Office of National Marine Sanctuaries
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Wisconsin Study Area Profile
2000 to 2014

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Abstract

This report will support the designation process for the proposed National Marine Sanctuary in Lake Michigan off the shores of Wisconsin. A study area profile includes a characterization of the area where the social and economic impacts of resource use take place and an overview of what is currently known about the uses of the natural and cultural resources that exist within the study area. For this application, there are two alternatives being considered and one is sanctuary management's preferred alternative. The preferred alternative includes the primary counties of Manitowoc, Ozaukee and Sheboygan and secondary counties of Milwaukee and Washington. The other alternative also referred to as study area 2 includes all that contained in study area 1 with the addition of Kewaunee as a primary county. For where the economic and social impacts take place, study area profile looks at the population measurements, demographic profiles and economic profiles of each study area in comparison to the state of Wisconsin and the U.S. For the overview of the uses of the natural and cultural resources within each study area, information was obtained on the economic impacts of tourist uses, the number of fishing and hunting licenses, the number of beaches and grants for maintaining the beaches, the number of state recreation areas, and the number of maritime attractions. Although county and study area specific information was not available for recreation and tourist use of the natural and cultural resources of the study areas, we obtained information from a state-wide study that contains estimates of participation by recreation activity and the trends in those activities. This will aid future researchers in filling gaps in information for the study areas.

Key Words

Population, Population Density, Population Growth, Population Density, Per Capita Income, Unemployment, Unemployment Rate, Gender, Race/Ethnicity, Age, Labor Force, Personal Income, Employment, Proprietors Income, Proprietors Employment, Personal Income, Personal Income by Industry, Employment by Industry. Economic impact of tourism, state recreation areas, beaches, maritime attractions.

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Chapter 1: Population and Economy of the Study Areas

Introduction

This report will support the designation process for the proposed National Marine Sanctuary in Lake Michigan off the shores of Wisconsin. A Study Area profile includes a characterization of the area where the social and economic impacts of resource use take place and an overview of what is currently known about the uses of the natural and cultural resources that exist within the study area. For this application, there are two alternatives being considered and one is sanctuary management's preferred alternative. Both alternatives have to be assessed in Environmental Impact Statement (EIS), Regulatory Impact Review (RIR) and Regulatory Flexibility Analysis (impacts on small entities—primarily small business) of proposed regulations. Therefore, the characterization will be done for two study areas as defined below. The study area profile serves as the "Description of the Affected Environment-Socioeconomics" in the EIS.

Study Area Definitions. Primary Counties are counties along the shoreline where the primary social and economic (socioeconomic) impacts take place from use of cultural and natural resources.

Secondary Counties are counties where a significant portion of economic impact takes place via the multiplier impacts of spending in the primary counties. These counties are determined by reviewing the Census of Inter-county Commuters at the U.S. Census Bureau. This file shows for each county where people work and the county (ies) where they live. The objective is to account as fully as practical the amount of "local" economic activity that is associated with spending related to the use of the cultural and natural resources. We use a threshold of 4,000 to 5,000 workers to reach a significant level to include a county as a secondary county. Figure 1.1 shows a map with all the counties highlighted in dark red that currently define the "Study Area 1" for the Wisconsin Lake Michigan. Figure 1.2 shows a map with all the counties highlighted in dark red that currently define the "Study Area 2" for the Wisconsin Lake Michigan proposed Sanctuary.

Study Area #1 (Preferred Alternative)

Primary Counties (3)
Manitowoc
Ozaukee
Sheboygan

Secondary Counties (2)
Milwaukee
Washington

Study Area #2 (Other Alternative)

Primary Counties (4)
Manitowoc
Ozaukee
Sheboygan
Kewaunee

Secondary Counties (2)
Milwaukee
Washington

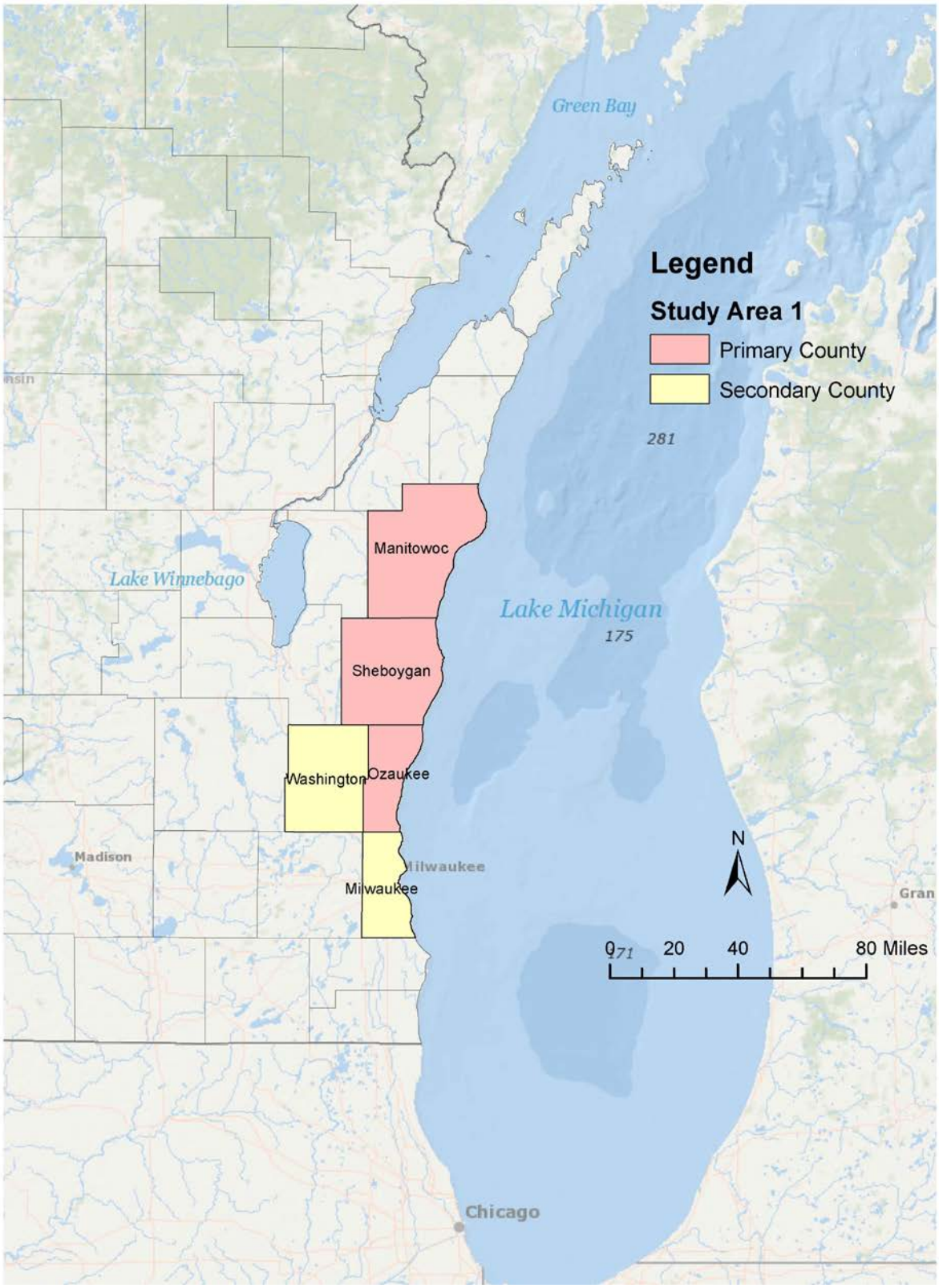

Figure 1.1. Counties included in the proposed Wisconsin Lake Michigan Sanctuary study area 1.

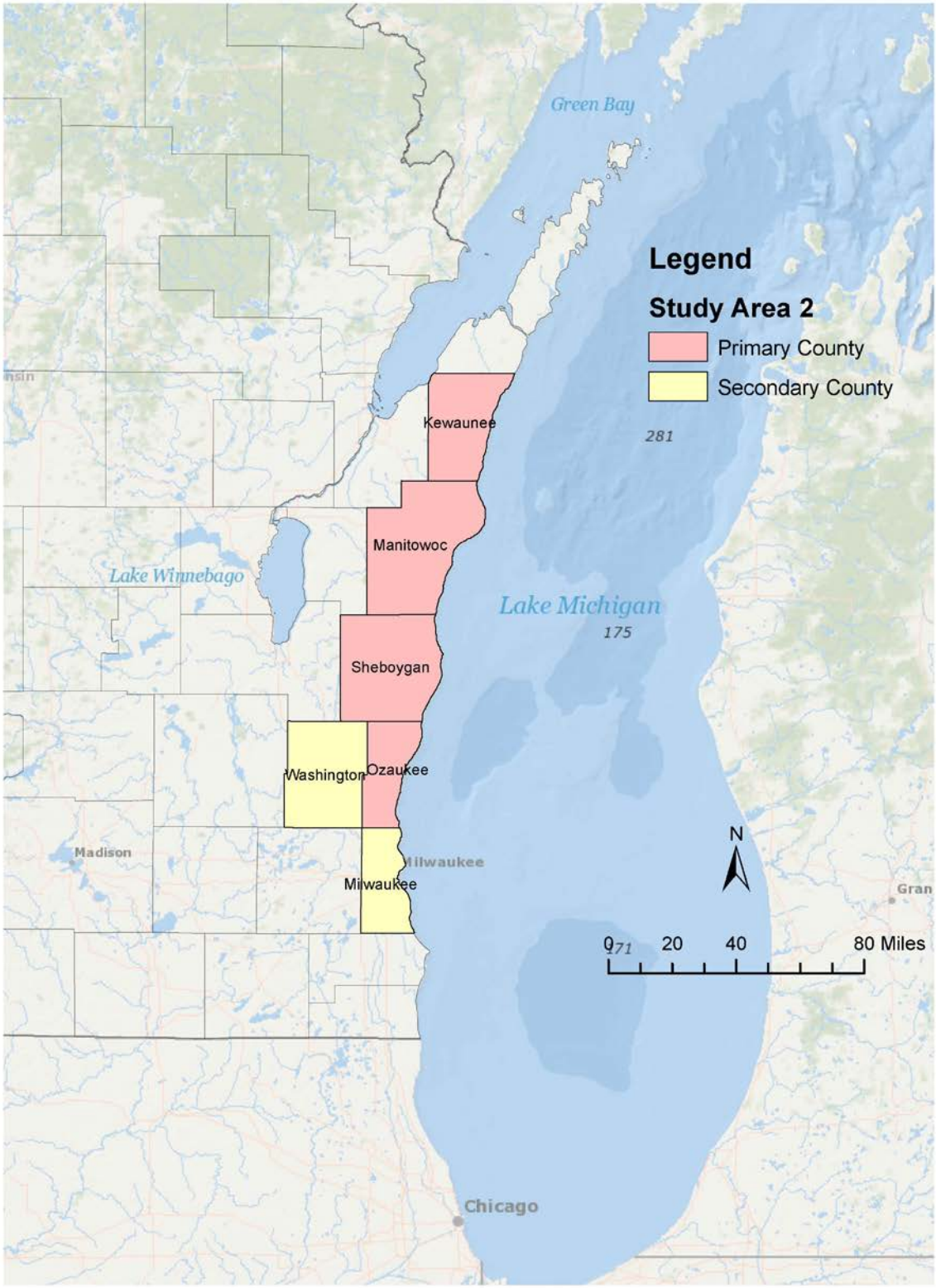

Figure 1.2. Counties included in the proposed Wisconsin Lake Michigan Sanctuary study area 2.

Population and Key Measurements on Economic Status of the Study Areas

Population is a major driver of any study area. When assessing the conditions of sanctuary resources in ONMS Condition Reports, population is a key driver behind the pressures placed on sanctuary resources, but many in the population are also beneficiaries of the ecosystem services generated from sanctuary resources. Here we present information on the total population by county, population density by county, population growth for the study areas, and projected population growth for the study areas. For economic status of the study areas, we also present per capita income, poverty rates, and unemployment rates as key indicators in this section. We also compare the study areas to the U.S. and Wisconsin (WI) for status and trends in selected measures.

Population.
The "Study Area 1" population covers five WI counties with a population of over 1,372,577 in 2014, which is approximately 23.8% Of Wisconsin's total population. The "Study Area 2" population covers six WI counties with a population of over 1,393,021 in 2014, which is approximately 24.2% of WI's total population. The three most populous counties in the study areas include Milwaukee with 956,406 thousand, Washington with 113,251 thousand and Sheboygan with 115,290 thousand (Table 1.1). Greater detail by county can be found in Appendix Table A. 2.

Population Growth.
For all three periods of 1990 to 2000, 2000 to 2010 and 2010 to 2014, the two study areas had slower growth rates than the U.S. or WI (Table 1.2 and Table 1.3).

Projected Population Growth.
Wisconsin's population is projected to grow at lower rates than the U.S. from the current year to 2030. Woods and Poole (2016) data supplied population projections for both study areas out to the year 2050. Both study areas growth slowed from 2014 to 2050. The projected population growth for 2040 to 2050 was -1.22 for both study areas (Table 1.2 and Table 1.3).

Population Density.
Population density is an indicator of the extent of pressures that the study area's population might have on the sanctuary resources. Population density varies widely across Study area 1 with a high of 3,962 people per square mile in Milwaukee to a low of 136 in Manitowoc. Study area 2 population densities vary more than that of study area 1 with a high of 3.962 people per square mile in Milwaukee and a low of 60 people in Kewaunee (Table 1.11).

Table 1.1. Selected Socioeconomic Measures for Description of the study areas

County	2014 Population	Population Change (%) 2010-2014	2014 Population Density[1]	2014 Per Capita Income ($)	2014 Persons Below Poverty (%)	2014 Unemployment Rate (%)
Kewaunee	20,444	-0.64	60	42,152	10	5.1
Manitowoc	80,160	-1.4	136	42,519	9.9	6.1
Milwaukee	956,406	0.858	3,962	41,507	21.9	6.9
Ozaukee	87,470	1.28	375	71,126	5	4.2
Sheboygan	115,290	-0.11	225	46,328	9.3	4.6
Washington	133,251	1.02	309	48,564	6.2	4.6
Study Area 1 Total	**1,372,577**	**0.69**	**2,841**	**50,009**	**17.54**	**6.3**
Study Area 2 Total	**1,393,021**	**0.67**	**2,801**	**48,699**	**17.43**	**6.3**
Wisconsin	**5,757,564**	**1.19**	**105**	**44,186**	**8.9**	**5.4**
U.S.	**318,857,056**	**2.98**	**87**	**46,046**	**15.6**	**6.2**

1. Number of people per square mile

Sources: U.S. Department of Commerce, Bureau of the Census and the Bureau of Economic Analysis, Regional Economic Information System.

Table 1.2. Population Growth and Projected Growth for study area 1

Measurement/Time period	US	Wisconsin	Study Area 1
Population Growth (%)			
1990 to 2000	10.34	9.65	1.84
2000 to 2010	12.47	6.03	2.04
2010 to 2014	3.11	1.24	0.69
Population Projections (%)			
2014 to 2020	5.59	4.84	1.01
2020 to 2025	4.71	3.23	.83
2025 to 2030	4.62	3.08	.66
2030 to 2040	8.35	5.02	.11
2040 to 2050	7.2	3.69	-1.22

Sources: U.S. Department of Commerce, Bureau of the Census, Woods and Poole (2016).

Table 1.3. Population Growth and Projected Growth for study area 2

Measurement/Time period	US	Wisconsin	Study Area 2
Population Growth (%)			
1990 to 2000	10.34	9.65	1.92
2000 to 2010	12.47	6.03	2.03
2010 to 2014	3.11	1.24	0.67
Population Projections (%)			
2014 to 2020	5.59	4.84	1.1
2020 to 2025	4.71	3.23	.84
2025 to 2030	4.62	3.08	.67
2030 to 2040	8.35	5.02	.11
2040 to 2050	7.2	3.69	-1.22

Sources: U.S. Department of Commerce, Bureau of the Census, Woods and Poole (2016).

Per Capita Income.

Per capita income is an indicator or the health of the economic status of a community. In 2014, per capita income in study area 1 was $50,009 and ranged from a low of $41,507 in Milwaukee County to a high of $71,126 in Ozaukee County. In 2014, per capita income in study area 2 was $48,699 and ranged from a low of $41,507 in Milwaukee County to a high of $71,126 in Ozaukee County (Table 1.1). Both study areas' real per capital income (Adjusted for inflation) was higher than the U.S. and WI for the time period 2005-2010 (Table 1.4 and Table 1.5). Greater detail by county can be found in Appendix Table A.2.

Real Per Capita Income Growth Rates.

Real per capita income grew more slowly in both areas than the U.S. and Wisconsin for 200-2005. During the 2005-2010 period, which captured the effect of the "Great Recession", real per capita income growth rates declined significantly for the U.S., WI and both study areas. During the 2010-2014 period, both study area growth rates increased faster than WI, but study area 1's growth rates were slower than the U.S. and study Area 2's was faster than the U.S. (Table 1.4, Table 1.5, Figure 1.3, and Figure 1.4).

Table 1.4. Unemployment Rates and Per Capita Personal Income for study area 1

Measurement/Year	US	Wisconsin	Study Area 1
Unemployment Rate (%)			
2000	4	3.5	3.9
2005	5.08	4.7	5.2
2010	9.6	8.6	9.5
2014	6.2	5.4	6.3
Per Capita Income			
2000	30,602	29,382	32,107
2005	35,904	34,311	37,210
2010	40,227	38,815	42,235
2014	46,046	44,186	48,699
Real Per Capita Income (2014$)			
2000	42,174	40,493	46,057
2005	43,756	41,815	47,201
2010	43,762	42,226	47,558
2014	46,046	44,186	50,009
Real Per Capita Income			
Growth Rates (%)			
2000-2005	3.8	3.3	2.5
2005-2010	0.0	1.0	0.8
2010-2014	5.2	4.6	5.2

Sources: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System and the U.S. Department of Labor, Bureau of Labor Statistics, Consumer Price Index.

Table 1.5. Unemployment Rates and Per Capita Personal Income for study area 2

Measurement/Year	US	Wisconsin	Study Area 2
Unemployment Rate (%)			
2000	4	3.5	3.9
2005	5.08	4.7	5.2
2010	9.6	8.6	9.5
2014	6.2	5.4	6.3
Per Capita Income			
2000	30,602	29,382	32,107
2005	35,904	34,311	37,210
2010	40,227	38,815	42,235
2014	46,046	44,186	48,699
Real Per Capita Income (2016$)			
2000	42,174	40,493	44,249
2005	43,756	41,815	45,348
2010	43,762	42,226	45,947
2014	46,046	44,186	50,009
Real Per Capita Income			
Growth Rates (%)			
2000-2005	3.8	3.3	2.5
2005-2010	0.0	1.0	1.3
2010-2014	5.2	4.6	6.0

Sources: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System and the U.S. Department of Labor, Bureau of Labor Statistics, Consumer Price Index

Study area 1 had slower growth rates than the U.S. and WI from 2000-2005. With the U.S. showing no growth from 2005-2010, Study Area 1 was above the U.S. and below WI. The study area then had the same growth rate as the U.S. from 2010-2014 with WI below that of the U.S. and study area 1.

