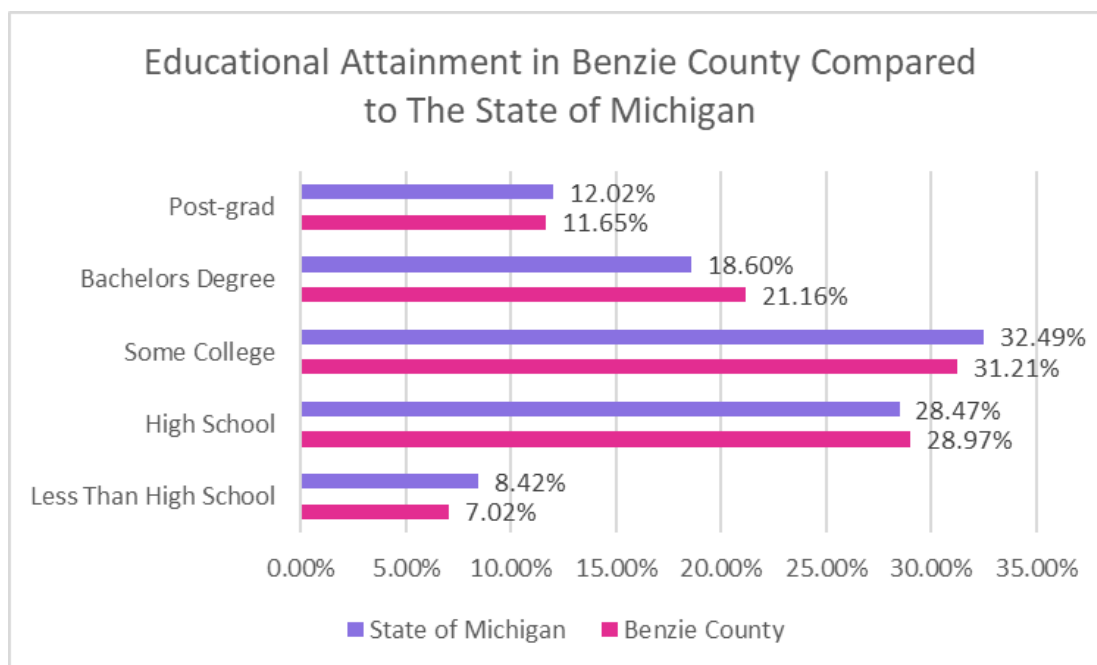
Source: US Census Data

### 3.1.5. Educational Attainment in Benzie County compared to The State of Michigan

As shown in Figure 7, Benzie County has a similar educational attainment to the State of Michigan. Benzie County has a slightly lower portion of the population with Less than High School attainment, only 7.02% of the population of Benzie County, compared to 8.42% of the population of the State of Michigan. Benzie County is close to the same as the State of Michigan with the percent of the population with a High School diploma, as 28.97% of Benzie County's population graduated high school and 28.47% of the State of Michigan's population graduated high school. Benzie County has a lower proportion of individuals with some college education, with 31.21% compared to 32.49% for the State of Michigan. Benzie County, however, does have a higher proportion of individuals with a Bachelor's degree than the State of Michigan in general, with 21.16% of the population having a Bachelor's degree, and only 18.60% of The State of Michigan's population with a Bachelor's degree. The State of Michigan in general has a

higher proportion of individuals with a post-grad education than Benzie County, with 12.02% compared to 11.65% for Benzie County.

**Figure 3: Educational Attainment in Benzie County Compared to The State of Michigan**



Source: Social Explorer

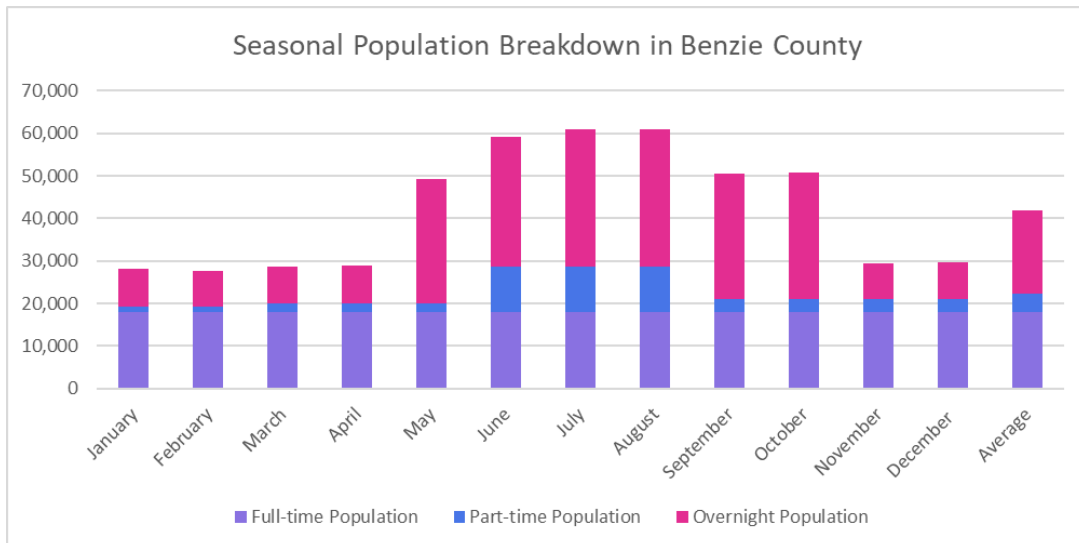
### 3.1.6. Seasonal Population

With over a quarter of Benzie County's population being over 55 years old, we notice an annual fluctuation in population during the summer months. The retired population winters in warmer states and return in the summer. The area also sees an increase in tourism during the summer months. Benzie County's recreation and cultural opportunities contribute to a significant seasonal population. Tourists and seasonal residents alike travel to the County for day trips, hotel stays, camping, or vacation homes to take advantage of the abundant recreational opportunities and thriving arts and cultural scene. A 2014 Northwest Michigan Seasonal Population Analysis, conducted by the Michigan State University Land Policy Institute, found that Benzie County's population grows by over 8,000 people during the summer months, representing 40% of the County's total population at that time. This is shown in Figure 8. The large influx of seasonal residents has a tremendous impact on The County's economy, and also on its recreation needs and opportunities. Activity at and demand for recreation facilities region- wide climbs dramatically, with boat launches, beaches, open spaces, and other outdoor facilities often experiencing large crowds. This increased activity brings added visitor spending at the region's businesses, but also comes with community costs in the form of added maintenance for trash removal, landscaping, and other activities. Transportation, too, is impacted, as traffic volumes increase and some

parking lots overflow. With limited recreation budgets and staff in many communities, some communities struggle to plan for, budget, and address seasonal usage patterns at local parks.