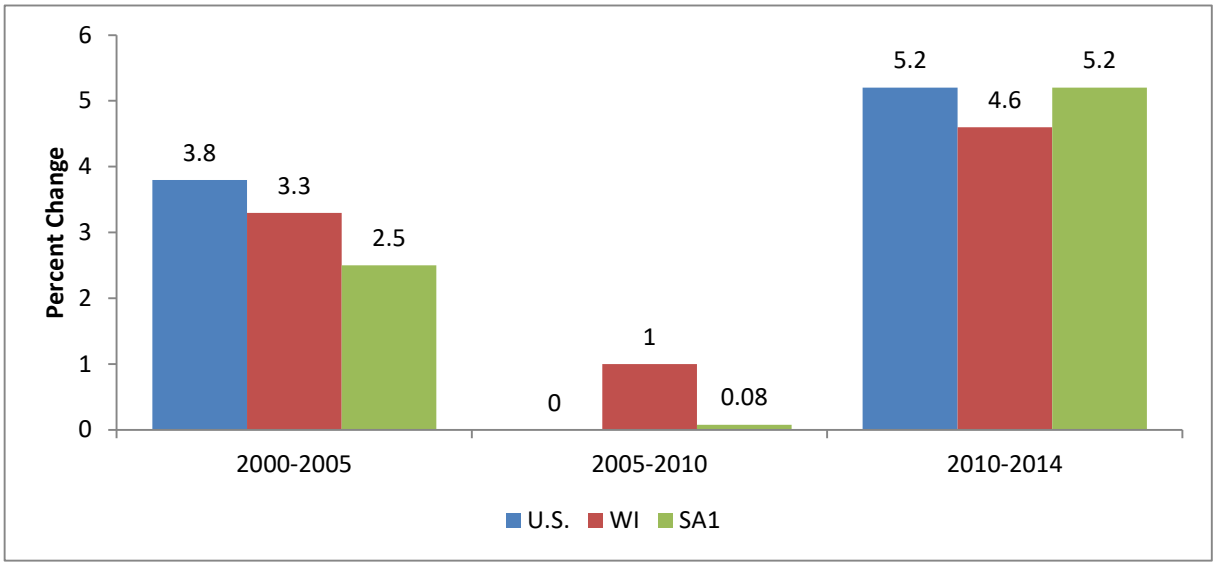

Figure 1.3. Changes in Real Per Capita Income in study area 1 versus the U.S. and WI.

Study area 2 growth rate was below that of the U.S. and WI from 2000-2005. From 2005-2014, study area 2 had higher rates of growth than WI and the U.S.

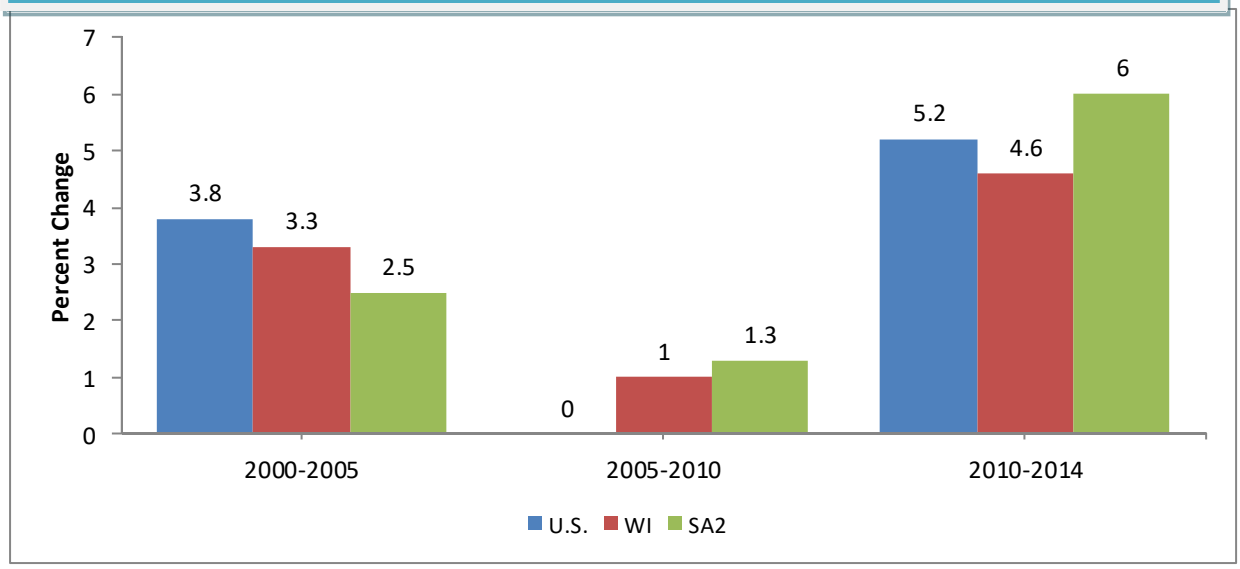

Figure 1.4. Changes in Real Per Capita Income in study area 2 versus the U.S. and WI

Unemployment Rates.

Another indicator of the economic health of the study areas is the unemployment rate. In 2014, the unemployment rate was the same in both study areas, with a value of 6.3%. Unemployment rates ranged from a low of 4.2% in Ozaukee County to a high of 6.9% in Milwaukee County. In 2014, the unemployment rate was higher in the study areas than the U.S. and WI (Table 1.11). In 2000, unemployment rates were lower in the study areas than the U.S. but still above that of WI. In 2005, the unemployment rate in the study areas was above both the U.S. and WI, but in 2010 the unemployment rates of the U.S. were level with study area1 but above that of study area 2 (Table 1.4, Table 1.5, Figure 1.7, and Figure 1.8). Greater detail by county can be found in Appendix Table A.4.

For the span of 2000-2014, unemployment rates of study area 1 were close to that of the U.S. but above WI.

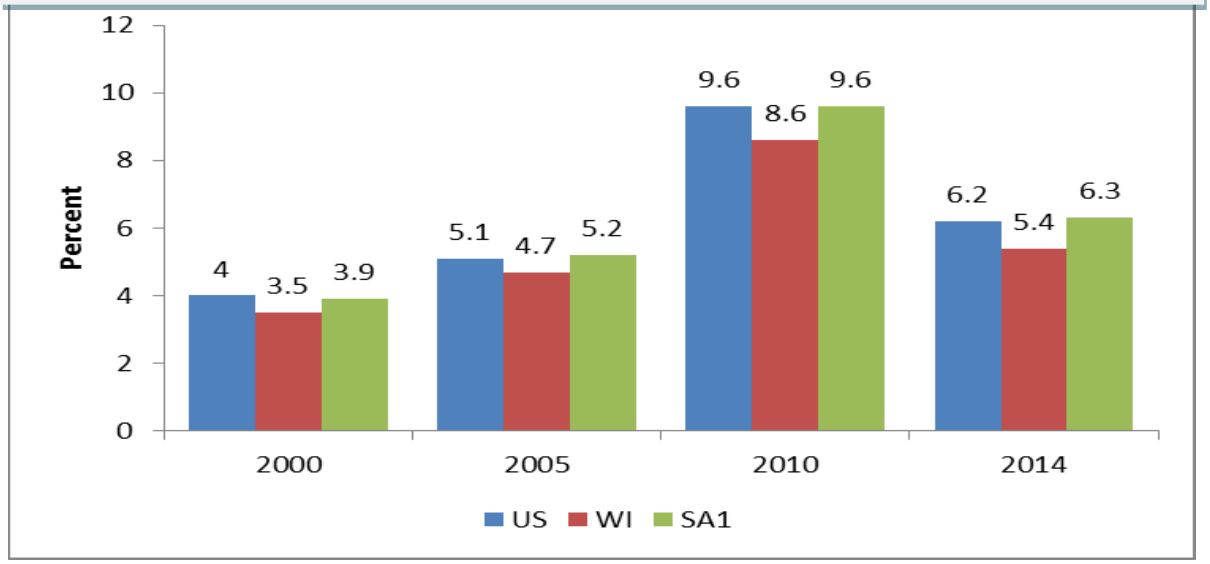

Figure 1.5. Unemployment Rates in study area 1 versus the U.S. and WI, 2000-2014

For the span of 2000-2014, unemployment rates of study area 2 were close to that of the U.S. but above WI.

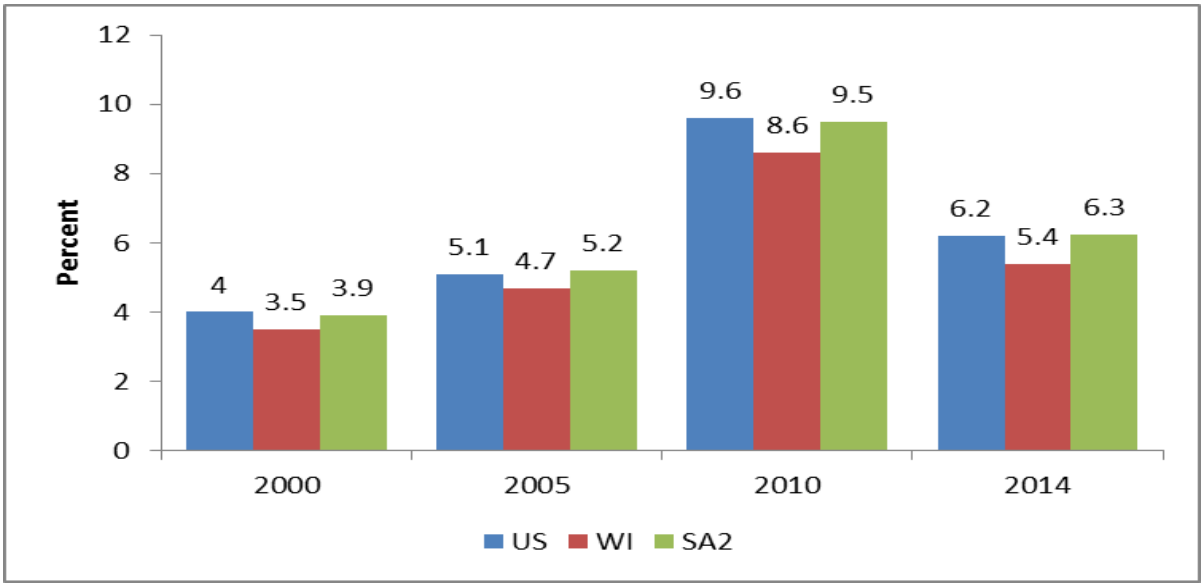

Figure 1. 6. Unemployment Rates in study area 2 versus the U.S. and WI, 2000 to 2014.

Demographic Profiles

For demographic profiles, gender, race/ethnicity and age were chosen as the most important population characteristics. Race and Ethnicity are treated separately in the Census of the U.S. Racial categories include “White”, “Black or African America”, “Asian”, “Alaskan Native or Native American”, “Native Hawaiian or Other Pacific Islander”, and “Multiple Races”. We reduced the categories reported here by combining “Alaskan Native or Native American”, “Native Hawaiian or Other Pacific Islander”, and “Multiple Races”, into the “Other” category for race. Hispanic represents ethnicity and in the Census is recorded separately from race with any race being eligible for being Hispanic. In the Census, Hispanic is Hispanic, Latino or of Spanish Origin. Greater detail by county can be found in Appendix Table A.1.

Gender.

For 2000 through 2014 females were a higher proportion of the population in both study areas versus the U.S. and WI (Figure 1.7 and Figure 1.8).

From 2000 to 2014, females were a higher proportion of study area 1 versus the U.S. and WI.

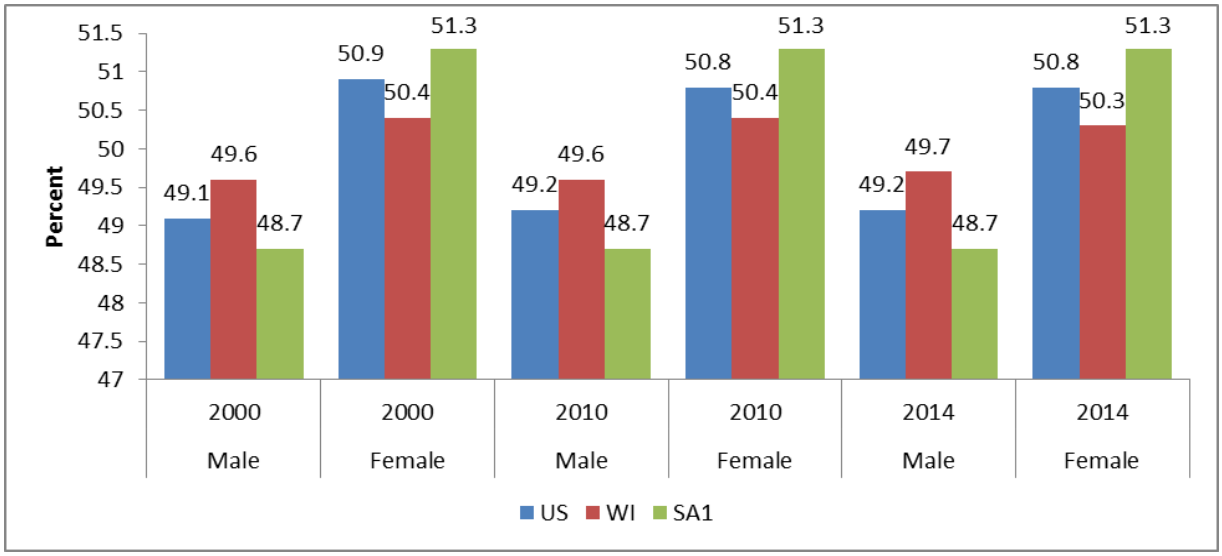

Figure 1.7. Gender Distributions in study area 1 versus the U.S. and WI 2000, 2010 and 2014.

From 2000 to 2014, females were a higher proportion of study area 2 versus the U.S. and WI.

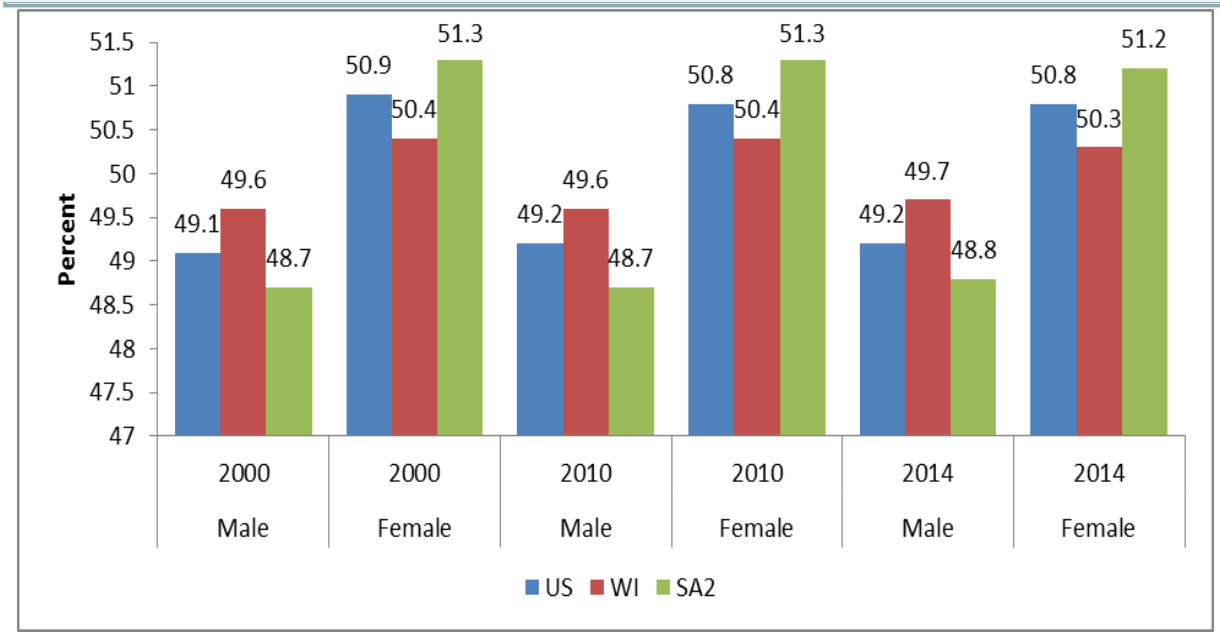

Figure 1.8. Gender Distributions in study area 2 versus the U.S. and WI 2000, 2010 and 2014.

Race/Ethnicity.

In 2014, the proportion of the "white" population in both study areas was lower than the U.S. and WI. Study area 2 had a lower proportion of "white" population than study area 1. The proportion of the "Black or African American" population was higher in both study areas than in the U.S. or WI. The proportion of the "Asian" population was lower in WI and the study areas than the U.S. The "Hispanic" population in the study areas was a lower proportion than the U.S. but higher than WI (Figure 1.9 and Figure 1.10). From 2000-2014, the proportion of the "white" population has increased in study area 1, while declining in study area 2. From 2000-2014, the proportion of "Black and African American", "Asian" and 'Hispanic" populations have increased in both study areas (Figure 1.11 and Figure 1.12).

In 2014, the proportion of "white" population in study area 1 was lower than that of the U.S. and WI. The proportion of "Black or African American" population was higher than the U.S. and WI. The "Asian" and "Hispanic" populations of study area 1 were below the U.S. but above WI.

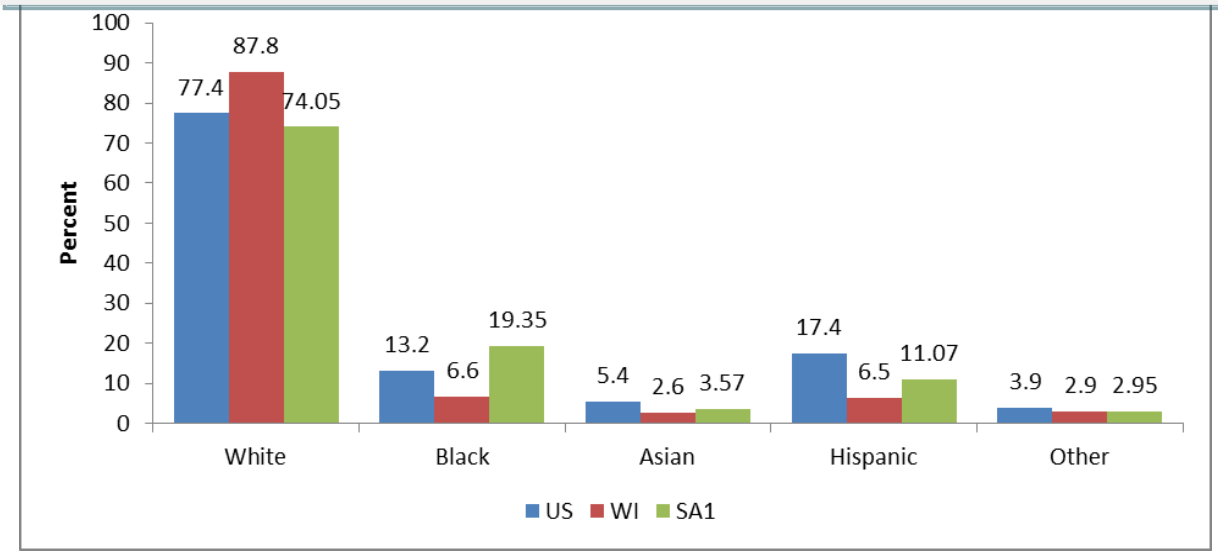

Figure 1.9. Race/Ethnicity in study area 1 versus the U.S. and WI, 2014.

In 2014, the proportion of “white” population in study area 2 was lower than that of the U.S. and WI. The proportion of “Black or African American” population was higher than the U.S. and WI. The “Asian” and “Hispanic” populations of study area 2 were below the U.S. but above WI.

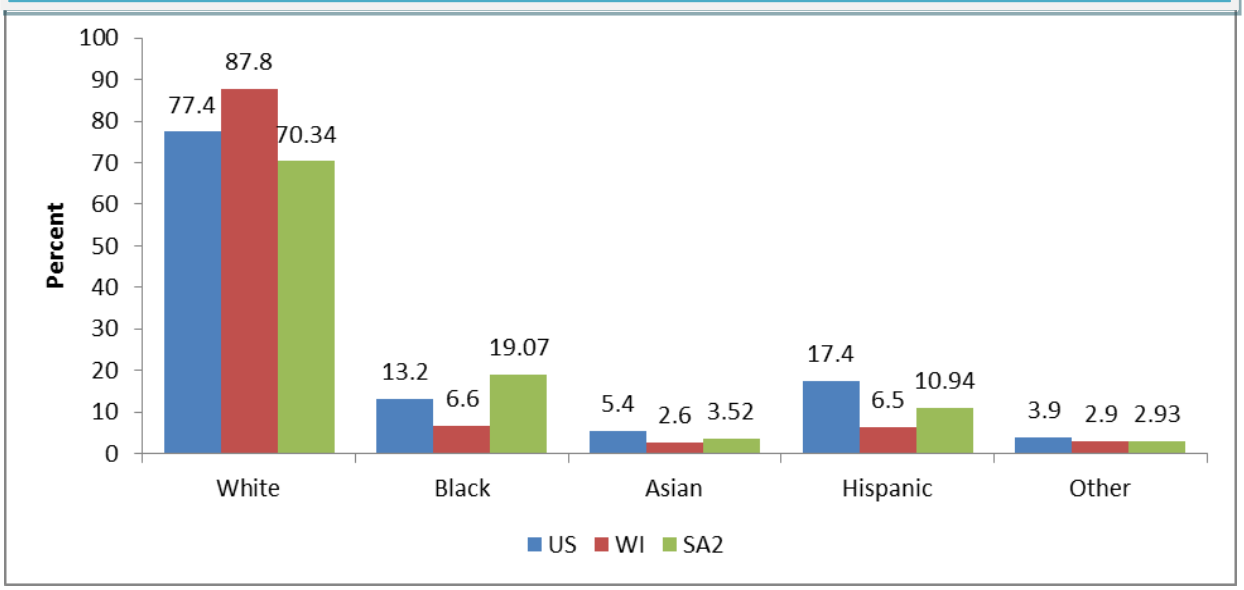

Figure 1.10. Race/Ethnicity in study area 2 versus the U.S. and WI, 2014.

In study area 1, the proportion of “white”, “Black or African American”, “Asian” and “Hispanic” populations have increased from 2000 to 2014.

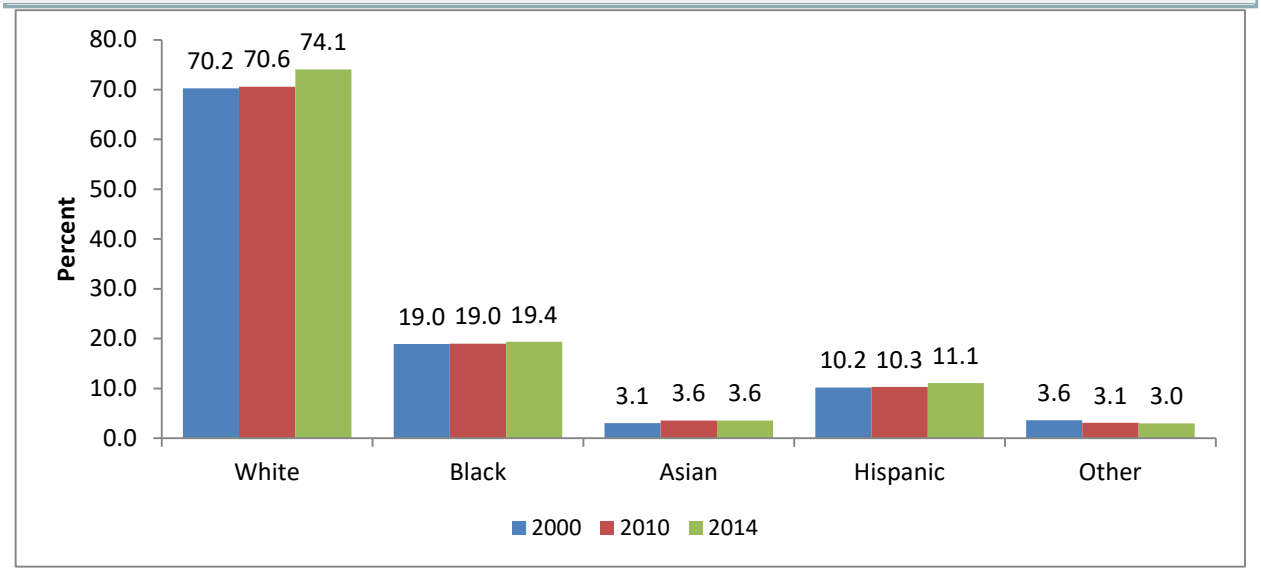

Figure 1.11. Race/Ethnicity in study area 1, 2000, 2010, 2014.

In study area 2, the proportion of “Black or African American” and “Hispanic” populations has increased from 2000 to 2014. The proportion of “white” populations increased from 2000-2010, but decreased from 2010-2014. The proportion of the “Asian” population increased from 2000-2010 and remained the same from 2010-2014.

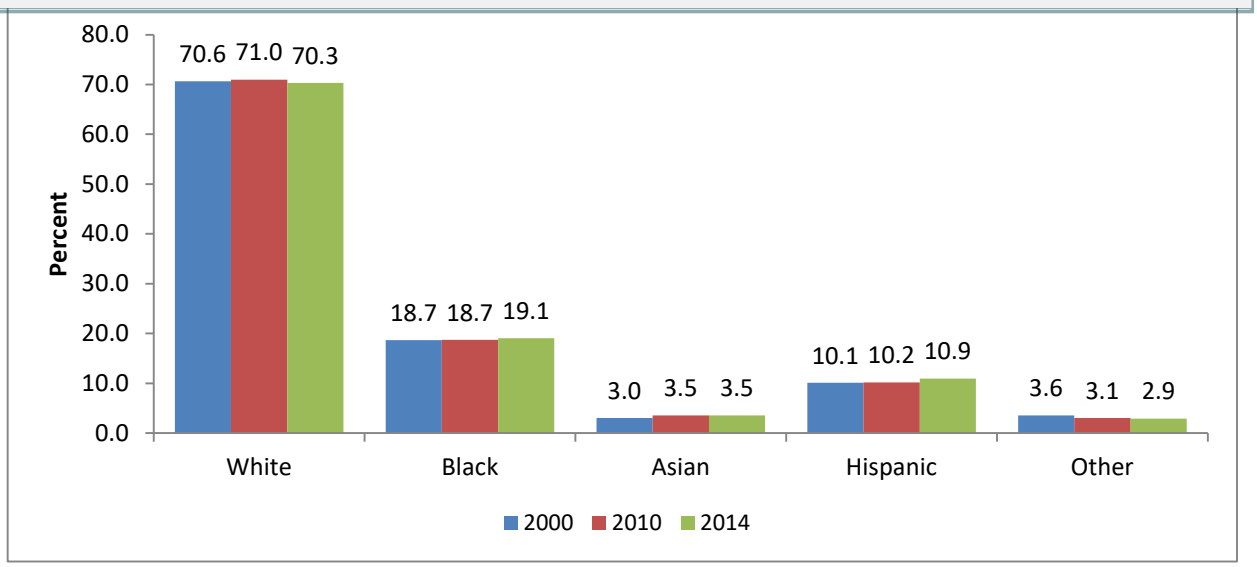

Figure 1.12. Race/Ethnicity in study area 2, 2000, 2010, 2014.

Age.

In 2014, the age distribution of the population in study area 1 as well as study area 2 was similar to that of the U.S. and WI (Figure 1.13, Figure 1.14). Between 2000 and 2014, the proportion of the population based on age varied between age categories. There were similar trends between study areas with decreases in the proportions at ages 5 to 19, 35 to 44, and 75 and over and increases at ages 20 to 34 and 45 to 64 (Figure 1.15 and Figure 1.16).

In 2014, the age distribution of the population in study area 1 was similar to the U.S. and WI.

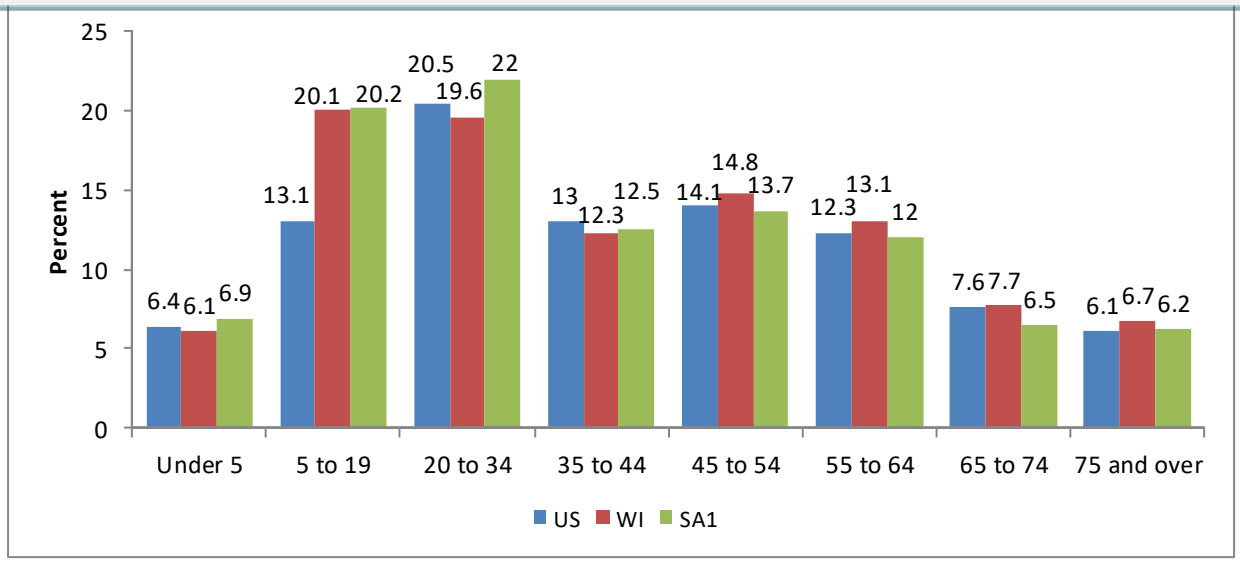

Figure 1.13. Age Distributions in study area 1 versus the U.S. and WI, 2014.

In 2014, the age distribution of the population in study area 2 was similar to the U.S. and WI.

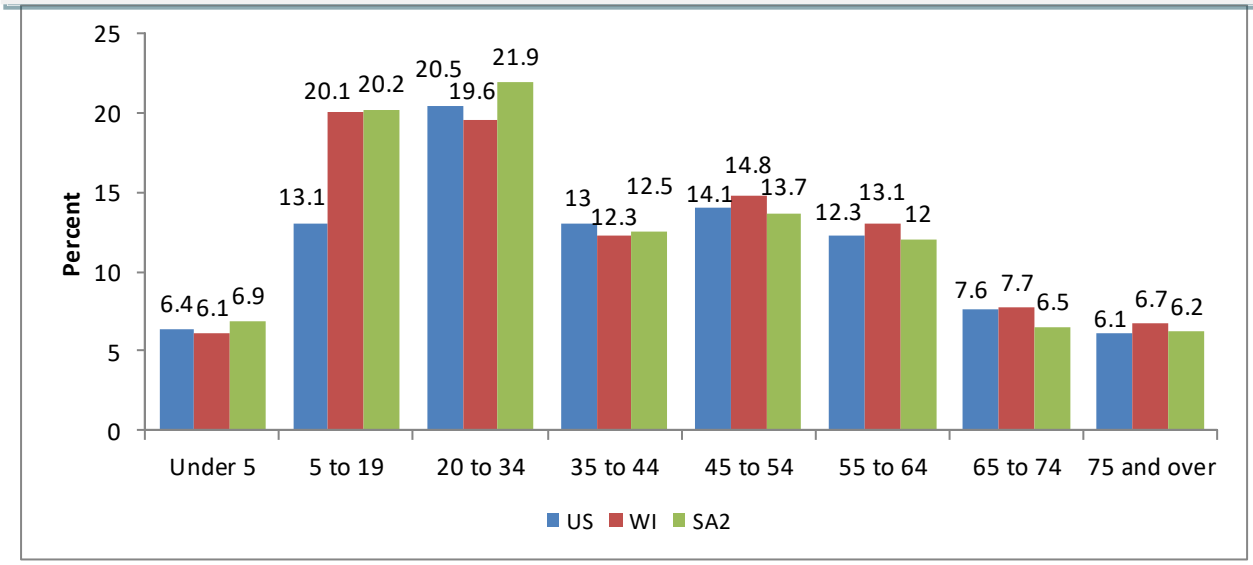

Figure 1.14. Age Distributions in study area 2 versus the U.S. and WI, 2014.

From 2000 to 2010, study area 1's proportion of the population ages of under 5, 20 to 34, and 45 to 64 increased while decreasing at ages at ages 5 to 19, 35 to 44, and 75 and over.

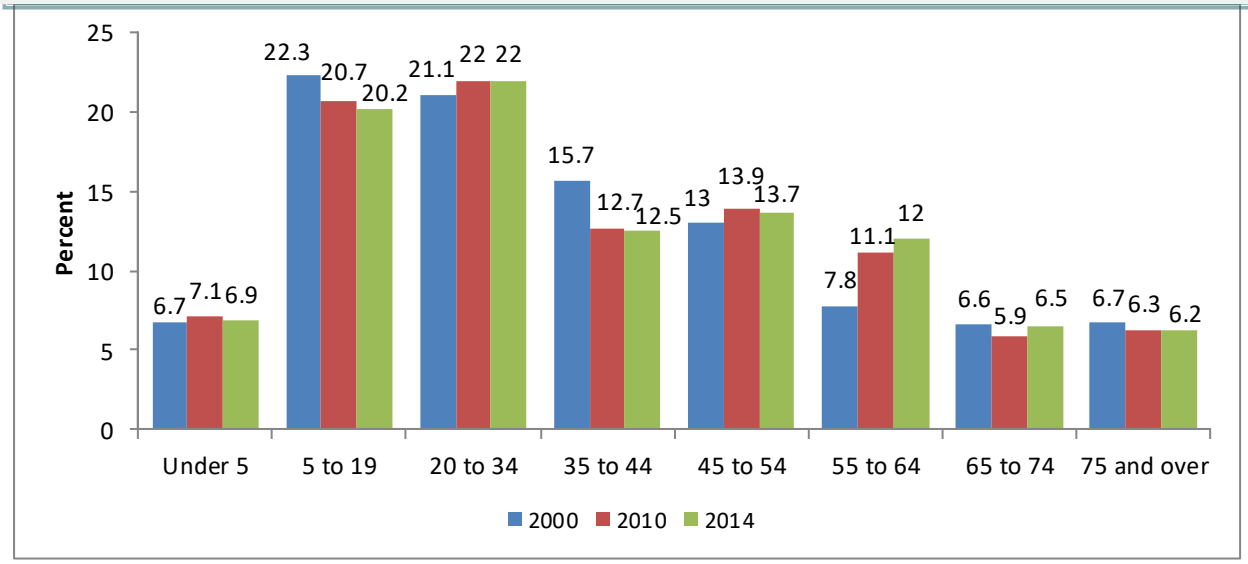

Figure 1.15. Age distribution in study area 1, 2000, 2010 and 2014.

From 2000 to 2014, study area 2's proportion of the population ages under 5 remained the same,. ages 5 to 19, 35 to 44, and 75 and over decreased, while those in age categories 20 to 34, 45 to 54 and 55 to 64 increased.

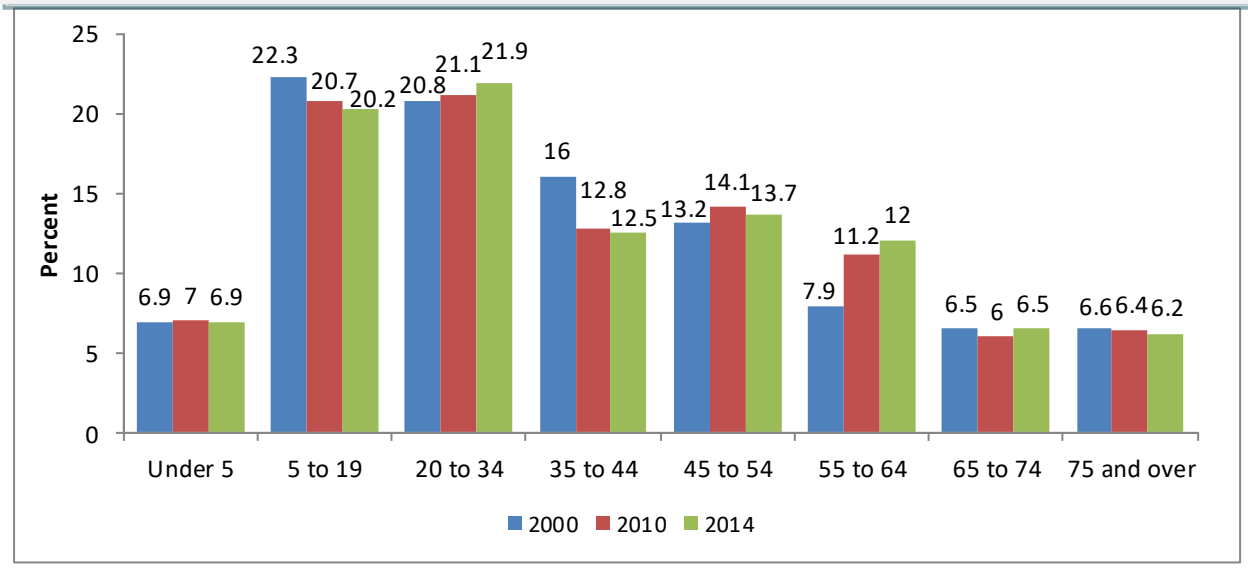

Figure 1.16. Age distribution in study area 2, 2000, 2010 and 2014.

Economic Profile

In the previous section, we addressed a couple of key indicators of the health of the economy using per capita income, poverty rates and unemployment rates. Here we look at the total personal income both generated within the study areas (income by place of work) and what is received by residents of the study areas (income by place of residence). The U.S. Department of Commerce, Bureau of Economic Analysis maintains the national income accounts on both these bases. People that live in a given area often receive income not derived by work in the area where they live. Many people commute to work to places of work outside the county where they live. People receive interest, dividends and capital gains from investments. Retirees receive pensions and social security payments. The unemployed receive unemployment compensation. Income-by-Place-of-Work as a percent of Income-by-Place-of-Residence is usually a good indicator of an area having a significant retirement community. Sources of income not tied to the status of work in the local economy can provide more resilience to an economy making it less subjected to ups and downs of local work.

The labor force and total employment and their growth rates are good indicators of a healthy or stagnant economy and the opportunities for employment. These are important elements in assessing whether people can adapt to changes in resources management/policy decisions that may displace them from resource use.

We also look at proprietors' income and employment and the proportion of the study area's income and employment accounted for by proprietors of businesses. This is usually a good indicator of small businesses which are often those connected to resource use in the sanctuary (e.g. commercial fishing operations and recreational and tourist related businesses).

We also look at personal income and employment by industry sector. This is important for economic impact analyses of resource management/policy decisions. When we are able to map the spending in the local economy related to resource use in the sanctuary to economic sectors, we can then use input-output models such as the IMPLAN model to estimate the multiplier impacts on the local economy and assess the proportion of the local economy affected.

There are some problems with obtaining complete information by economic sector for any county since there are rules that don't allow the government to publish data on a sector is a county if there are less than 10 firms in the county. The data gets reported as "D" meaning "Non-disclosure". For the study area totals, the totals for a sector are

reported here as “NA” or not available if at least one county in the study area has, within a given sector, less than 10 firms in that sector. It may be possible to get study area totals for the sector of special request from the U.S. Department of Commerce, Bureau of Economic Analysis if there are more than 10 firms in the sector throughout the study area, but not if one could derive sector estimates if one county was the source of non-disclosure.