Source: Benzie County Joint Recreation and Cultural Plan 2020-2024

**Figure 4– Seasonal Population Breakdown in Benzie County**



Source: Networks Northwest

#### **4. Parks and Recreation in Benzie County**

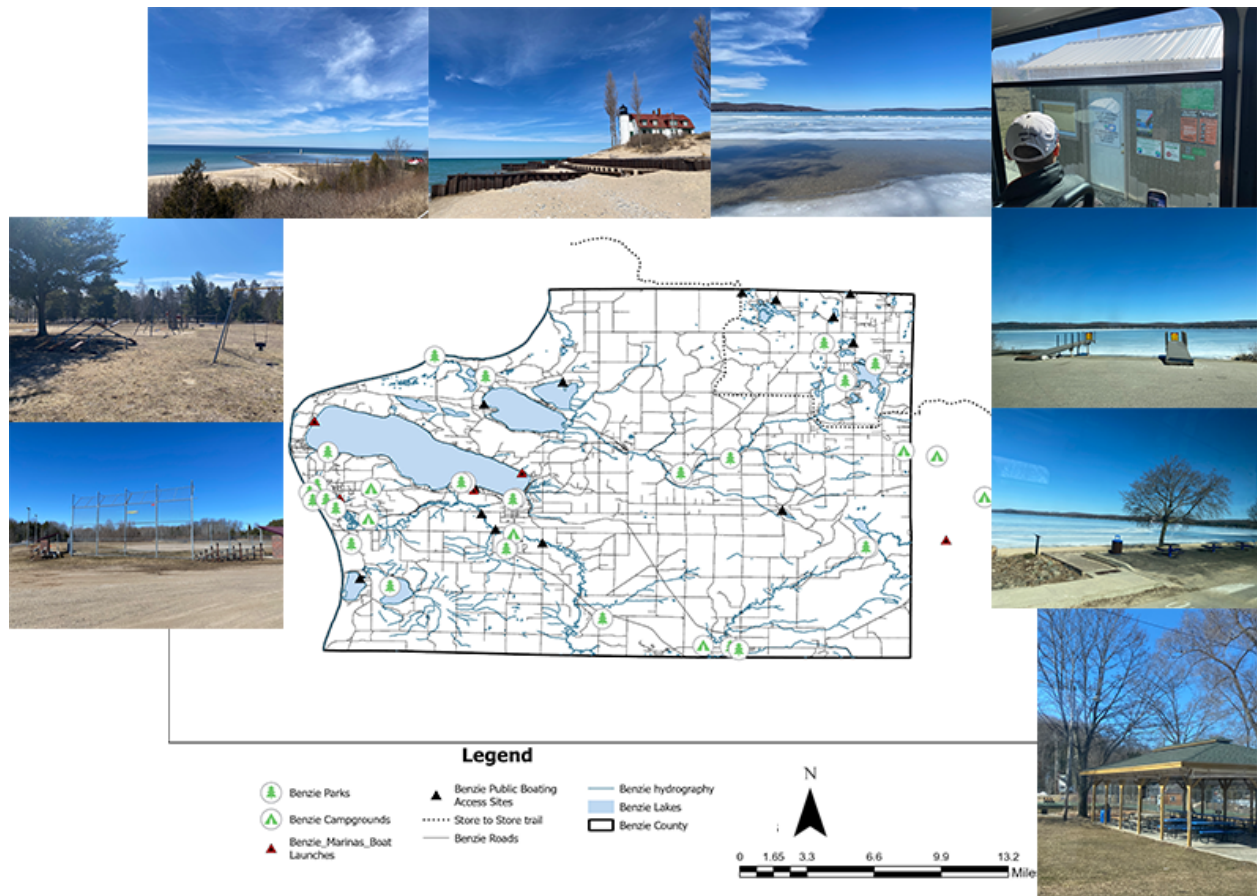
There are 48 parks in Benzie County with a total area of 410.53 acres and 17 lakes with an area of 14,948.6 acres. Maintaining a wide variety of recreational opportunities is the responsibility of the Benzie County Parks and Recreation Committee. Benzie County offers a wide variety of parks that provide amenities for year-round recreation. Crystal Lake is one of the best attractions in all of Benzie County. It is one of the deepest and largest lakes in Michigan and great for all water sports. The Frankfort Public Beach and Playground offers soft sandy beaches with incredible views of Lake Michigan along with public access to the lake. Sleeping Bear Dunes National Lakeshore is one of the most well-known natural attractions in all of Michigan. Sleeping Bear Dunes has miles of sandy beaches with 450-foot bluffs offering some of the most spectacular views in the entire state of Michigan. These three attractions are heavily used in the summer and are a key reason why tourists keep returning. Benzie County is also home to one of the highest rated ski resorts in Crystal Mountain. This well-known resort attracts ski and snowboard enthusiasts from all over the state. There are a multitude of parks and attractions accommodating every recreation opportunity desired in every season of the year.



## 5. Analysis of Strengths, Weaknesses, Opportunities, and Threats

During the site visit, the student team discussed the strengths, weaknesses, opportunities, and threats impacting recreation in Benzie County. Within this analysis, ‘Strengths’ are that our Benzie County Student Practicum Team has found included: a natural ecological environment, which is ideal for outdoor recreation. ‘Weaknesses’ are that the area has been severely affected by the Covid-19, and many parks and developable sites have been abandoned. ‘Opportunities’ are that summer is the time for Benzie County to attract visitors, and the government already has the money to rebuild the park. Finally, ‘Threats’ are that climate change could be a hurdle in achieving the goal of redeveloping the park because there are many winter activities that cannot be created with the warm weather.

### 5.1. Strengths:



### For Sport Field Parks:

- Species habitats: Piping plovers
- Amenities: Picnic tables, boat launch sites, self-wash boat station, baseball fields, tennis/pickleball courts, playground, dog park
- Local schools make use of sports fields for games and classes
- New elementary school being built next to the high school

### For Waterfront Parks:

- Many scenic spots: It has more than 20 parks and campgrounds to provide good views.

## **5.2. Weaknesses:**



For Sports fields parks:

- Parks are high maintenance, picking up trash, cleaning restrooms, maintaining sports facilities, etc.
- Many facilities are outdated.
- Losing trees in parks
- No pavement parking lots
- Snow and waste concrete are accumulated on the trails.
- There is no clear direction to lead people to find a sports class.