Labor Force.

In 2014, there were over 700,000 people in the labor force of study area 1 and study area 2 had 11,000 more individuals in the work force than study area 1. From 2000 to 2010, the labor force grew slower in both study areas than in WI, while from 2010 to 2014, WI’s and study area 1’s labor force growth rates were equal and study area 2’s was slower than WI’s or study area 1’s (Table 1.6, Figure 1.17 and Figure 1.18). Greater detail by county is in appendix Table A. 4.

Table 1.6. Labor Force and Labor Force Growth in study area 1, study area 2 and WI. 2000 to 2014

Year		Wisconsin	Study Area 1	Study Area 2
	2000	2,960,937	702671	714232
	2005	3,021,913	703,962	715,762
	2010	3,080,069	706336	717514
	2014	3,083,860	707185	718,185
Labor Force Growth (%)				
2000-2005		2.06	0.18	0.21
2005-2010		1.92	0.34	0.24
2010-2014		0.12	0.12	0.09

Source: U.S. Department of Labor, Bureau of Labor Statistics.

The labor force grew slower in study area 1 than in WI over the time period 2000-2010, but was the same from 2010 to2014.

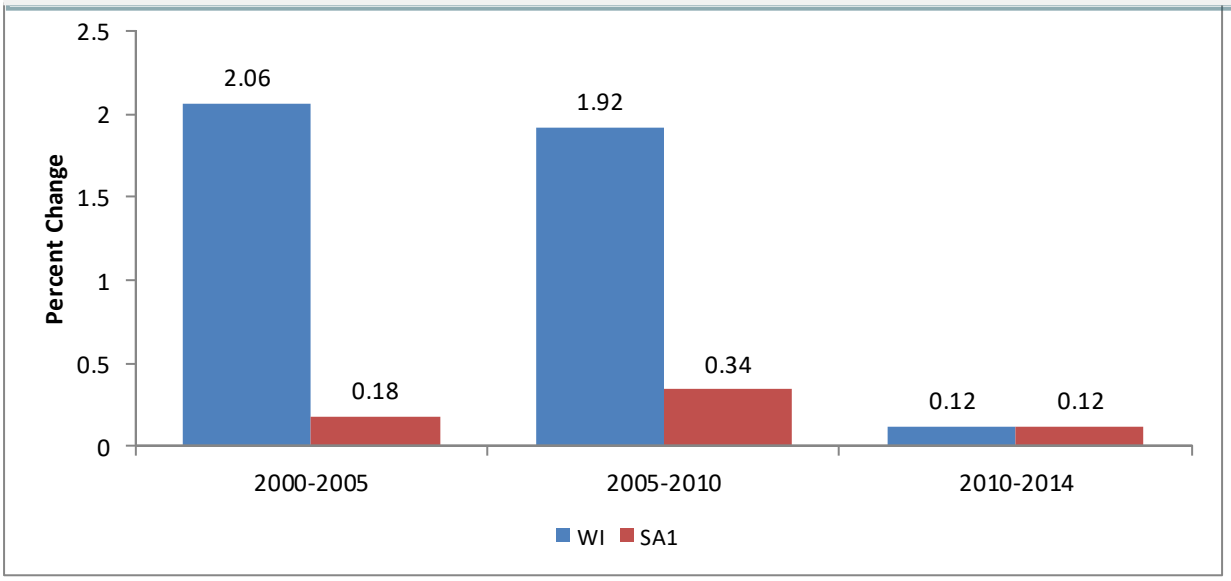

Figure 1.17. Labor Force Growth 2000-2010 and 2010-2014 in WI versus study area 1.

The labor force grew slower in study area 2 than in WI over the time period 2000-2014.

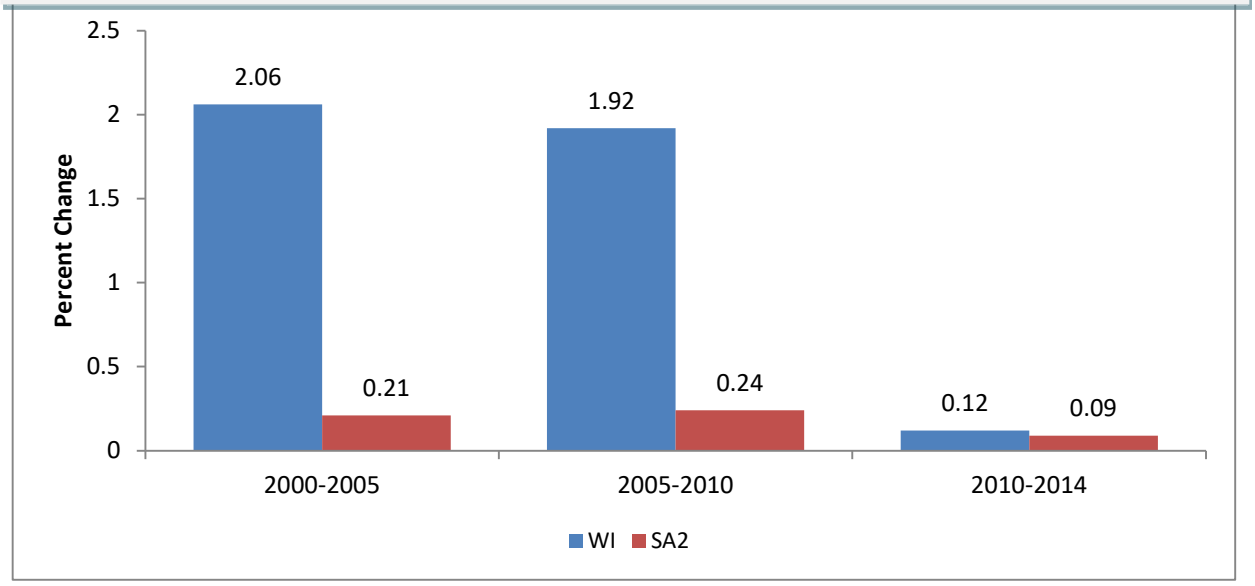

Figure 1.18. Labor Force Growth 2000-2010 and 2010-2014 in Wisconsin versus study area 2.

***Personal Income*.**

The U.S. Department of Commerce, Bureau of Economic Analysis (BEA) maintains two concepts of personal income in their Regional Economic Information System. Income is reported by "place of work" and by "place of residence". Income by "place of work" is where the income generated by work in the geographic area of study, and it's reported by economic sector (e.g. farm, manufacturing, retail, wholesale, etc.). Income by "place of residence" is reported by where the income is received. It is the total amount of income received by those who live in the study area. It includes income from investments, pensions, social security payments and other transfer payments. In addition, it includes income earned in areas from work outside the study area. This would include the income earned in a county where one works which is outside the study area. The amount of income earned by people who live outside the Study Area is subtracted as they take their incomes home to areas outside the study area. This information comes from the 'Census of Inter-county Commuters" and BEA uses it to form what is called the "residence adjustment" which can be either positive or negative depending on whether people living in the study area and working outside the study area are earning more or less than people living outside the study area and working inside the study area. Economists often refer to this as the "bedroom community effect". In using the IMPLAN input-output model to estimate the economic impacts of activity in the study area, an important first step is defining the study area of impact. Since IMPLAN assumes that all those who work in the study area live in the study area and thus spend most of their income there, defining the study area such that the "bedroom community effect" is small makes estimates more accurate. Income by "place of work" as a percent of income by "total income by place of residence" serves as an indicator of two key aspects of a study area's economy: whether it is an economy with a significant "bedroom community" and/or there is a large retirement community. When the percent of income by place of work is low relative to income by place of residence (below 100%, Table 1.7), economists then look to the "residence adjustment" and the amount of transfer payments in pensions and social security payments to further describe the nature of the local economy.

In 2014, Income by place of work as a percent of income by place of residence was 82.9% in study area 1 and 81.6% in study area 2. In each case, it ranged from a low of 43.7% in Ozaukee County to a high of 89.6% in Milwaukee County. All counties in the study areas have incomes by place of work lower than income by place of residence. Ozaukee and Kewaunee counties were the least dependent on income from work in the county (Table 1.7). Income by place of work as a percent of income by place of residence was higher in both study areas than WI over the span 2005-2014 and had slightly declined becoming less dependent on income from work in the study areas (Table 1.8, Figure 1.19 and Figure 1.20).

Table 1.7. Personal Income by Place of Residence and by Place of Work, 2014.

County	Place of Residence (000's $)	Place of Work (000's $)	Place of Work as Percent of Place of Residence
Kewaunee	861,747	479,469	55.6
Manitowoc	3,408,347	2,186,532	64.2
Milwaukee	39,697,233	35,576,445	89.6
Ozaukee	6,221,364	2,716,901	43.7
Sheboygan	5,341,196	4,054,268	75.9
Washington	6,471,214	3,343,876	67.9
Study Area 1 Total	**61,139,354**	**47,878,022**	**82.9**
Study Area 2 Total	**62,001,101**	**48,357,491**	**81.6**

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System.

Table 1.8. Personal Income by Place of Residence and Place of Work, 2005-2014.

Year/Area	Income by Place of Residence ($Millions)	Income by Place of Work ($Millions)	Work as a Percent of Residence
2005			
Study Area 1	47,511	39,545	85.0
Study Area 2	48,122	39,922	84.7
Wisconsin	190,293	145,745	76.6
2010			
Study Area 1	54,745	43,191	80.5
Study Area 2	55,462	43,616	80.2
Wisconsin	220,826	158,212	71.6
2014			
Study Area 1	61,139	47,878	82.9
Study Area 2	62,001	48,357	81.6
Wisconsin	254,405	182,687	71.8

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System.

Income by place of work as a percent of income by place of residence was higher in study area 1 than in WI over the 2005-2014 time period but declined becoming less dependent on income from work in the study area.

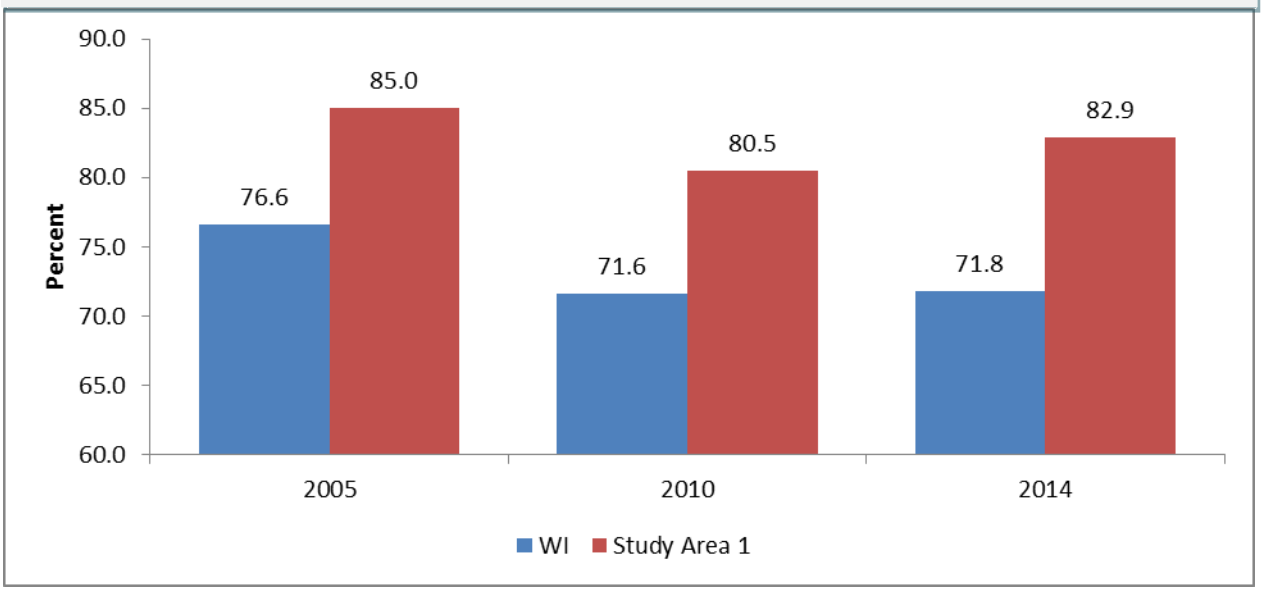

Figure 1.19. Income by Place of Work as a Percent of Income by Place of Residence in study area 1 versus WI 2005, 2010 and 2014.

Income by place of work as a percent of income by place of residence was higher in study area 2 than in WI over the 2005-2014 time period but declined becoming less dependent on income from work in the study area.

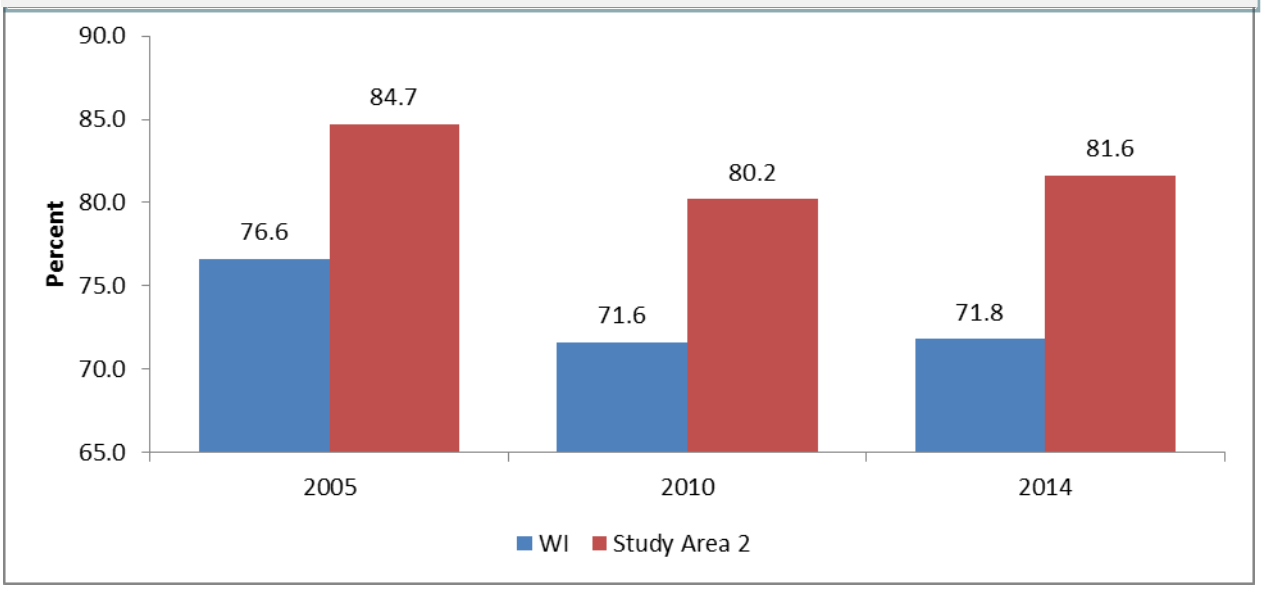

Figure 1.20. Income by Place of Work as a Percent of Income by Place of Residence in study area 2 versus WI 2005, 2010 and 2014.

Employment.

In 2014, more than 836 thousand people were employed in study area 1 and study area 2 contained about 10 thousand more employees than Study Area 1. Both study areas accounted for about 24% of all the employment in WI (Table 1. 9). During the 2000-2014 period, total employment in both study areas grew slower than in WI. The percent change was negative for the years 2000-2010 in both study areas as well as WI for 2005-2010 reflecting the impact of the "Great Recession" (Figure 1.21 and Figure 1.22). Greater detail can be found in Appendix Table A. 3.

Table 1. 9. Total Employment: 2000, 2010 and 2014.

County	2000	2005	2010	2014
Kewaunee	9,690	10,014	9,904	9,456
Manitowoc	45,501	44,290	4,2683	43,376
Milwaukee	622,127	594,666	574,810	592,642
Ozaukee	50,757	51,916	52,270	55,979
Sheboygan	75,850	77,332	72,600	75,968
Washington	60,736	66,241	63,878	68,838
Study Area 1 Total	**854,971**	**834,445**	**806,241**	**836,803**
Study Area 2 Total	**864,661**	**844,459**	**816,145**	**846,259**
Wisconsin	**3,406,669**	**3,499,277**	**3,411,636**	**3,567,138**

Source: U.S. Department of Commerce, Bureau of Economic Analysis,
Regional Economic Information System

Total employment in study area 1 grew slower than WI in the time period 2000-2010 and 2010-2014 with negative growth from 2000-2010 reflecting the impact of the "Great Recession".

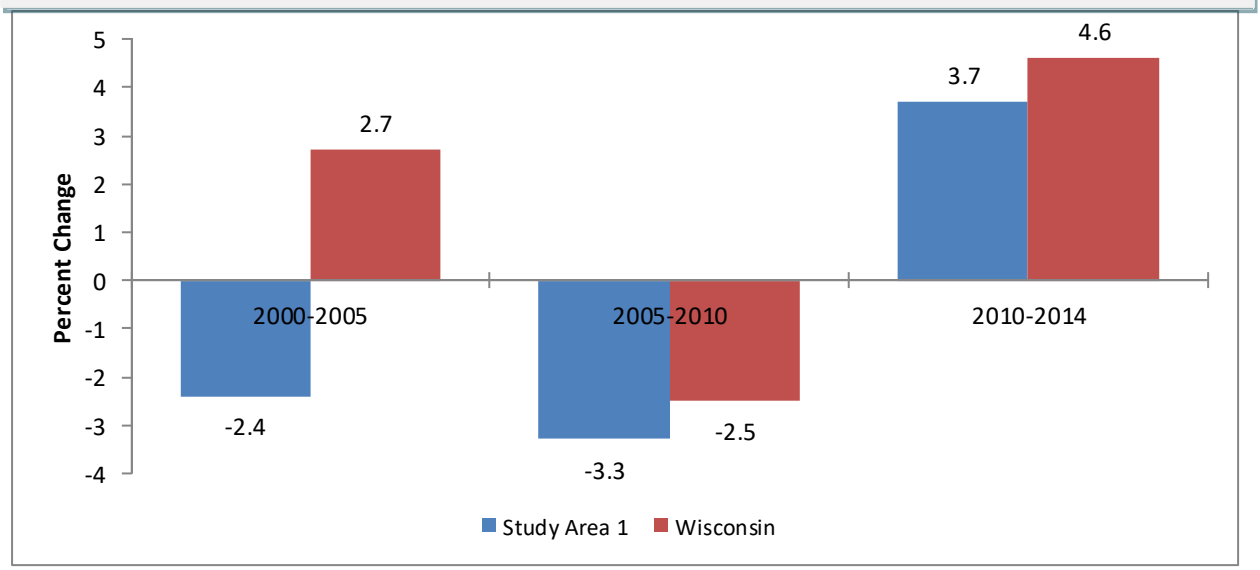

Figure 1.21. Total Employment in study area 1 versus WI 2000-2005, 2005-2010 and 2010-2014.

Total employment in study area 2 grew slower than WI in the time period 2000-2010 and 2010-2014 with negative growth from 2000-2010 reflecting the impact of the "Great Recession".