For waterfront parks:

- Not enough waste management infrastructure is present on beaches, leading to trash buildup.
- Lack of ramps for the physically disabled to use to enter the water.
- There are many dead branches on the beach.
- Maintenance management needs to consider such as trash through pump.
- In some places, buffers block lakes but no money to clean.

For trails:

- Walking and biking trails (15 mph speed limit) crosses the road (35 mph speed limit). There are no signs or lights to warn people.
- No lights or benches on the bike trail.

**5.3. Opportunities:**

- During summer months Benzie County may attract visitors for boating and family vacations.
- The government has already received the grant to hire the landscape architect to create the development master plan for the new waterfront parks.

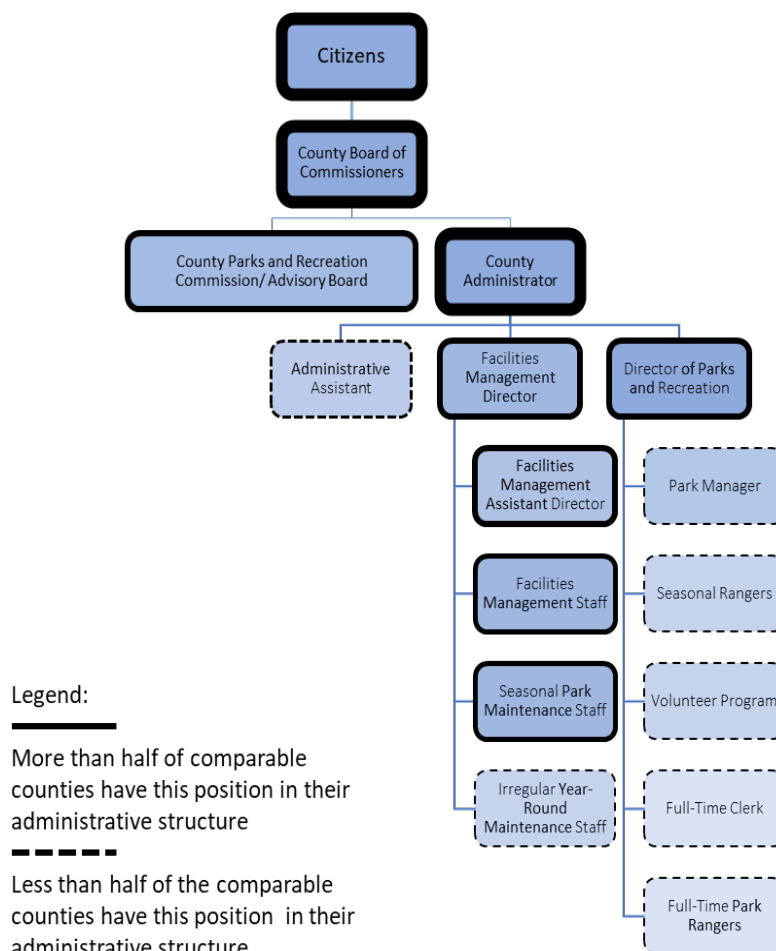
**5.4. Threats:**

- Not enough grant money to achieve goals.
- Climate Change:
- Academy Park's naturally forming ice rink has ice less frequently due to the inconsistent weather.
- The lake doesn't completely freeze over in winter, and many activities like ice fishing can't occur.

## 6. Administrative Structure and Funding Models

This chapter highlights some administrative structures used for parks and recreation departments in similar county governments. There are many organizational models and figure 9 displays a composite from eight counties. The bold outlined positions are frequently found positions, while the dashed positions are less commonly seen in administrative structures. The darkness of the position symbols indicates frequency, with the darkest occurring the most often. Of the counties compared, all are empowered by the County Board of Commissioners, and overseen by an appointed County Parks and Recreation Commission, as dictated by law. All are supervised by a County Administrator and Parks Director, and half have a Facilities Management Director, Facilities Managers, and seasonal maintenance staff.

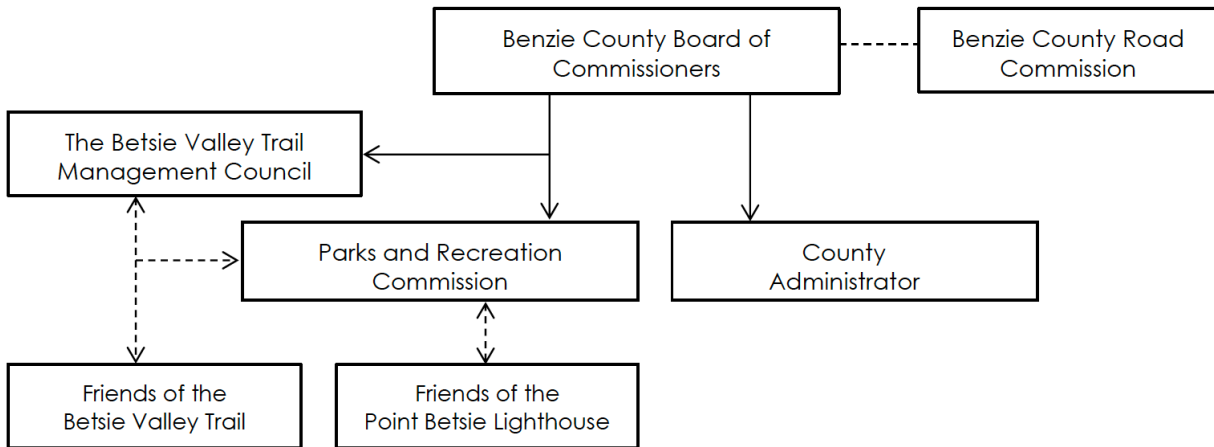
**Figure 9: Composite administrative structure from eight comparable counties**



Source: Van Buren County Feasibility Study, Michigan State University Practicum 2022.