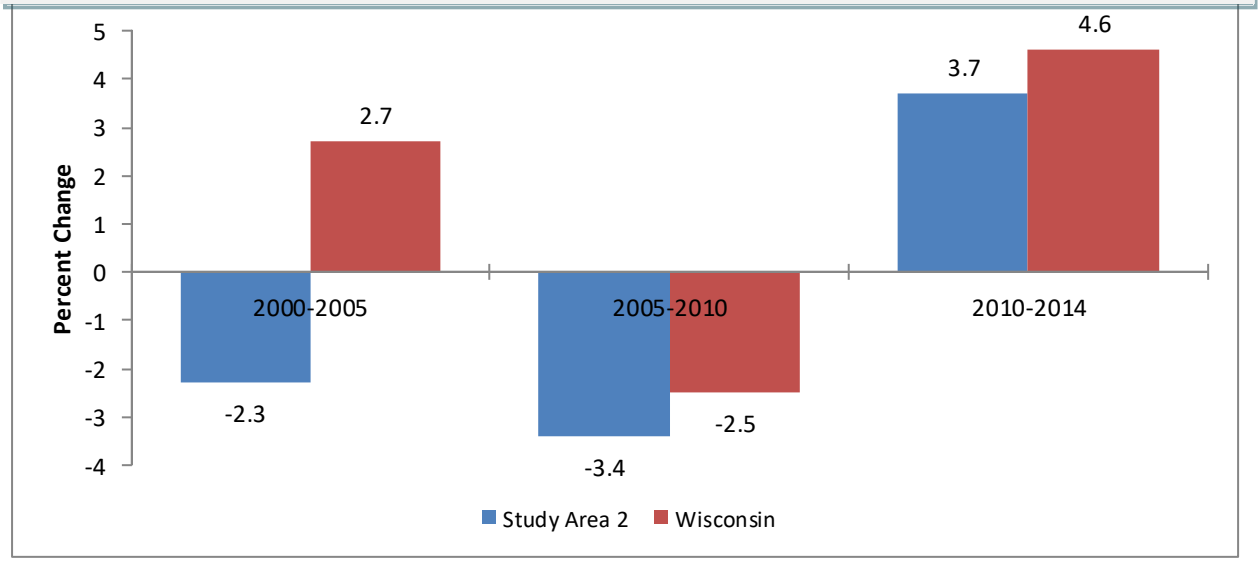

Figure 1.22. Total Employment in study area 2 versus WI 2000-2005, 2005-2010 and 2010-2014.

Proprietors Income and Employment.

When analyzing the potential impacts of sanctuary management strategies and regulations, it is a requirement under the Regulatory Flexibility Act to analyze the potential impacts of small entities, which are primarily small businesses. Usually almost all businesses related to either the commercial fishing industry or the recreation-tourist industry are small businesses. Good indicators of the extent of small businesses in the study area are the extent of proprietor's income and employment.

In 2014, there were more than 122 thousand proprietors employed in study area 1, making up 14.6% of the total employment. The proprietors earned more than $4.5 million in that year in study area 1, which was 9.6% of the income earned by place of work in this study area (Table 1. 10). Study area 1 had a lower proportion of both its employment and income from proprietors than WI over the period from 2000-2014, with a single exclusion in 2010, where the proportion of total income was slightly above that of WI (Figure 1.23, Figure 1.24, Figure 1.25 and Figure 1.26). Greater detail by county can be found in Appendix Table A. 2.

In 2014, there were more than 124 thousand proprietors employed in study area 2, with a difference of 2,254 more individuals employed than study area 1. The proprietors employed in this study area make up 14.6% of the total employment within both study areas The proprietors earned almost $4.6 million in that year in study area 1, which was 9.6% of the income earned by place of work in this study area (Table 1. 10). Both study areas had a lower proportion of both their employment and income from proprietors than the state of WI over the period from 2000-2014 with a single exclusion in 2010 where the proportion of total income was slightly above that WI (Figure 1.23, Figure 1.24, Figure 1.25 and Figure 1.26). Greater detail by county can be found in Appendix Table A. 2.

Table 1. 10. Proprietors Income and Employment: 2000, 2010 and 2014.

Year/Area	Proprietors Income ($000)	%	Proprietors Employment	%
2000				
Study Area 1	2,019,503	5.8	86,664	10.1
Study Area 2	2,049,820	5.8	88,874	10.3
Wisconsin	9,415,499	7.6	514,006	15.1
2010				
Study Area 1	4,293,568	9.9	117,250	14.5
Study Area 2	4,331,661	9.9	119,552	14.6
Wisconsin	14,504,160	9.2	627,881	18.4
2014				
Study Area 1	4,593,408	9.6	122,128	14.6
Study Area 2	4,700,027	9.7	124,382	14.7
Wisconsin	18,560,499	10.2	653,448	18.3

Source: U.S. Department of Commerce, Bureau of Economic Analysis,
Regional Economic Information System

Study area 1 had a lower proportion of its income from proprietors than WI in 2000 and 2014, but a higher proportion in 2010.

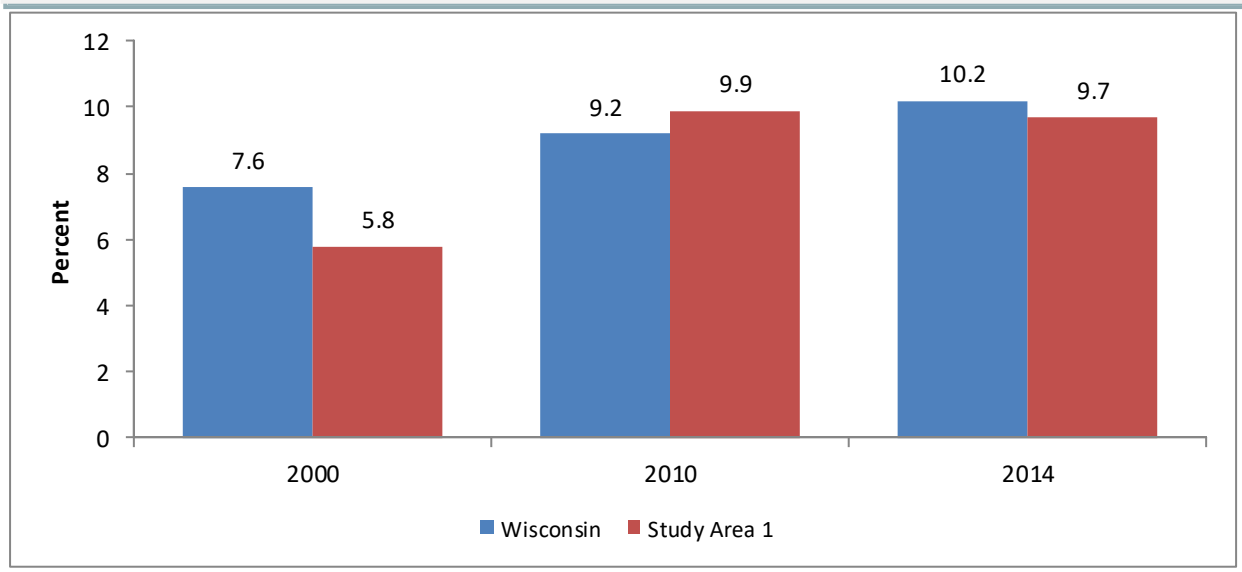

Figure 1.23. Proprietors Income as a percent of total income in study area 1 versus WI 2000, 2010, and 2014.

Study area 2 had a lower proportion of its income from proprietors than WI in 2000 and 2014, but a higher proportion in 2010.

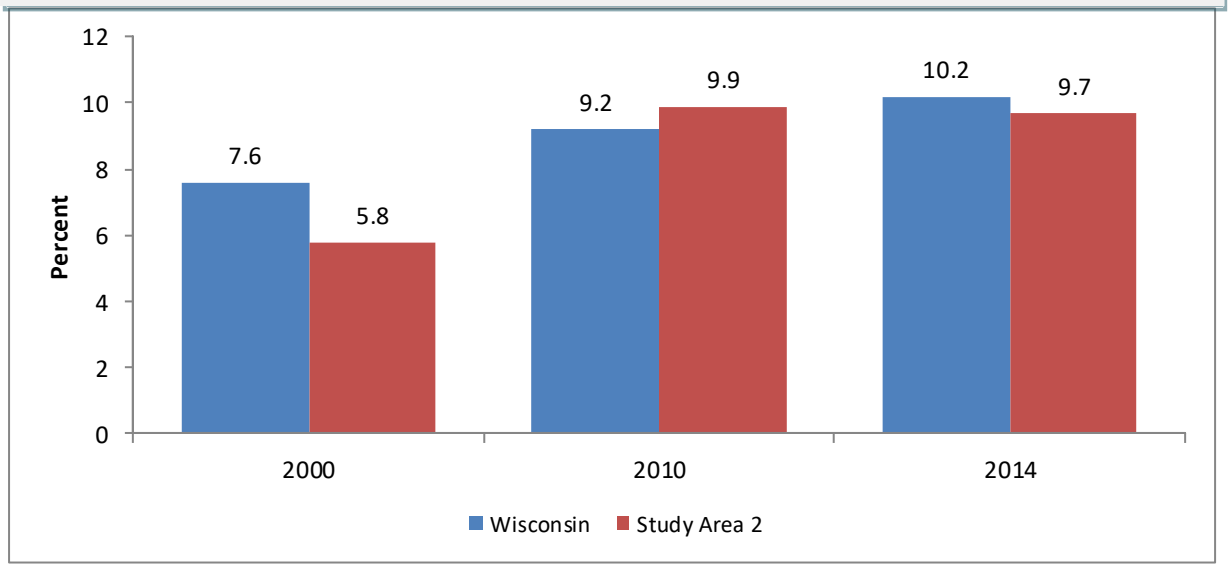

Figure 1.24. Proprietors income as a percent of total income in study area 2 versus WI 2000, 2010 and 2014.

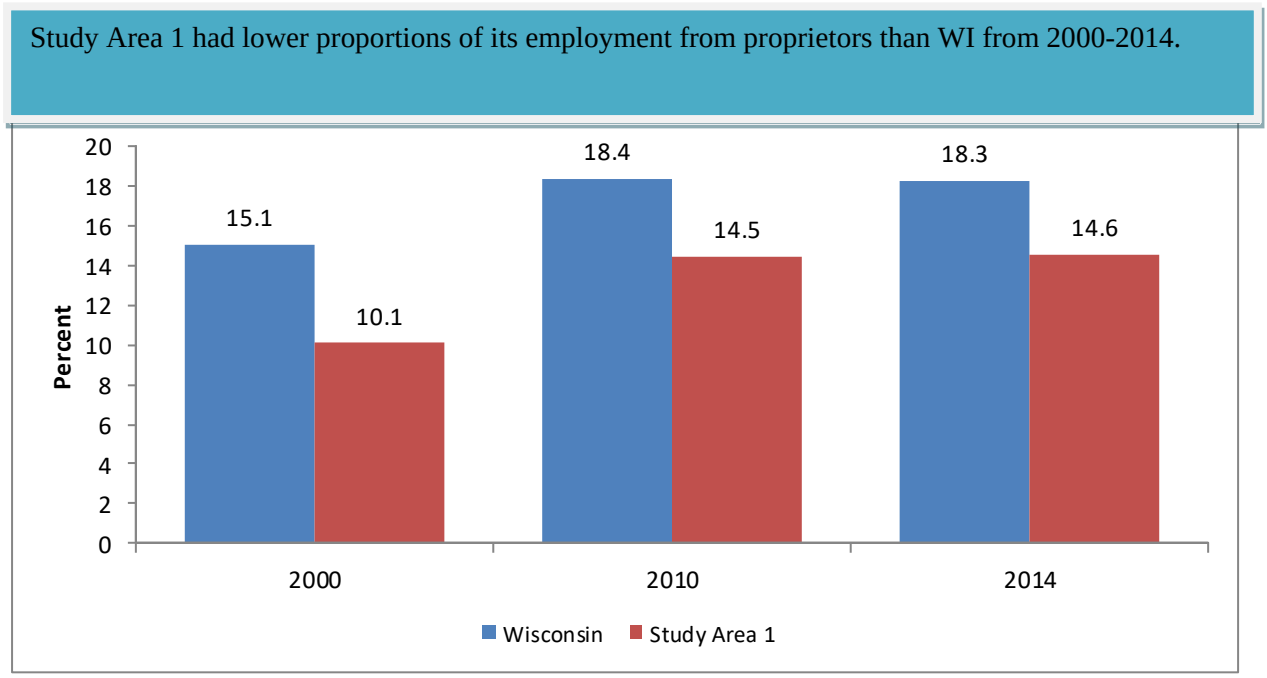

Figure 1.25. Proprietor's employment as a percent of total employment earned by place of work in study area 1 versus WI 2000, 2010 and 2014.

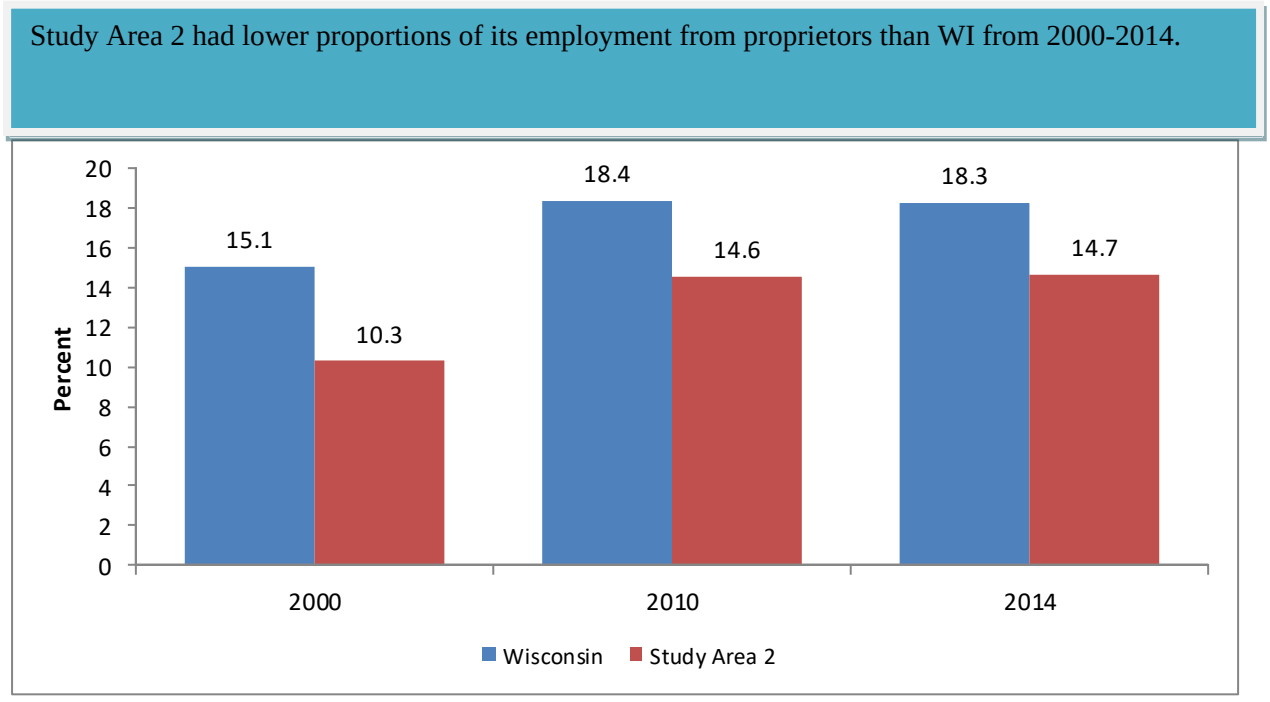

Figure 1.26. Proprietor's employment as a percent of total income earned by place of work in study area 2 versus WI 2000, 2010 and 2014.

Personal Income and Employment by Industry Sector.

The U.S. Department of Commerce, Bureau of Economic Analysis (BEA) in its Regional Economic Information System reports income and employment for different geographic areas by industry or economic sector using North American Industry Classification System (NAICS) industry classification codes. The NAICS codes identify different sectors of the economy using up to four digits. The higher the number within a sector the more specific the industry. For example, "retail trade" is the 700 series. So at the 700 level, all retail trade is included. Code 701 is "Motor Vehicle and parts dealers" and 702 is "Furniture and home furnishing stores". For the counties in our study area, we only report at the highest level i.e. for each series only the "00" level of detail. Even here, for some counties within the study area, the information is classified as "D" for non-disclosure meaning the numbers cannot be reported because there are less than 10 firms in that industry or economic sector, it is possible to request a special run by BEA for the study area totals when there is more than one county with non-disclosure for a particular sector. We have not done that here.

***Personal Income by Industry*.**

In 2014, study area 1 had higher proportions of its personal income generated in "Manufacturing", "Finance and Insurance", "Professional, Scientific and Technical Services", "Management of Companies and Enterprises", "Administrative and Waste Management Services", "Educational and Health Services", "Health Care and Social Assistance" and "Arts, Entertainment and Recreation" sectors than WI. Study Area 1 had a lower proportion of its personal income in "Farm Earnings", "Construction", "Retail Trade", "Information Services" and "Government and Government Enterprises" than WI (Figure 1.27).In 2014, Study Area 2 had higher proportions of its personal income generated in "Manufacturing", "Finance and insurance", "Professional, Scientific and Technical Services" and "Arts, Entertainment and Recreation" sectors than WI. Study area 2 had a lower proportion of its total income in "Farm Earnings", "Construction", "Retail Trade", and "Government and Government Enterprises" than WI (Figure 1.28). Many industries have "(D)" codes because of the non-disclosure in Kewaunee County.

***Employment by Industry*.**

In 2014, study area 1 had a higher proportion of its employment generated in the "Finance and Insurance", "Professional, Scientific and Technical Services" ,"Management of Companies or Enterprises", "Administrative and Waste Management Services", "Educational Services", "Health Care and Social Assistance" and "Arts, Entertainment and Recreation" sectors than WI. Study area 1 had a lower proportion of employment by industry than WI in "Farm Earnings", "Construction", "Manufacturing" and "Government and Government Enterprises" (Figure 1.29). In 2014, study area 2 had a higher proportion of its employment generated in the "Finance and Insurance", "Professional, Scientific, and Technical Services" and "Arts, Entertainment and Recreation" than WI. Study area 2 had a lower proportion of employment by industry than WI in "Farm Earnings", "Construction" "Manufacturing", "Retail Trade" and "Government and Government Enterprises" (Figure 1.30).

In 2014, study area 1 had higher proportions of its personal income generated in “Manufacturing”, “Finance and Insurance”, “Professional, Scientific and Technical Services”, “Management of Companies and Enterprises”, “Administrative and Waste Management Services”, “Educational and Health Services”, “Health Care and Social Assistance” and “Arts, Entertainment and Recreation” sectors than WI. Study Area 1 had a lower proportion of its personal income in “Farm Earnings”, “Construction”, “Retail Trade”, “Information Services” and ”Government and Government Enterprises” than WI.

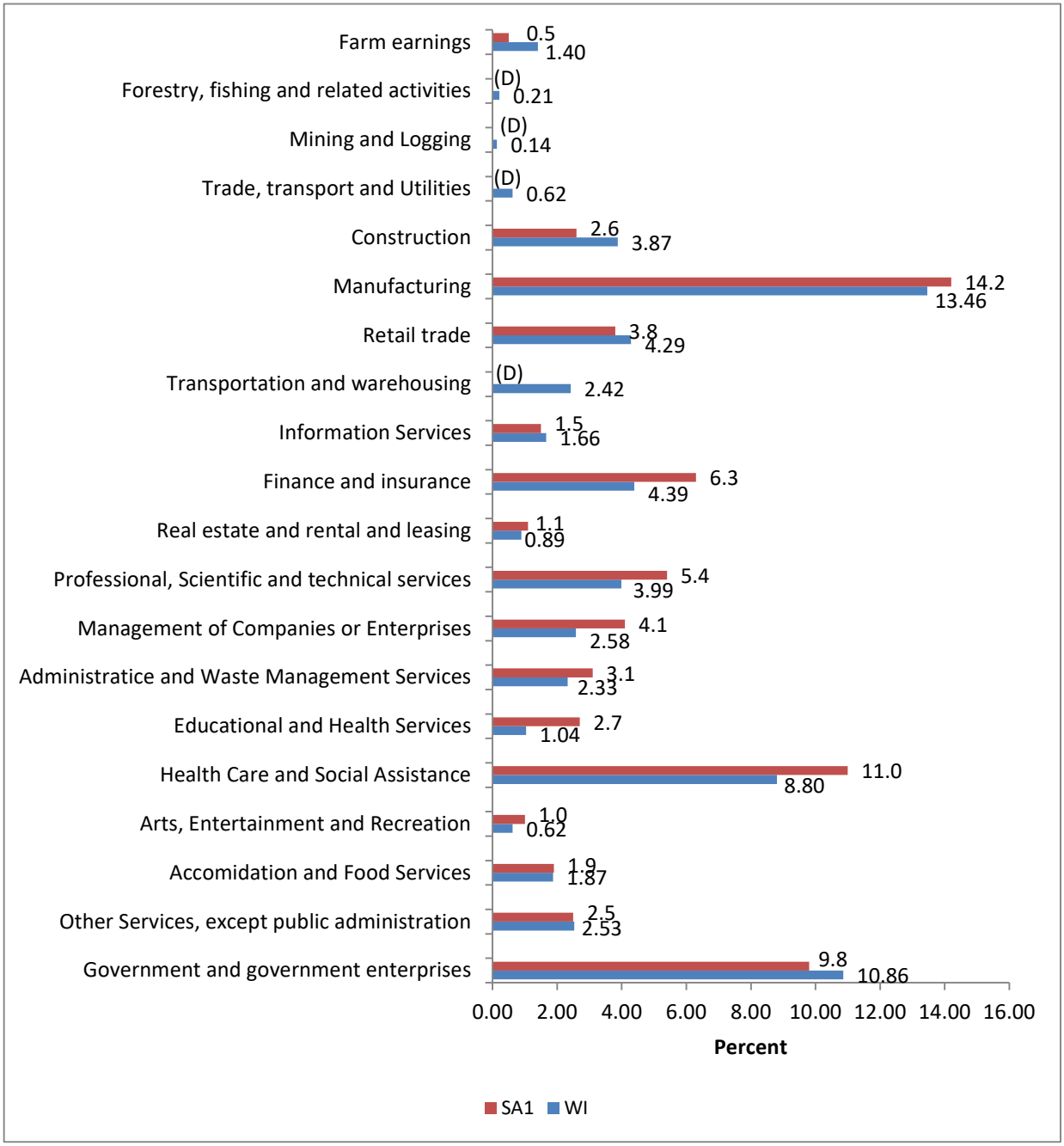

Figure 1.27. Percent of Personal Income by Industry for study area 1 versus WI, 2014.

In 2014, Study Area 2 had higher proportions of its personal income generated in “Manufacturing” , “Finance and Insurance”, “Professional, Scientific and Technical Services” and “Arts, Entertainment and Recreation” sectors than WI. Study area 2 had a lower proportion of its total income in “Farm Earnings”, “Constructions”, “Retail Trade”, and ”Government and Government Enterprises” than WI. Many industries have “(D)” codes because of the non-disclosure in Kewaunee County.

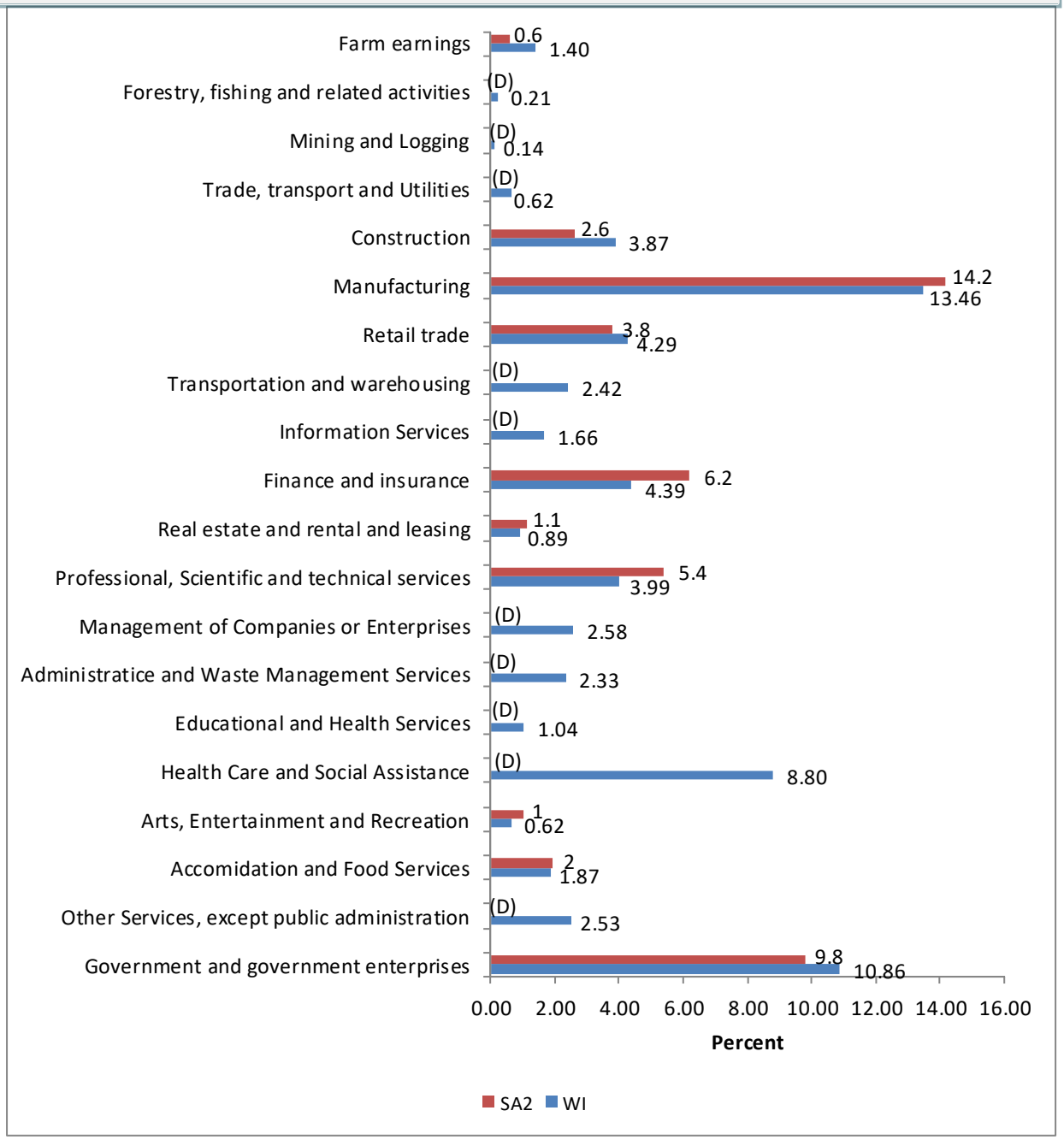

Figure 1.28. Percent of Personal Income by Industry for study area 2 versus WI, 2014.

In 2014, study area 1 had a higher proportion of its employment generated in the “Finance and Insurance”, “Professional, Scientific and Technical Services” ,“Management of Companies or Enterprises”, “Administrative and Waste Management Services”, “Educational Services”, “Health Care and Social Assistance” and “Arts, Entertainment and Recreation” sectors than WI. Study area 1 had a lower proportion of employment by industry than the WI in “Farm Earnings”, “Construction”, “Manufacturing” and “Government and Government Enterprises” than in WI.

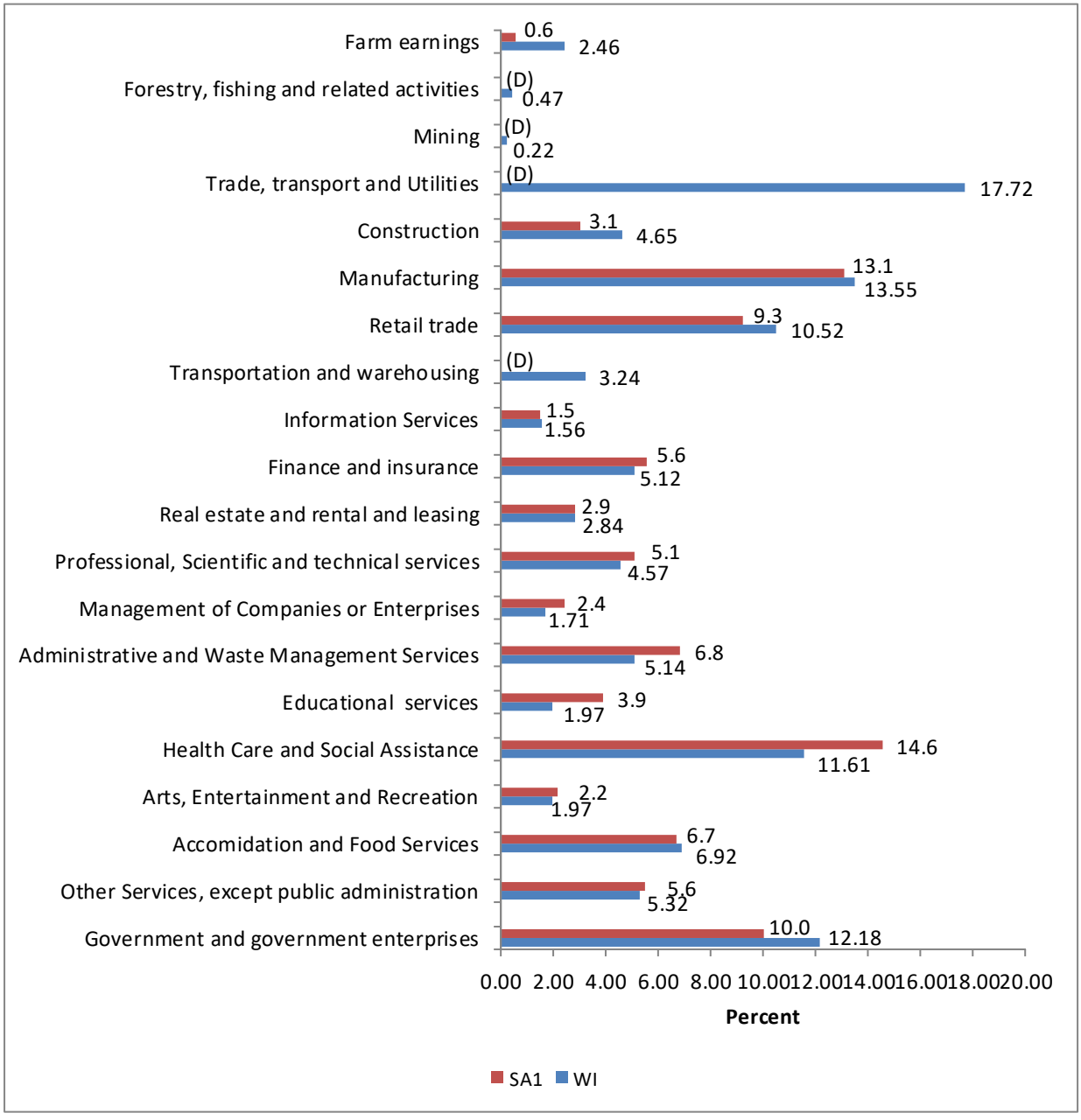

Figure 1.29. Percent of Employment by Industry for study area 1 versus WI, 2014.

In 2014, study area 2 had a higher proportion of its employment generated in the “Finance and Insurance”, “Professional, Scientific and Technical Services”, and “Arts, Entertainment and Recreation”, than WI. Study area 2 had a lower proportion of employment by industry WI in “Farm Earnings”, “Construction”. Manufacturing”, “Retail Trade” and “Government and Government Enterprises” than WI.

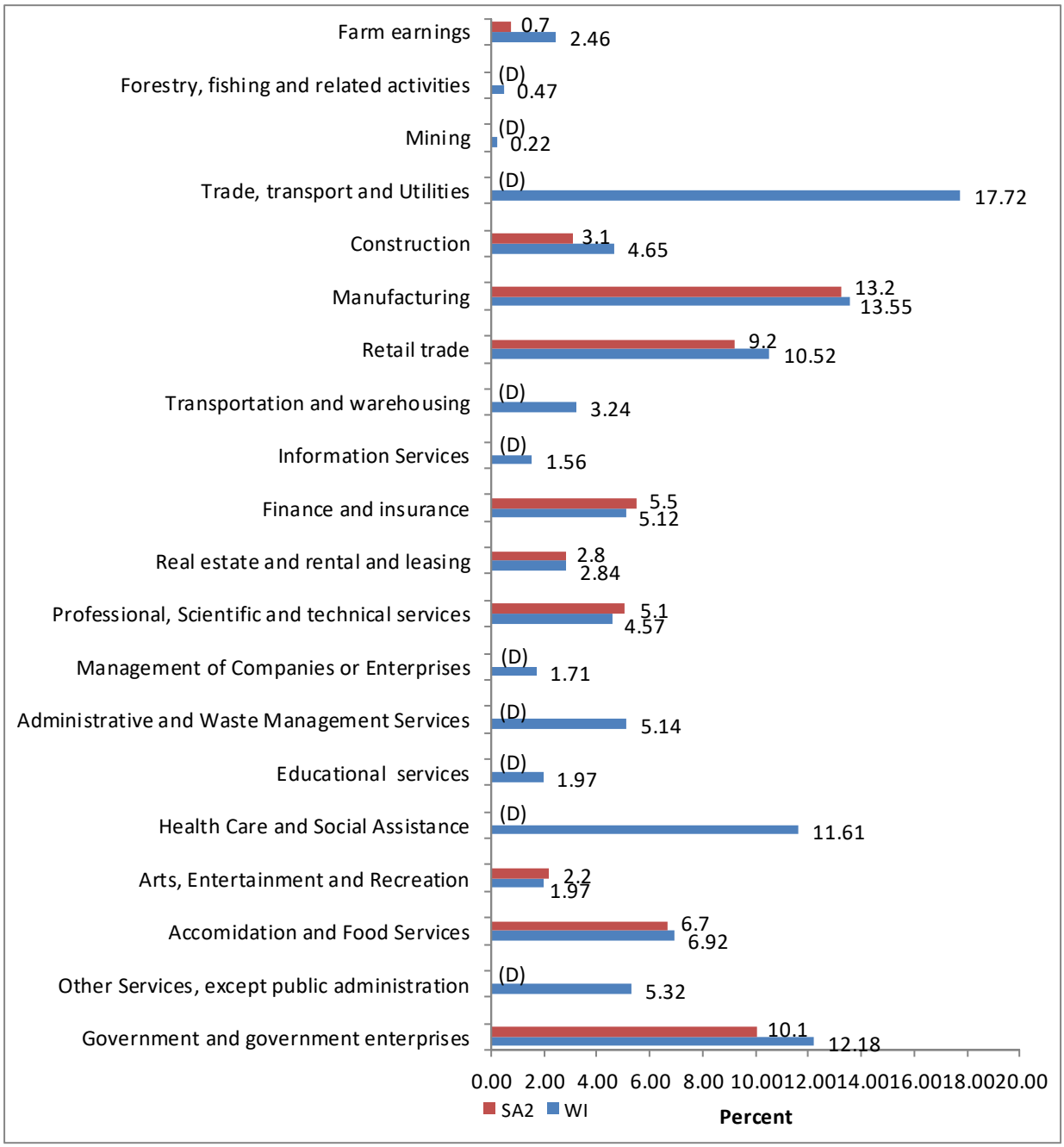

Figure 1.30. Percent of Employment by Industry for study area 2 versus WI, 2014.

Chapter 2: Overview of Current Resource Use Related Activity

This chapter provides an overview of what is currently known about the natural and cultural resource use in the two study areas. There is a sparse amount of detail by county in WI. What is known by county, and which can be aggregated into estimates for the two study areas, is presented first. Although county specific data on recreation activity could not be found, some information was obtained that provide indicators of demand and supply of outdoor recreation for the study areas and state level estimates of recreation by type of activity are presented along with trends by activity type.

Recreational activity within the Primary counties is an important component to the proposed designation of the WI Sanctuary on Lake Michigan.

Tourism.

Tourism is one of the leading industries in WI, having a $19.3 billion dollar impact in 2015 and $18.5 billion dollar impact in 2014. The Wisconsin Department of Tourism provides statistics by county on the impact tourism has on the economy; this information can be referenced at **http://industry.travelwisconsin.com/research**. Sheboygan County has the highest numbers in all areas, including direct visitor spending, total business sales, employment, total labor income and state and local taxes for tourism impacts. Study area 1 has lower numbers in measured tourism impacts as it has one less county contributing. Study area 1 has higher percent of change from 2014-2015 than study area 2 and the state for direct visitor spending, total business sales, and total labor income. WI had higher percentage of change in state and local taxes as well as total employment from 2014-2015 than both study areas (Table 2.1and Table 2.2).

Table 2.1. Tourism impacts by county in 2014 and 2015 including direct visitor spending and total business sales.

	Direct Visitor Spending Millions		%	Total Business Sales Millions		%
	2014	2015	Change	2014	2015	Change
Kewaunee	$17.8	$17.4	-2.16%	$32.0	$32.3	0.79%
Manitowoc	$111.0	$115.3	3.87%	$184.8	$192.4	4.12%
Ozaukee	$89.8	$92.5	2.95%	$179.1	$185.8	3.71%
Sheboygan	$203.4	$214.9	5.66%	$340.9	$358.6	5.18%
Wisconsin	$11,417.90	$11,919.40	4.39%	$18,474.40	$19,291.70	4.42%
Study Area 1	$404.2	$422.6	4.6%	$704.8	$736.7	4.5%
Study Area 2	$422.0	$440.1	4.28%	$736.8	$769.0	4.37%

Source: Wisconsin Department of Tourism

Table 2.2 Tourism impacts by county in 2014 and 2015 including employment, total labor income and state and local taxes

	Employment Total		%	Total Labor Income Millions		%	State and Local Taxes Millions		%
	2014	2015	Change	2014	2015	Change	2014	2015	Change
Kewaunee	288	277	-3.95%	$4.6	$4.6	1.15%	$2.1	$2.0	-3.05%
Manitowoc	2,089	2,094	0.23%	$43.5	$45.3	4.29%	$14.9	$15.3	2.71%
Ozaukee	1,996	2,018	1.06%	$52.7	$54.9	4.13%	$11.4	$11.8	3.46%
Sheboygan	3,404	3,451	1.37%	$73.5	$78.5	6.76%	$25.9	$26.6	2.83%
Wisconsin	187,643	190,717	1.64%	$4,829.90	$5,065.70	4.88%	$1,412.20	$1,459.90	3.37%
Study Area 1	7,490.4	7,563.1	1.0%	$169.7	$178.7	5.3%	$52.1	$53.7	2.9%
Study Area 2	7,778.6	7,839.9	0.79%	$174.3	$183.4	5.2%	$54.2	$55.7	2.71%

Source: Wisconsin Department of Tourism

Fishing and Hunting Licenses.

Fishing and hunting licenses sold is a good indicator of the extent of fishing and hunting available in the study areas. In 2007, the primary counties of study area 1 had total number of licenses sold from fishing and hunting of 128,421, while in the primary counties of study area 2 there were 149,895 licenses sold. In study area 1, nonresident fishing and hunting licenses were 1.9% of the total licenses sold, while in study area 2 it was 2.4% (Table 2.3). An update was obtained of total fishing and hunting licenses sold in the two study areas in 2014. The number of licenses sold declined from 2007 to 2014 in both study areas. In study area 1, the number of licenses sold decline 3.4%, while in study area two the number of licenses sold declined 6.5% (Table 2.3 and Table 2.4).

Table 2.3. Fishing and hunting licenses and stamps sold in the two study areas in 2007.