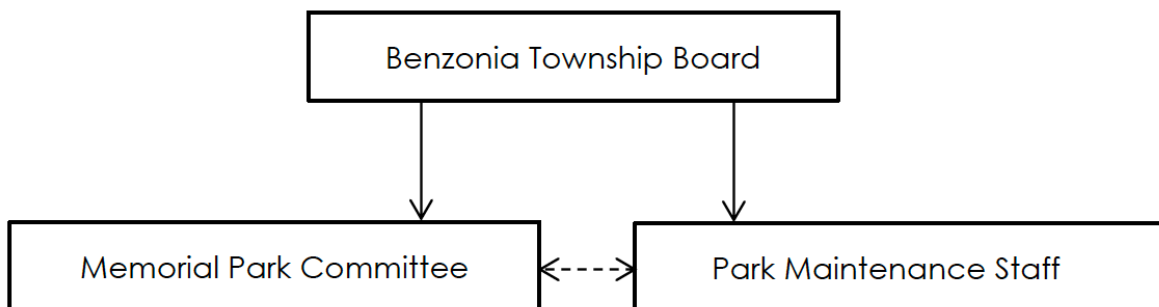
Figures 10 and 11 indicate the organizational flows for the Parks and Recreation commission in Benzie County. Figure 12 is a potential organizational chart for a potential parks and recreation department for Benzie County.

**Figure 10: Organizational chart of the Parks and Recreation Commission and how it fits into the county government**



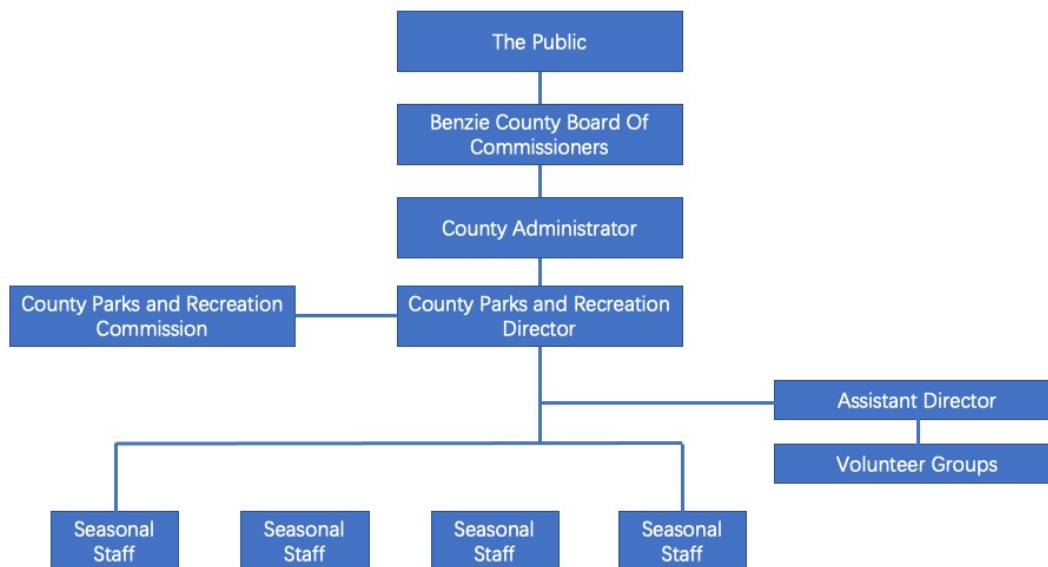
Source: Benzie County 5 Year Plan (2020-2024)

**Figure 11: The organizational chart for Township parks and recreation activities**



Source: Benzie County 5 Year Plan (2020-2024)

**Figure 12. Recommended Administrative Structure of a Parks and Recreation Department in Benzie County**



## 6.1. Funding for Michigan's state parks

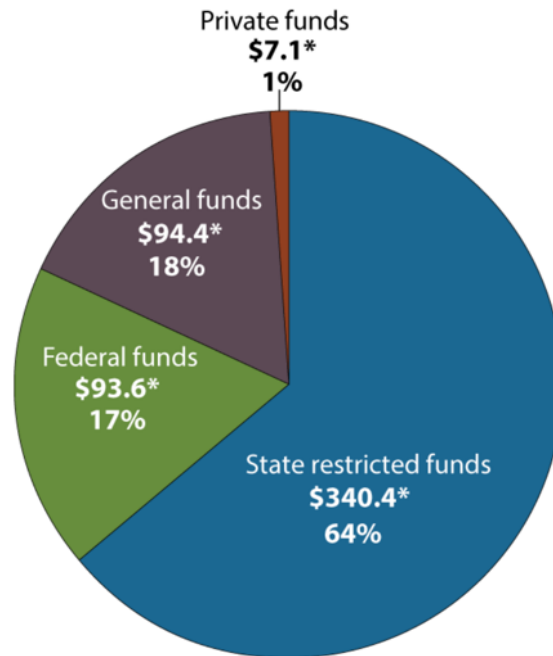
According to the Michigan Department of Natural Resources website (<https://www.michigan.gov/dnr/about/funding>), approximately 97% of state parks funding for operations and maintenance is generated by user fees and royalty revenues. This includes:

- Camping and lodging reservation fees (54%).
- Recreation Passport sales (25%).
- State-owned, oil, gas and mineral royalty revenues – which feed the Michigan State Parks Endowment Fund (12%).
- Concessions, shelter reservations and miscellaneous sources (6%).
- The final 3% is obtained by Michigan's general fund tax dollars (3%).

The following pie charts are from the DNR website and show how state parks are funded. The DNR uses about 50 different funds, many of which have unique revenue streams, including user fees paid by those who hunt, fish, snowmobile, camp, harvest timber, ride off-road vehicles, or otherwise take part in natural resource-based activities. The pie chart above shows how funding is allocated in Michigan's DNR for the 2023 budget. The numbers shown are in the millions.

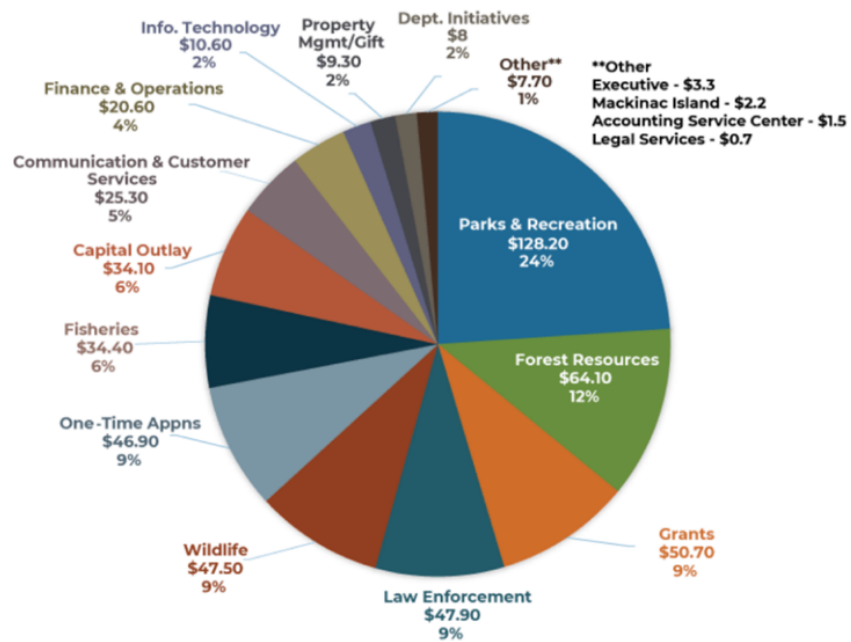


**Figure 13: Proportion Chart for State Park General Fundings**



Source: DNR Website

**Figure 14: Proportion Chart for State Park Special Fundings**



Source: DNR Website

Another way to look at the DNR's budget is how the major programs in the department are funded. Some DNR programs receive support from federal and General Fund revenues. However, DNR programs are largely supported by user fees and other natural resource revenue (hunting and fishing license sales, camping fees, timber sales, royalties on oil, gas, and mineral extraction, etc.)