	Resident Fishing	Nonresident Fishing	Misc. Fishing	Resident Hunting	Nonresident Hunting	Stamps	Total
Kewaunee	3,465	1,020	4,883	6,137	29	5,940	21,474
Manitowoc	11,747	631	3,078	20,342	86	10,959	46,843
Ozaukee	5,614	370	1,427	6,975	45	4,906	19,337
Sheboygan	16,631	1,176	4,282	25,246	181	14,625	62,241
Study Area 1 total	33,992	2,177	8,787	52,563	312	30,490	128,421
Study Area 2 total	37,457	3,197	13,670	58,700	341	36,430	149,895

Source: Wisconsin DNR unpublished data, 2007

Table 2.4. Licenses sold in two study areas, 2014.

County	Licenses Sold
Kewaunee	16,081
Manitowoc	44,282
Ozaukee	19,497
Sheboygan	60,285
Study Area 1	124,064
Study Area 2	140,145

Source: WI DNR

Number of Beaches.

The number of public beaches supplied in the two study areas is another good indicator of outdoor recreation. The Department of Natural Resources provides a list of beaches on the Great Lakes separated by bordering county. All four of the primary counties in the study areas are bordering Lake Michigan. This information can be obtained at http://dnr.wi.gov/topic/beaches/. In study area 1 there are 39 beaches, while in study area 2 there are 44 beaches that provide public access (Table 2.5). Below is a list of the beaches by county.

Kewaunee County has 5 beaches on its shoreline, Cresent, 9th Ave Wayside, Light House Vista, Pioneer Park and City of Kewaunee.

Manitowoc County has 15 beaches on its shoreline, Point State Park Concession Stand, Point State Park Lakeshore Picnic Area, Point State Park Lighthouse Picnic Area,

Neshotah Park, Memorial Drive-Mariner's Trail Parking at Parkway, Memorial Drive-Mariner's Parking area at Waldo, Memorial Drive- Mariner's Trail Parking at Thiede Road, Blue Rail Marina Beach and Boat Launch, YMCA, Lincoln High School, Red Arrow Manitowoc, University, Silver Creek, Fisher Creek Park and Hika Park Boat Launch.

Ozaukee County has 10 beaches on its shoreline, Pebble Beach Road, Jay Rd, Silver Rd, Harrington State Park North, Harrington State Park South, Sandy Beach Road, Upper Lake Park, Lions Den George Nature, Preserve, Concordia University and Virmond County Park.

Sheboygan County has 14 beaches on its shoreline, 3rd Street, Vollrath Park, Deland Park, Blue Harbor, Whitebomb Ave, Lakeview Park, North/Nature Center in Kohler-Andrae State Park, Picnic Area in Kohler-Andrae, Wilson Lima (AKA Whites), KK Road, Foster Road, Van Ess Road and Amsterdam.

Table 2.5 Number of Beaches on Lake Michigan in the two study areas

County/Study Area	Number of Beaches
Kewaunee	5
Manitowoc	15
Ozaukee	10
Sheboygan	14
Study Area 1	39
Study Area 2	44

Source: WI DNR

Beach Act and Grants to Counties.

Wisconsin Department of Natural Resources (WIDNR) produced the Wisconsin's Great Lakes Beach Monitoring & Notification Program, a 2014 Beach Season Summary that outlines the funding and goals for Wisconsin's BEACH Act. According to this Summary, a beach is considered "A publicly owned shoreline or land area, not contained in a man-made structure, located on the shore of Lake Michigan or Lake Superior, that is used for swimming, recreational bathing or other water contact recreational activity." Based on that definition, WIDNR listed 190 beaches on the coast along both of the bordering great lakes, 39 (20.5%) are within study area 1 and 44 (23.2%) are in study area 2. The BEACH Act is a program that provides funding to high priority beaches to monitor the health of the beaches, including beach status, bacteria, sanitary surveys, and overall beach conditions. This data is monitored by the USGS and available on the Wisconsin Beach Health Website (http://www.wibeaches.us). Often beaches do receive additional or alternate funding for maintenance via other partners, such as the University of Wisconsin- Oshkosh and the University of Wisconsin- Milwaukee. Two counties in study

area 1 (Manitowoc and Ozaukee) received $22,000 in 2013, while in study area 2 three counties (Kewaunee, Manitowoc and Ozaukee) received $25,000. In 2014, study area 1 counties received $16,000 plus some unknown alternative funding, while $19,000 plus alternative funding was received by counties in study area 2 (Table 2.6). Specifically via the BEACH Act fund, study area 2 was allocated more money.

Counties are often given grants to help manage things such as water quality, outdoor recreation, fish and wildlife habitat, forestry activities and public health and safety. These grants are then used to do research or promote the building of new facilities. An example of a project that this grant money was used for includes an education and outreach program on the prevention and control of invasive species in the rivers and lakes within the counties. In 2013-2014, the counties in study area 1 received over $5.7 million, while the counties in study area 2 received $6.7 million (Table 2.7).

Table 2.6. Allocation of BEACH Act funds for the 2013 and 2014 seasons

	2013 Grant	2014 Allocation
Kewaunee County	$3,000	$3,000
Manitowoc County	$6,000	$6,000
Ozaukee County	$16,000	Alt. Funding
Sheboygan County	N/A	$10,000
Study Area 1 total	$22,000	$16,000
Study Area 2 total	$25,000	$19,000

Source: WI DNR

Table 2.7. Grants awarded by county for 2013-2014.

County	Grants Awarded
Kewaunee	$948,733
Manitowoc	$3,294,034
Ozaukee	$1,807,044
Sheboygan	$650,313
Study Area 1	$5,751,391
Study Area 2	$6,700,124

Source: WI DNR

State Recreation Areas in the Primary Counties.
Another good indicator of the scale of outdoor recreation opportunities is the number of State Recreation Areas. State-wide in 2014, there are 52 designated state parks, 8 southern forests, eight recreational areas and 41 state trails. In that year, these areas accommodated 15.3 million visits and accounted for over $1 billion in revenue. The Department of Natural Resources provides a list of state recreational areas within counties and a list of activities that can be found within, although providing a disclaimer that the list of recreational areas may be incomplete. The activities include winter, land, water and educational recreational activities. This information can be accessed at the WI DNR website at http://dnr.wi.gov/about/impactreports.html.

There are 34 state recreation areas in study area 1 and 35 in study area 2 (Table 2.8). Manitowoc County was listed as having 10 state recreational areas, all of which had hiking, wildlife viewing and birding. The only location with an educational program was Point Beach State Forest (Table 2.9). Ozaukee was listed as having 9 state recreational areas, all of which had hiking, wildlife viewing and birding. The only location with an educational program was Harrington Beach State Park (Table 2.10). Sheboygan has 16 state recreational areas listed. Educational programs are offered at Kettle Moraine State Forest- Northern Unit- Iansr and Kholer-Andrae State Park (Table 2.11). Kewaunee only has one recreational area listed (Table 2.12).

Table 2.8. Number of state recreational areas in the two study areas.

County/Study Area	Number of State Recreational Areas
Kewaunee	1
Manitowoc	10
Ozaukee	9
Sheboygan	15
Study Area 1	34
Study Area 2	35

Source: WI DNR

Table 2.9. State recreational areas in Manitowoc County.

Manitowoc
Cherney Maribel Caves State Natural Area
Collins Marsh Wildlife Area
Fischer Creek State Recreation Area
Ltc Old-Growth Forest State Natural Area
Point Beach Ridges State Natural Area
Point Beach State Forest
Two Creeks Buried Forest State Natural Area
Wilderness Ridge State Natural Area
Vanderbloemen Bog State Natural Area
Woodland Dunes State Natural Area

Source: WI DNR

Table 2.10. State recreational areas in Ozaukee County.

Ozaukee
Cedarburg Beech Woods State Natural Area
Cedarburg Bog State Natural Area
Fairy Chasm State Natural Area
Harrington Beach State Park
Huiras Lake State Natural Area,
Kurtz Woods State Natural Area
North Branch Milwaukee River Wildlife And Farm Heritage Area
Riveredge Creek & Ephemeral Pond State Natural Area
Sapa Spruce Bog State Natural Area

Source: WI DNR

Table 2.11. State recreational areas in Sheboygan County.

Sheboygan
Butler Lake And Flynn'S Spring State Natural Area
Cedar Grove Hawk Research Station State Natural Area
Crooked Lake Wetlands State Natural Area
Johnson Hill Kame State Natural Area
Kettle Hole Woods State Natural Area
Kettle Moraine State Forest-Northern Unit-Iansr
Kettle Moraine Red Oaks State Natural Area
Kiel Marsh Wildlife Area, Kohler Park Dunes State Natural Area
Kohler-Andrae State Park
La Budde Creek Fishery Area
Muehl Springs State Natural Area
Nichols Creek Wildlife Area
Rhine Center Bog State Natural Area
Schuet Creek Fishery Area
Sheboygan Marsh Wildlife Area

Source: WI DNR

Table 2.12. State recreational areas in Kewaunee County.

Kewaunee
C.D. (Buzz) Besadny Fish And Wildlife Area

Source: WI DNR

Within each county, there are major recreational areas that attract a majority of visitors. In 2014, Manitowoc County's Point Beach State forest attracted about 381,760 visitors resulting in a local impact of $15,423,104. Within Manitowoc County, there are 10,978 acres of state owned property open for public access, hunting and various outdoor recreational activity and 992 acres of private land open for public access. Ozaukee County attracts the most visitors to Harrington Beach State Park, totaling 159,798 visitors in 2014 with a local impact of $7,989,900. There are 2,013 acres of private land open for public access in Ozaukee County. In Kewaunee County, over 3,250 acres of state owned property open for public access, hunting and various outdoor recreational activity and 765 acres of private land open for public access. Within Sheboygan County, Kettle Moraine State Forest in addition to Kohler-Andrae State Park had 988,151 visitors with a local impact of $43,866,558. There are over 22,780 acres of state owned land within the county open for public access, hunting and various outdoor recreational activity and 4,620 acres of private land open for public access. All of this information can be accessed at the WI DNR website at http://dnr.wi.gov/about/impactreports.html.

Maritime Heritage.
Maritime heritage is a large component to many of the coastal communities in the proposed study areas. There are maritime trails, dive sites, museums and other attractions throughout all primary counties. The Maritime Trails are a key element to the preservation of the maritime heritage along the coast of Wisconsin. The Wisconsin Historical Society established the Wisconsin Maritime Trails program in partnership with the University of Wisconsin-Madison Sea Grant Institute. The maritime trails encompass shipwreck moorings, public presentations, and informational trail markers among other things to seek to promote public appreciation as well as document and protect the heritage on the shore. The shipwreck mooring buoys at the dive locations serve as anchoring points for boats to ensure that they are not damaging the wreck while allowing safe access points for divers. There is one dive site in Kewaunee, three in Manitowoc, three in Ozaukee and two in Sheboygan.

Other key components of maritime heritage within the counties are located within Ozaukee and Manitowoc. Manitowoc is considered the "Maritime Capital" of Wisconsin, as it has the largest maritime museum on the great lakes within its borders. The Wisconsin Maritime Museum is a Smithsonian affiliated museum that is a large tourism attraction point within the state. In addition to this, Ozaukee County is the location of Port Washington. Port Washington is a harbor town with museums, lighthouses, local shopping and dining that attracts tourism.

This information was obtained from Wisconsin's maritime websites that provide information of museums, shipwrecks and attractions.
http://www.travelwisconsin.com/museums-galleries/wisconsin-maritime-museum-203395
http://www.maritimetrails.org/
http://www.wisconsinshipwrecks.org/attraction/MidLakeMichigan
http://www.wisconsinmaritime.org/the-submarine-experience/
http://www.visitportwashington.com/

Study area 1 contains 30 maritime attractions, while study area 2 contains 35 attractions. Manitowoc has the highest number of attractions totaling 15 while Kewaunee has the least with 5 attractions (Table 2.13). Tables 2.14 to Table 2.17 provide a list of the maritime attractions in each county.

Table 2.13. Number of Maritime attractions in the two study areas.

County/Study Area	Attractions
Kewaunee	5
Manitowoc	15
Ozaukee	9
Sheboygan	6
Study Area 1	30
Study Area 2	35

Source: http://www.wisconsinshipwrecks.org/

Table 2.14. Maritime attractions in Kewaunee County.

Kewaunee County	Type of Attraction
Kewaunee County Historical Museum	museum
Tug Ludington	historic vessel
Kewaunee Pierhead light	lighthouse
Algoma Pierhead light	lighthouse
Daniel Lyons	dive site- advanced

Source: http://www.wisconsinshipwrecks.org/

Table 2.15. Maritime attractions in Manitowoc County.

Manitowoc County	Type of Attraction
Wisconsin Maritime Museum	museum
Rogers Street fishing village	museum
Rouse Simmons maritime trail marker	historic marker
Vernon maritime trail marker	historic marker
Francin Hinton Maritime Trails marker	historic marker
Manitowoc- two rivers mariners trails marker	historic park
Carferry Badger	historic vessel
Francis Hinton	archeological site
Point Beach State Forest	maritime trails and archeological site
Two Rivers North Pierhead	lighthouse
Manitowoc Breakwater Lighthouse	lighthouse
Rawley Point lighthouse	lighthouse
McMullen and Pitz Dredge	dive site-intermediate
Francis Hinton- mooring buoy	dive site- beginner and snorkeler
S.C. Baldwin	dive site- intermediate

Source: http://www.wisconsinshipwrecks.org/

Table 2.16. Maritime attractions in Ozaukee County.

Ozaukee County	Type of Attraction
Smith Brothers Fish Net House	museum
Port Washington Light Station	museum
Niagara Maritime Trail Marker	historic marker
Port Washington Pierhead Light	lighthouse
Port Washington fishermen's Memorial	other
Toledo Anchor Memorial	other
Mahoning	dive site- beginner
Niagra	dive site-beginner
Northener	dive site-advanced

Source: http://www.wisconsinshipwrecks.org/

Table 2.17. Maritime attractions in Sheboygan County.

Sheboygan County	Type of Attraction
Gallinipper	historic marker
Kohler-Andrae State Park	maritime trails and archeological site
Lottie Cooper-	archeological site
Sheboygan Pierhead light	lighthouse
Hetty Taylor	dive site-intermediate
Selah Chamberlain	dive site-intermediate

Source: http://www.wisconsinshipwrecks.org/

Statewide Recreation Use.

The 2011-2016 Wisconsin Statewide Comprehensive Outdoor Recreation Plan (SCORPS) provides an overview of the recreational activities of the entire state. They separated recreational use and participation into five segments including developed land; limited development; water; winter; and viewing and interpretive. The study found that over 87% of individuals in WI enjoy some form of outdoor recreation. For the purposes of this study, it is important to note that just under half of the individuals in WI reported participating in a variety of water based activities, including boating, visiting a beach and swimming (Table 2.18). The most popular activity in the state is walking for pleasure, with as many individuals reporting to be involved in that as recreation in general (Table 2.19).

Table 2.18. Percent of Wisconsin residents participating in water activities and the estimated number of participants per activity.

Water Activities	Percent Participating	Activity Participating (1,000s)
Boating (any type)	47.3	2,129
Visit a beach	42.3	1,904
Swimming in lakes, streams, etc.	41.7	1,877
Freshwater fishing	37.4	1,683
Motorboating	36	1,620
Swimming in an outdoor pool	34.5	1,553
Warmwater fishing	33.2	1,494
Visit other waterside (besides beach)	22.6	1,017
Canoeing	17.9	806
Waterskiing	13	585
Coldwater fishing	12.8	576
Rafting	9.2	414
Kayaking	7.3	329
Rowing	7.2	324
Use personal watercraft	6.5	293
Snorkeling	6.2	279
Sailing	3.9	176
Scuba diving	1.1	50
Windsurfing	1.1	50
Surfing	1	45

Source: Wisconsin Statewide Comprehensive Outdoor Recreation Plan

Table 2.19. Percent of Wisconsin residents participating in developed land activity and the estimated number of participants per activity.

Developed Land Activities	Percent Participating	Estimated Number of Participants (1,000s)
Walk for pleasure	87.7	3,947
Gardening or landscaping for pleasure	65.4	2,944
Attend outdoor sports events	65	2,926
Family gathering	63.5	2,858
Driving for pleasure	52.8	2,377
Bicycling	48.7	2,192
Picnicking	47	2,115
Yard games, e.g., horseshoes	44.7	2,012
Golf	41.8	1,881
Soccer outdoors	32.3	1,460
Running or jogging	32.1	1,445
Developed camping	25.4	1,143
Handball or racquetball outdoors	23.5	1,058
Horseback riding (any type)	8.7	392
Tennis outdoors	8.5	383
Horseback riding on trails	6.6	297
Inline skating	2.5	113

Source: Wisconsin Statewide Comprehensive Outdoor Recreation Plan

Table 2.20. Percent of Wisconsin residents participating in limited development land activity and the estimated number of participants per activity.

Limited Development Activities	Percent Participating	Estimated Number of Participants (1,000s)
Day hiking	36.7	1,652
Visit a wilderness or primitive area	33.7	1,517
Mountain biking	30.7	1,382
Hunting (any type)	22.2	999
Big game hunting	18	810
Small game hunting	11.3	509
Primitive camping	11.4	513
Backpacking	7.4	333
Migratory bird hunting	4.1	185
Rock climbing	3.8	171
Mountain climbing	2.7	122
Caving	2.6	117
Orienteering	1.6	72

Source: Wisconsin Statewide Comprehensive Outdoor Recreation Plan

Table 2.21. Percent of Wisconsin residents participating in viewing and interpretive activities and the estimated number of participants per activity.

Viewing and Interpretive Activities	Percent Participating	Estimated Number of Participants (1,000s)
View/photograph natural scenery	5.3	2,939
Attend outdoor sports events	65	2,926
Visit nature centers, etc.	63.5	2,858
View/photograph other wildlife	57.9	2,606
View/photograph wildflowers, trees, etc.	52.4	2,359
Sightseeing	50.6	2,278
Visit historic sites	46.7	2,102
Gather mushrooms, berries, etc.	42.8	1,926
View/photograph birds	41.7	1,877
Visit a farm or agricultural setting	35.3	1,589
Attend outdoor concerts, plays, etc.	32.8	1,476
View/photograph fish	26.7	1,202
Visit prehistoric/archeological sites	15.5	698
Boat tours or excursions	13.9	626

Source: Wisconsin Statewide Comprehensive Outdoor Recreation Plan

Statewide Recreation Trends.

The recreational uses of the state have shifted in since 1994, showing a growth in some recreational uses and declines in others. In WI, the top growth recreational activity from 1994-2009 is outdoor soccer, followed by the viewing and photographing of other wildlife and golf (Table 2.22). The projected trends according to SCORPS is that there will be an increasing demand for soccer, kayaking, driving for pleasure, adventure racing, developed/RV camping, dog parks, BMX biking, climbing, paddle boarding, triathlons, off-highway driving and gardening and landscaping for pleasure. On the other end of the spectrum, SCORPS predicts that there will be a declining demand for hunting, inline skating, skateboarding and skate parks, horseback riding, softball and downhill skiing.

Table 2.22.Top Growth Wisconsin Recreation Activities from 1994-2009.