## **6.2. PA 90 Millage**

The Michigan Public Act 90 of 1913 ([MCL 123.64](#)) allows a County Board of Commissioners to leverage an ad valorem property tax levy on property within the county of no more than 0.25 of 1 mill without a public vote for the strict purposes of:

- (a) Purchasing or acquiring by condemnation property for a public park, zoological garden, airport, or other authorized purpose
- (b) Improving or maintaining property purchased or acquired pursuant to subdivision
- (c) Contributing towards the maintenance of a public park, zoological garden, airport, or other authorized facilities which is owned or held in trust by a township, city, or village within the county or in the adjoining county

## **6.3. The American Rescue Plan Act- State and Local Fiscal Recovery Funds**

The Coronavirus State and Local Fiscal Recovery Funds (SLFRF) program authorized by the American Rescue Plan Act, delivers \$350 billion to state, territorial, local, and Tribal governments across the country to support their response to and recovery from the COVID-19 public health emergency. Through SLFRF, over 30,000 recipient governments across the country are investing these funds to address the unique needs of their local communities and create a stronger national economy by using these essential funds to:

- Fight the pandemic and support families and businesses struggling with its public health and economic impacts,
- Maintain vital public services, even amid declines in revenue resulting from the pandemic crisis,
- Build a strong, resilient, and equitable recovery by making investments that support long-term growth and opportunity.

Benzie County, if they have not already allocated their ARPA dollars, should consider allocating some to establishing their Parks and Recreation department, or maintaining parks within the community. For example, relating to the added maintenance costs for trash removal or landscaping in the summer months when tourism increases. This would fall under promoting general wellbeing, as well as promoting growth and opportunity in Benzie County.



## 6.4. Comparable Counties Budgets

The Comparable counties budgets provide an in-depth analysis of county budgets for Parks and Recreation Departments. These counties were chosen by the client, for their likeness in location to Benzie County as well as their established parks and Recreation department. This data can be used to determine the budget for Benzie County and what the county should expect to spend on Parks and recreation activities.

As a part of our research, the team reviewed the budgets of Emmet County, Marquette County, Otsego County, and other rural counties within Michigan for parks and recreation dollars. These counties were selected as comparable due to having established parks and recreation departments.

**Table 1: Population Density**

	Size (km <sup>2</sup> )	Population	Population Density
Emmet County	2,285	31,437	13.8
Marquette County	8,871	64,634	7.3
Otsego County	1,362	23,301	17.1
Benzie County	832	15,998	19.2

Table one displays the population density for Emmet, Marquette, Otsego, and Benzie counties. Calculating the population density is important because even though Benzie is the smallest county by population, Benzie's population density is the largest.

**Table 2: Revenues and Expenditures per Resident**

	Revenue (\$)	Revenue per Citizen	Expenditures (\$)	Expenditures per Citizen	Millage Used?
Emmet County	1,146,526	33.50	1,211,359	35.39	No
Marquette County	750,650	11.61	950,650	14.71	No
Ostego County	624,627	24.70	580,582	22.96	Yes

The total revenue and expenditure for each county are shown in table 2. Determining the revenue per citizen was done by dividing the revenue and expenditures by the population. We can then make assumptions from this table on how much Benzie should budget per citizen.

**Table 3: Revenues by Source**

Revenue	Administration (\$)	Programming (\$)
---------	---------------------	------------------

Emmet	309,734	836,792
Marquette	143,030	607,620
Otsego	523,654	240,225

Table 3 displays the revenue for each county broken down between administrative and programming. Administration revenue is pulled from taxes and/or grants, while programming revenue may come from park and campground fees, rec sports, etc.

**Table 4: Expenditures by Source**

Expenditures	Administration (\$)	Programming (\$)
Emmet	113,307	1,098,052
Marquette	375,575	575,075
Otsego	59,105	448,554

Table 4 shows the expenditure data for all three counties. This can be broken down into expenditure from administration, including payroll for staff, and programming, which includes park upkeep, development, and the cost of running special events within parks.

According to the Benzie County Five Year Parks and Recreation Plan, the budget for 2021-22 is approximately \$20,000 as shown in Table 5. If the County chooses to have a more formal Parks and Recreation Department with appropriate staff, they could pursue the PA 90 Millage described earlier in this section.

**Table 5. 2021-2022 Adopted Budget**

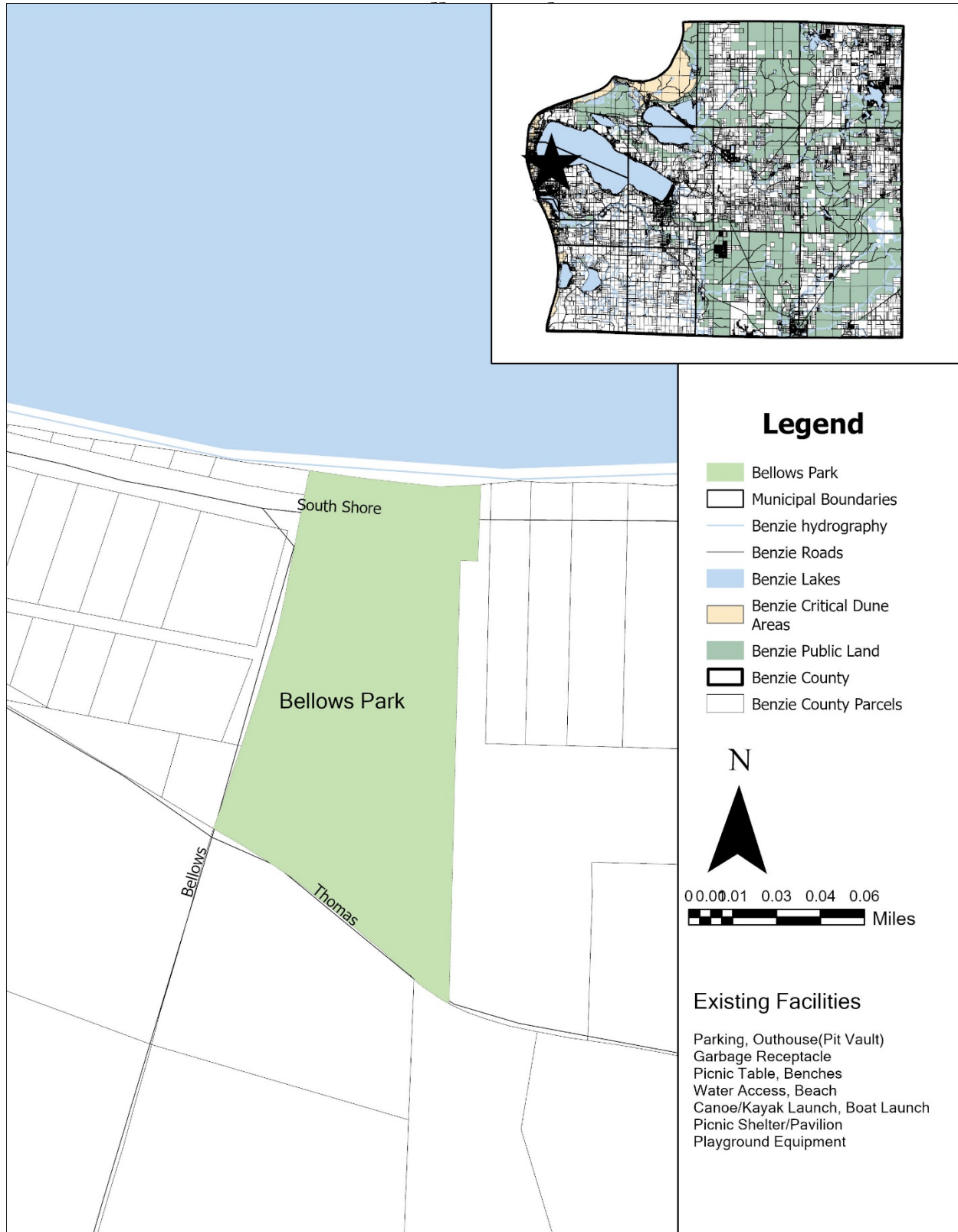
Per Diem	\$4,000.00
Office Supplies	\$50.00
Contracted Services	\$15,000.00
Recording Services	\$900.00
Travel	\$650.00
Printing & Publishing	\$150.00
Dues and Registration	\$100.00
<b>Total Budget</b>	<b>\$20,850.00</b>

## **7. Recommendations**

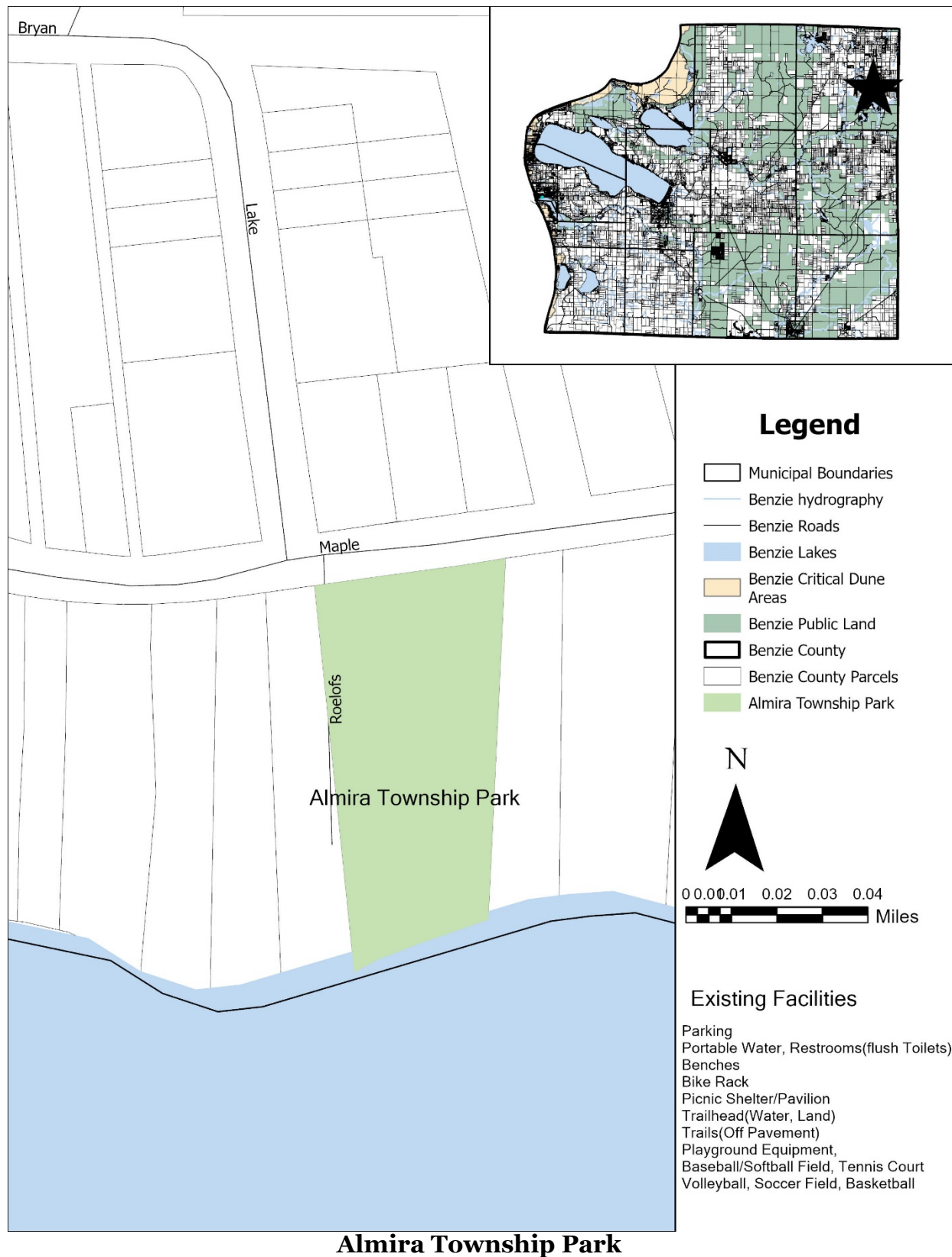
- Consider using a Millage to raise funds for a Parks and Recreation Department.
- Consider allocating American Rescue Plan Act (ARPA) dollars towards establishing a parks and recreation department.
- Sport fields in all parks can be grouped into one online system, allowing people to find available fields more easily through online booking or information search.
- Sport Field system can also work with schools to rent out space for school events to get money.
- Raise money by hosting low-cost, locally specific events such as water events/races, 5K runs, farmers markets, or food truck festivals.
- Implement educational signs and programs to increase interaction with the park.
- Allow to rent space in the park (i.e. camping or activities) but submit a form and charge a small fee (\$15- \$25).
- Use social media to promote upcoming events and facilities in the park to promote tourism (Instagram, Facebook).
- Promote the park with eye-catching, professional images on social media and the department's website.

## **8. Inventory of Benzie Parks / County Brochure Maps**

The following inventory of Benzie Parks, and the creation of a county brochure map was completed in ArcGIS. Understanding the potential workload for a recreation department is a crucial part of the process. Having a current inventory of park parcels in the county can speed up the development of position description. The recreational Department may be hired from outside the county and would need to familiarize themselves with the range of recreational facilities within Benzie. Additionally, these maps will aid in creating a master plan and recreation plan which are up to date and reflective of public sentiments. For example, a DNR grant requires the community to have a 5-year plan on file with the DNR. To do this, maps were created of current GIS Data to map the entire county as a reference. I The report includes a map of Benzie's physical features such as roads, trails, and waterways. Shown below, are some examples of what these individual park maps look like. The rest of the maps created can be found in the appendices of this report.



## Bellows Park



\*All Maps located in Appendices

## **References**

- Ambrey, C. L. (2016). An investigation into the synergistic wellbeing benefits of greenspace and physical activity: Moving beyond the mean. *Urban Forestry and Urban Greening*, 19, 7–12.
- Astell-Burt, T., Feng, X. and Kolt, G. S. (2014). Is neighborhood green space associated with a lower risk of type 2 diabetes? Evidence from 267,072 Australians. *Diabetes Care*, 37, 197–201.
- Bai, Hua, Sonja A. Wilhelm Stanis, Andrew T. Kaczynski, and Gina M. Besenyi. 2013. “Perceptions of Neighborhood Park Quality: Associations with Physical Activity and Body Mass Index.” *Annals of Behavioral Medicine* 45 (suppl. 1): S39–48.
- Barton, J., Hine, R. and Pretty, J. (2009). The health benefits of walking in greenspaces of high natural and heritage value. *Journal of Integrative Environmental Sciences*, 6(4), 261-278.
- Brajcich, Kaitlyn. “How Tourism Benefits Nature and Wildlife.” *Sustainable Travel International*, 30 Nov. 2022, <https://sustainabletravel.org/how-tourism-benefits-nature-and-wildlife/>.
- Chalquist, C. (2009). A look at the ecotherapy research evidence. *Ecopsychology*, 1(2), 64-74.
- Cohen, Deborah A., Bing Han, Kathryn Pitkin Derosé, Stephanie Williamson, Terry Marsh, and Thomas L. McKenzie. 2013. “Physical Activity in Parks: A Randomized Controlled Trial Using Community Engagement.” *American Journal of Preventive Medicine* 45 (5): 590–97.
- Coombes, E., Jones, A. P. and Hillsdon, M. (2010). The relationship of physical activity and overweight to objectively measured green space accessibility and use. *Social Science and Medicine*, 70, 816–822.
- Eichinger, Michael, Sylvia Titze, Bernd Haditsch, Thomas E. Dorner, and Willibald J. Stronegger. 2015. “How are Physical Activity Behaviors and Cardiovascular Risk Factors Associated with Characteristics of the Built and Social Residential Environment?” *PLoS One* 10 (6): e0126010.
- Gascon, M., Triguero-Mas, M., Martínez, D., Dadvand, P., Rojas-Rueda, D., Plasència, A. and Nieuwenhuijsen, M. J. (2016). Residential green spaces and mortality: A systematic review. *Environment International*, 86, 60–67.
- Hunter, Ruth Fiona, Claire Cleland, Anne Cleary, Mariël Droomers, Benedict W. Wheeler, Danielle Sinnett, Mark J. Nieuwenhuijsen, and Matthias Braubach. 2019. “Environmental, Health, Wellbeing, Social and Equity Effects of Urban Green Space Interventions: A Meta-narrative Evidence Synthesis.” *Environment International* 130: 104923.

- Ingram, Marlee. "Tourism: The Advantages, Disadvantages and How to Properly Travel." The Borgen Project, Kim Thelwell <https://Borgenproject.org/WpContent/Uploads/Logo.jpg>, 10 Nov. 2020, <https://borgenproject.org/advantages-disadvantages-of-tourism/>.
- James, P., Banay, R. F., Hart, J. E. and Laden, F. (2015). A review of the health benefits of greenness. *Current Epidemiology Reports*, 2, 131–142.
- Julian D., Cathy H., Will E., Tony G., (2019). *Space to Thrive*. Sheffield Hallam University
- Kampert, James B., Steven N. Blair, Carolyn E. Barlow, and Harold W. Kohl III. 1996. "Physical Activity, Physical Fitness, and All-Cause and Cancer Mortality: A Prospective Study of Men and Women." *Annals of Epidemiology* 6 (5): 452–57.
- Krasny, Marianne E., Leigh Kalbacker, Richard C. Stedman, and Alex Russ. 2015. "Measuring Social Capital among Youth: Applications in Environmental Education." *Environmental Education Research* 21, no. 1 (2015): 1-23.
- Lee, I-Min. 2003. "Physical activity and cancer prevention—data from epidemiologic studies." *Medicine and science in sports and exercise* 35, no. 11 (2003): 1823-1827.
- Lopez, Bianca, Christopher Kennedy, and Timon McPhearson. 2020. "Parks are Critical Urban Infrastructure: Perception and Use of Urban Green Spaces in NYC During COVID-19." (2020).
- Maas J., van Dillen, S. M. E., Verheij, R. and Groenewegen, P. P. (2009). Social contacts as a possible mechanism behind the relation between green space and health. *Health and Place*, 15(2), 586–95.
- MacCleery, Rachel, Megan McConville, and Sara Hammerschmidt. 2021. "Five Characteristics of High-Quality Parks." Urban Land Institute. (2021).
- Molsher, R. and Townsend, M. (2015). Improving Wellbeing and Environmental Stewardship Through Volunteering in Nature. *Ecohealth*, 13(1), 151–155.
- Nardone, Anthony, Kara E. Rudolph, Rachel Morello-Frosch, and Joan A. Casey. 2021. "Redlines and Greenspace: The Relationship between Historical Redlining and 2010 Greenspace across the United States." *Environmental Health Perspectives* 129, no. 1 (2021): 017006.
- Nordh, Helena, Terry Hartig, C. M. Hagerhall, and Gary Fry. 2009. "Components of Small Urban Parks That Predict the Possibility for Restoration." *Urban Forestry & Urban Greening* 8, no. 4 (2009): 225-235.
- Nutsford, D., A. L. Pearson, and S. Kingham. 2013. "An Ecological Study Investigating the Association between Access to Urban Green Space and Mental Health." *Public Health* 127 (11): 1005–11.



- Payne, Laura L., and Nathan A. Schaumleffel. 2008. "Relationship Between Attitudes Toward Rural Community Parks and Recreation and Rural Community Satisfaction." *Journal of Park & Recreation Administration* 26 (3).
- Peters, Karin, Birgit Elands, and Arjen Buijs. 2010. "Social Interactions in Urban Parks: Stimulating Social Cohesion?." *Urban Forestry & Urban Greening* 9 (2): 93–100.
- Peters, K., Stodolska, M. and Horolets, A. (2016). The role of natural environments in developing a sense of belonging: A comparative study of immigrants in the U.S., Poland, the Netherlands and Germany. *Urban Forestry and Urban Greening*, 17, 63–70.
- Pretty, Jules, Jo Peacock, Martin Sellens, and Murray Griffin. 2005. "The Mental and Physical Health Outcomes of Green Exercise." *International Journal of Environmental Health Research* 15 (5): 319–37.
- Seeland, K., Dübendorfer, S. and Hansmann, R. (2009). Making friends in Zurich's urban forests and parks: The role of public green space for social inclusion of youths from different cultures. *Forest Policy and Economics*, 11, 10–17.
- Sternfeld, Barbara, Erin Weltzien, Charles P. Quesenberry, Adrienne L. Castillo, Marilyn Kwan, Martha L. Slattery, and Bette J. Caan. 2009. "Physical Activity and Risk of Recurrence and Mortality in Breast Cancer Survivors: Findings from the LACE study." *Cancer Epidemiology and Prevention Biomarkers* 18 (1): 87–95.
- Taylor, Mark S., Benedict W. Wheeler, Mathew P. White, Theodoros Economou, and Nicholas J. Osborne. 2015. "Research note: Urban Street Tree Density and Antidepressant Prescription Rates—A Cross-Sectional study in London, UK." *Landscape and Urban Planning* 136: 174–79.
- Toftager, M., Ekholm, O., Schipperijn, J., Stigsdotter, U., Bentsen, P., Gronbaek, M., Randrup, T. B. and Kamper-Jorgensen, F. (2011). Distance to green space and physical activity: A Danish national representative survey. *Journal of Physical Activity and Health*, 8, 741-749.
- Troy, A. and Grove, J. M. (2008). Property values, parks, and crime: A hedonic analysis in Baltimore, MD. *Landscape and Urban Planning*, 87(3), 233-245.
- Van den Berg, A., Maas, J., Verheij, R. A. and Groenewegen, P. P. (2010). Green space as a buffer between stressful life events and health. *Social Science and Medicine*, 70, 1203–1210.
- Ward Thompson, C., Roe, J., Aspinall, P., Mitchell, R., Clow, A., Miller, D., 2012. More green space is linked to less stress in deprived communities: evidence from salivary cortisol patterns. *Landscape and Urban Planning* 105(3), 221-229.

Williams, Tim G., Tom M. Logan, Connie T. Zuo, Kevin D. Liberman, and Seth D. Guikema. 2020. "Parks and Safety: A Comparative Study of Green Space Access and Inequity in Five US Cities." *Landscape and Urban Planning* 201: 103841.

Yañez, Elva, Manal J. Aboelata, Alessandro Rigolon, and Rachel Bennett. 2021. "Changing the Landscape: People, Parks, and Power." The Prevention Institute.

"Economic Impact of Tourism in Michigan - 2021.PDF: Powered by Box." *Box*, Dec. 2022, <https://medc.app.box.com/s/w58wfd5nourav9qom7m8c4rr01glt3ur>.

## **Figure and Table References**

Rizzob. 2021. "BUDGET REPORT FOR ANTRIM COUNTY". Antrim County

Kpriessnitz. 2021. "2022 BUDGET PROJECTION". NEXT YEAR / CURRENT YEAR BUDGET ANALYSIS. Bay County 2022.

"2022 Amended Budget Resolution And General Appropriations Act". Emmet County 2021.

"Fiscal Year 2022 Adopted Budget". The County of Isabella

"2023 Budget". The County of Marquette 2022.

"OCR 22-28, Fiscal Year 2023 Budget Resolution And General Appropriations Act". The county of Otsego

# Appendices

## A. County Budgets

Emmet County				
	Revenue\$	Expenditures\$	Revenue %	Expenditures %
Administration	309,734	113,307	0.27	0.09
Non-Motorized Trails	100	27,874	0.00	0.02
Alanson Locks	40,721	44,536	0.04	0.04
Programming	5,912	70,477	0.01	0.06
Camp Pet-O-Sega	387,505	304,750	0.34	0.25
Headlands & Cecil Bay	227,372	323,856	0.20	0.27
Fairgrounds/Community Center	81,708	255,914	0.07	0.21
Lighthouse	93,474	70,645	0.08	0.06

Marquette County		
	Revenue\$	Expenditures\$
Land Acquisition	500	500
Park Fund	375,075	575,075
Park Fund Administration	143,030	
Park Fund Perkins Park	153,300	317,125
Parks Fund Big Bay Harbor	19,245	36,500
Park Fund Little Trout Lake Park		3,300
Park Fund Sugarloaf	59,500	18,150

Otsego County		
	Revenue \$	Revenue %
Property Taxes	358,658	0.58
Special Items/trans	164,996	0.27
Parks	227,600	0.37
Rec Programs	12,625	0.02
Total Revenue	615,641	1.00
County Parks	275,879	0.54
Community Center	172,675	0.34
Capital Outlay	59,105	0.12
Total Appropriations	507,659	1.00

## B. GIS Maps