Recreation Use	Survey of 1994 (1,000s)	Survey of 2009 (1000s)	Difference (1,000s)
Soccer outdoors	179	1,460	+1,281
View/photograph other wildlife	1,583	2,606	+1,023
Golf	889	1,882	+994
Handball or racquetball outdoors	97	1,058	+962
Walk for pleasure	2,988	3,947	+951
Attend outdoor sports events	1,995	2,924	+928
Bicycling	1,487	2,191	+704
Day hiking	949	1,653	+704
Running or jogging	804	1,447	+643
View/photograph birds	1,261	1,878	+616

Source: Wisconsin Statewide Comprehensive Outdoor Recreation Plan

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Wisconsin Maritime Museum at Manitowoc. http://www.wisconsinmaritime.org/the-submarine-experience/

Port Of Washington, Wisconsin. http://www.visitportwashington.com/

Appendix Tables

Table A. 1 Demographic Profiles

United States

	2000		2010		2014	
Gender	Total	Percent	Total	Percent	Total	Percent
Male	138,053,563	49.1	151,781,326	49.2	151,902,805	49.2
Female	143,368,343	50.9	156,964,212	50.8	156,842,733	50.8
Ethnicity						
White	211,460,626	75.1	223,553,265	72.4	238,969,046	77.4
Black	34,658,190	12.3	38,929,319	12.6	40,754,411	13.2
Asian	10,242,998	4	14674252	4.8	16,672,259	5.4
Hispanic	35,305,818	12.5	50,477,594	16.3	53,721,723	17.4
Age						
Under 5	19,175,798	6.81	20,201,362	6.5	19,759,714	6.4
5 to 19	61,297,467	21.8	63,066,194	20.4	40,445,665	13.1
20 to 34	58,855,725	20.9	62,649,947	20.3	63,292,835	20.5
35 to 44	45,148,527	16.0	41,070,606	13.3	40,136,920	13
45 to 54	37,677,952	13.4	45,006,716	14.6	43,533,121	14.1
55 to 64	24,274,684	8.6	36,482,729	11.8	37,975,701	12.3
65 to 74	18,390,986	6.5	21,713,429	7.0	23,464,661	7.6
75 and over	16,600,567	5.9	18,544,555	6.0	18,833,478	6.1

State-Wisconsin

	2000		2010		2014	
Gender	Total	Percent	Total	Percent	Total	Percent
Male	2,660,383	49.6	2,822,400	49.6	2,861,509	49.7
Female	2,703,292	50.4	2,864,586	50.4	2,896,054	50.3
Ethnicity						
White	4,769,857	88.9	4,902,067	86.2	5055,141	87.8
Black	304,460	5.7	359,148	6.3	379,999	6.6
Asian	88,763	1.7	129,234	2.3	149,697	2.6
Hispanic	192,921	3.6	336,056	5.9	374,242	6.5
Age						
Under 5	342,340	6.4	358,443	6.3	351,211	6.1
5 to 19	1,189,753	22	1,143,753	20.1	1157,270	20.1
20 to 34	1,063,460	19.9	1,108,246	19.4	1128,483	19.6
35 to 44	875,522	16.3	725,666	12.8	708,180	12.3
45 to 54	732,306	13.7	873,753	15.4	852,119	14.8
55 to 64	457,741	8.5	699,811	12	754,241	13.1
65 to 74	355,307	6.6	400,496	7.1	443,332	7.7
75 and over	347,246	605	376,818	6.7	385,757	6.7

Study Area 1

	2000		2010		2014	
Gender	Total	Percent	Total	Percent	Total	Percent
Male	650,596	48.7	663,859	48.7	668,445	48.7
Female	685,330	51.3	699,301	51.3	704,132	51.3
Ethnicity						
White	938,354	70.24	962,391	70.6	1016,393	74.05
Black	253,158	18.95	259,000	19	265,594	19.35
Asian	40,879	3.06	48,665	3.57	49,001	3.57
Hispanic	136,131	10.19	140,542	10.31	151,944	11.07
Age						
Under 5	89,507	6.7	96,784	7.1	94,708	6.9
5 to 19	444,863	33.3	282,174	20.7	277,261	20.2
20 to 34	281,880	21.1	299,895	22	301,967	22
35 to 44	209,740	15.7	173,121	12.7	171,572	12.5
45 to 54	173,670	13	189,479	13.9	188,043	13.7
55 to 64	104,202	7.8	151,311	11.1	164,709	12
65 to 74	88,171	6.6	80,426	5.9	89,218	6.5
75 and over	89,507	6.7	85,879	6.3	85,100	6.2

Study Area 2

	2000		2010		2014	
Gender	Total	Percent	Total	Percent	Total	Percent
Male	660,439	48.7	673,878	48.7	679,794	48.8
Female	695,699	51.3	709,856	51.3	713,227	51.2
Ethnicity						
White	957,976	70.64	982,313	70.99	979,851	70.34
Black	253,327	18.68	259,173	18.73	265,649	19.07
Asian	40,955	3.02	48,707	3.52	49,034	3.52
Hispanic	136,699	10.08	141,002	10.19	152,396	10.94
					,	
Age						
Under 5	93,574	6.9	96,861	7	96,118	6.9
5 to 19	302,419	22.3	286,433	20.7	281,390	20.2
20 to 34	282,077	20.8	291,968	21.1	305,072	21.9
35 to 44	216,982	16	177,118	12.8	174,128	12.5
45 to 54	179,010	13.2	195,106	14.1	190,844	13.7
55 to 64	107,135	7.9	154,978	11.2	167,163	12
65 to 74	88,149	6.5	83,024	6	90,546	6.5
75 and over	89,505	6.6	88,559	6.4	86,367	6.2

Counties within Study Areas

Kewaunee, WI

	2000		2010		2014	
Gender	Total	Percent	Total	Percent	Total	Percent
Male	10,268	50.8	10,452	50.8	10,365	50.7
Female	9,944	49.2	10,122	49.2	10,079	49.3
Ethnicity						
White	19,606	97	19,957	97	19,933	97.5
Black	61	0.3	62	0.3	102	0.5
Asian	61	0.3	62	0.3	82	0.4
Hispanic	465	2.3	473	2.3	470	2.3
Age						
Under 5	1,193	5.9	1,214	5.9	1186	5.8
5 to 19	4,588	22.7	4,197	20.4	4,027	19.7
20 to 34	3,517	17.4	3,230	15.7	3,578	17.5
35 to 44	3,254	16.1	2,777	13.5	2,535	12.4
45 to 54	2,769	13.7	3,251	15.8	3,169	15.5
55 to 64	1,819	9	2,613	12.7	2,801	13.7

65 to 74	1,435	7.1	1,605	7.8	1,615	7.9
75 and over	1,657	8.2	1,708	8.3	1,513	7.4

Manitowoc, WI

	2000		2010		2014	
Gender	Total	Percent	Total	Percent	Total	Percent
Male	41,219	49.7	437,999	49.7	40,000	49.9
Female	41,717	50.3	443,287	50.3	40,160	50.1
Ethnicity						
White	77,794	93.8	826,646	93.8	75831	94.6
Black	415	0.5	4,406	0.5	641	0.8
Asian	2,073	2.5	24,676	2.8	2,244	2.8
Hispanic	2,571	3.1	27,320	3.1	2,806	3.5
Age						
Under 5	4810	5.8	49,352	5.6	4,248	5.3
5 to 19	18,495	22.3	169,207	19.2	14,990	18.7
20 to 34	13,850	16.7	140,124	15.9	12,826	16
35 to 44	13,602	16.4	107,517	12.2	9,218	11.5
45 to 54	11,528	13.9	147,175	16.7	12,826	16
55 to 64	7,630	9.2	120,736	13.7	11,784	14.7
65 to 74	6,386	7.7	74,028	8.4	7,375	9.2
75 and over	6,635	8	74,909	8.5	6,894	8.6

Ozaukee, WI

	2000		2010		2014	
Gender	Total	Percent	Total	Percent	Total	Percent
Male	40,432	49	42,311	49	42,948	49.1
Female	42,083	51	44,038	51	44,522	50.9
Ethnicity						
White	78,307	94.9	81,945	94.9	82922	94.8
Black	1,155	1.4	1,209	1.4	1,312	1.5
Asian	1,403	1.7	1,900	2.2	1,924	2.2
Hispanic	1,898	2.3	1,986	2.3	2,362	2.7
Age						
Under 5	5,116	6.2	6,303	7.3	6,385	7.3
5 to 19	18,978	23	18,047	20.9	17,844	20.4
20 to 34	11,965	14.5	14,248	16.5	20,730	23.7

35 to 44	14,688	17.8	10,880	12.6	10,934	12.5
45 to 54	13,202	16	11,571	13.4	11,284	12.9
55 to 64	8,169	9.9	9,239	10.7	9,972	11.4
65 to 74	5,694	6.9	4,749	5.5	5,161	5.9
75 and over	4,703	5.7	5,181	6	5,073	5.8

Sheboygan, WI

	2000		2010		2014	
Gender	Total	Percent	Total	Percent	Total	Percent
Male	56,595	50.2	57,940	50.2	57,876	50.2
Female	56,144	49.8	57,478	49.8	57,414	49.8
Ethnicity						
White	101,352	89.9	103,761	89.9	105,029	91.1
Black	1,691	1.5	1,731	1.5	2,075	1.8
Asian	5,186	4.6	5,886	5.1	5,880	5.1
Hispanic	6,201	5.5	6,348	5.5	6,917	6
Age						
Under 5	7,215	6.4	7,156	6.2	6,687	5.8
5 to 19	24,690	21.9	23,430	20.3	22,712	19.7
20 to 34	21,082	18.7	20,314	17.6	20,176	17.5
35 to 44	18,940	16.8	16,159	14	14,296	12.4
45 to 54	15,445	13.7	18,236	15.8	17,870	15.5
55 to 64	9,583	8.5	13,850	12	15,795	13.7
65 to 74	7,554	6.7	7,848	6.8	9,108	7.9
75 and over	8,117	7.2	8,426	7.3	8,531	7.4

Milwaukee, WI

	2000		2010		2014	
Gender	Total	Percent	Total	Percent	Total	Percent
Male	453,908	48.3	457,985	48.3	461,944	48.3
Female	485,861	51.7	457,985	48.3	494,462	51.7
Ethnicity						
White	569,500	60.6	574,615	60.6	624,533	65.3
Black	251,858	26.8	254,120	26.8	257,913	27.2
Asian	31,952	3.4	36,980	3.9	37,300	3.9
Hispanic	124,989	13.3	126,112	13.3	135,810	14.2
Age						
Under 5	66,724	7.1	69,219	7.3	69,219	7.3

5 to 19	209,568	22.3	198,176	20.9	186,797	19.7
20 to 34	210,508	22.4	224,726	23.7	224,726	23.7
35 to 44	143,785	15.3	119,474	12.6	118,526	12.5
45 to 54	118,411	12.6	127,060	13.4	122,319	12.9
55 to 64	69,543	7.4	101,458	10.7	108,096	11.4
65 to 74	60,145	6.4	52,152	5.5	55,944	5.9
75 and over	62,025	6.6	56,893	6	54,996	5.8

Washington, WI

	2000		2010		2014	
Gender	Total	Percent	Total	Percent	Total	Percent
Male	58,158	49.3	65,421	49.6	66,226	49.7
Female	59,809	50.7	66,476	50.4	67,025	50.3
Ethnicity						
White	108,648	92.1	126,357	95.8	128,054	96.1
Black	,472	0.4	1,187	0.9	1,466	1.1
Asian	590	0.5	1,583	1.2	1,599	1.2
Hispanic	1,652	1.4	3,429	2.6	3,998	3
Age						
Under 5	8,022	6.8	8,573	6.5	7,462	5.6
5 to 19	26,307	22.3	26,379	20	27,050	20.3
20 to 34	21,116	17.9	15,828	12	20,787	15.6
35 to 44	21,706	18.4	17,147	13	17,456	13.1
45 to 54	17,105	14.5	21,235	16.1	22,786	17.1
55 to 64	10,499	8.9	16,751	12.7	18,122	13.6
65 to 74	6,960	5.9	9,628	7.3	10,527	7.9
75 and over	6,370	5.4	9,628	7.3	8,795	6.6

Source: U.S. Department of Commerce, Bureau of the Census.

Table A. 2 Personal Income by Industry for the U.S., WI, Study Area 1, Study Area 2 and Counties, 2014.

County	Personal income by Place of Residence	Population (Persons)	Per Capita personal income (dollars)	Personal Income by Place of Work	Proprietors' Income	Farm Proprietors' income	Nonfarm Proprietors' income	Farm earnings	Nonfarm earnings	Private nonfarm earnings
Kewaunee	861,747	20,444	42,152	479,469	106,619	85,782	20,837	119,965	359,504	288,937
Manitowoc	3,408,347	8,0160	42,519	2,186,532	251,836	105,909	145927	142,867	2,043,665	1,777,058
Milwaukee	39,697,233	956,406	41,507	35,576,445	3,181,556	410	3181146	2,314	35,574,131	30,861,660
Ozaukee	6,221,364	87,470	71,126	2,716,901	290,686	15,051	275635	24,273	2,692,628	2,434,842
Sheboygan	5,341,196	115,290	46,328	4,054,268	583,711	44,120	539591	74,376	3,979,892	3,604,269
Washington	6,471,214	133,251	48,564	3,343,876	285,619	22,731	262888	38,987	3,304,889	2,941,619
Study Areas										
Study Area 1	61,139,354	1,372,577	50,009	47,878,022	4,593,408	188,221	4405187	282,817	47,595,205	41,619,448
Study Area 2	62,001,101	1,393,021	48,699	48,357,491	4,700,027	274,003	4426024	402,782	47,954,709	41,908,385
Wisconsin	254405	5,757,564	44,186	182,687	18,560,499	2,476,793	16083706	3,565,697	179,121,327	151,499,546
United States	14683147000	318,857,056	46,046	10,584,038,000	1,350,318,000	81,766,000	1268552000	112,282,000	10,471,756,000	8,696,863,000

Table A. 3 Personal Income by Industry for the U.S., WI, Study Area 1, Study Area 2 and Counties, 2014 (continued).

County	Forestry, fishing, and related activities	Mining	Utilities	Construction	Manufacturing	Wholesale Trade	Retail Trade	Transportation and warehousing	Information	Finance and Insurance
Kewaunee	(D)	(D)	(D)	23,211	106,365	(D)	17464	11,265	(D)	10,983
Manitowoc	11,282	4,137	(D)	125,470	662,557	(D)	112,884	71,737	12,575	44,135
Milwaukee	2,510	28,553	400,544	988,805	4,643,538	1,690,635	1,626,370	928,389	793,278	3,191,226
Ozaukee	(D)	(D)	(D)	116,053	702,490	160,180	152,597	(D)	18,953	218,892
Sheboygan	(D)	(D)	(D)	189,851	1,662,492	167,507	227,767	(D)	15,079	200,607
Washington	1,774	8,019	(D)	174,740	996,647	243,275	231,627	(D)	57,589	205,427
Study Areas	538,349	351,480	1,576,384	9,857,524	34,251,120	9,737,355	10,913,766	6,146,174	4,227,949	11,176,130
Study Area 1	15,566	40,709	4,00,544	1,594,919	8,667,724	2,261,597	2,351,245	1,000,126	897,474	3,860,,287
Study Area 2	15,566	40,709	4,005,44	1,618,130	8774,089	2,261,597	2,368,709	1,011,391	897,474	3871,270
Wisconsin	538,349	351,480	1,576,384	9,857,524	34,251,120	9,737,355	10,913,766	6,146,174	4,227,949	11,176,130
United States	32,203,000	183,928,000	81,718,000	81,718,000	10,19,297,000	537,654,000	626,699,000	363,668,000	359,709,000	739,021,000

Table A. 4 Personal Income by Industry for the U.S., WI, Study Area 1, Study Area 2 and Counties, 2014 (continued).

County	Real estate, rental and leasing	Professional, Scientific, and technical services	Management of companies and enterprises	Administrative and waste management services	Educational Services	Health care and social assistance	Arts, entertainment and recreational	Accommodation and food services	Other services, except public administration	Government and government enterprises
Kewaunee	592	10,737	(D)	(D)	(D)	(D)	2,284	6,213	(D)	70,567
Manitowoc	11,224	46,984	62,456	58,737	16,412	232,379	9,355	40,895	68,569	266,607
Milwaukee	556,409	2,824,327	2,332,427	1,530,547	1,493,793	5,319,923	519,901	895,995	1,094,490	4,712,471
Ozaukee	31,655	247,298	33,723	102,777	72,975	344,037	25,895	71,934	96,326	257,786
Sheboygan	45,843	110,031	67,448	91,292	30,932	462,351	22,417	81,357	113,408	375,623
Washington	25,886	95,328	18,425	119,404	17,257	367,114	23,091	86,172	139,518	363,270
Study Areas										
Study Area 1	671,017	3,323,968	2,514,479	1,902,757	1,631,369	6,725,804	600,659	1,176,353	1,512,311	5,975,757
Study Area 2	671,609	3,334,705	2,514,479	1,902,757	1,631,369	6,725,804	602,943	1,182,566	1,512,311	6,046,324
Wisconsin	2,274,011	10,151,844	6,558,017	5,921,981	2,642,497	22,392,853	1,582,953	4,762,585	6,436,574	27,621,781
United States	231,627,000	1,043,524,000	280,369,000	429,673,000	178,491,000	1,148,304,000	119,558,000	340,960,000	387,927,000	1,774,893,000

Table A. 5 Total Full and Part-time Employment by Industry for the U.S., WI, Study Area 1, Study Area 2 and Counties, 2014.

County	Total Employment	Wage and salary employment	Proprietors Employment	Farm proprietors employment	Nonfarm proprietors employment 2/	Farm employment	nonfarm employment	Private nonfarm employment	Forestry, fishing, and related activities
Kewaunee	9,456	7,202	2,254	681	1,573	1,351	8,105	6,824	(D)
Manitowoc	43,376	35,740	7,636	1,116	6,520	1,922	41,454	37,203	274
Milwaukee	592,642	516,633	76,009	64	75,945	105	592,537	528,694	150
Ozaukee	55,979	43,908	12,071	353	11,718	528	55,451	51,492	(D)
Sheboygan	75,968	61,803	14,165	890	13,275	1,445	74,523	68,424	(D)
Washington	68,838	56,591	12,247	622	11,625	956	956	62,019	113
Study Areas									
Study Area 1	836,803	714,675	122,128	3,045	119,083	4,956	764,921	747,832	537
Study Area 2	846,259	721,877	124,382	3,726	120,656	6,307	773,026	754,656	537
Wisconsin	3,567,138	2,913,690	653,448	653,448	590,160	87,753	3,479,385	3,044,754	16,880
United States	185,798,800	144,891,000	40,907,800	1,841,000	39,066,800	2,643,000	183,155,800	159,125,800	937,000

Table A. 6 Total Full and Part-time Employment by Industry for the U.S., WI, Study Area 1, Study Area 2 and Counties, 2014 (continued).

County	Mining	Utilities	Construction	Manufacturing	Wholesale Trade	Retail Trade	Transportation and warehousing	Information	Finance and insurance
Kewaunee	(D)	(D)	501	1,956	(D)	745	297	(D)	291
Manitowoc	118	(D)	2,092	10,355	(D)	4,537	1,347	308	1,308
Milwaukee	386	2,460	14,974	54,150	18,637	50,641	17,721	10,697	34,063
Ozaukee	(D)	(D)	2,078	9,817	1,931	5749	5,749	434	3,681
Sheboygan	(D)	(D)	3,030	20,975	2,593	7,968	(D)	412	4,142
Washington	152	(D)	3,433	14,635	3,253	8,536	(D)	756	3,362
Study Areas									
Study Area 1	656	2,460	25,607	109,932	26,414	77,431	24,817	12,607	46,556
Study Area 2	656	2,460	26,108	111,888	26,414	78,176	25,114	12,607	46,847
Wisconsin	7,860	10,750	166,013	483,356	130,747	375,158	115,544	55,662	182,606
United States	1,692,000	582,400	9,610,400	12,993,400	6,419,700	18,710,900	6,225,000	3,302,000	9,833,100

Table A. 7 Total Full and Part-time Employment by Industry for the U.S., WI, Study Area 1, Study Area 2 and Counties, 2014 (continued).

County	Real estate and rental and leasing	Professional, Scientific and technical services	Management of Companies and Enterprises	Administrative and Waste Management Services	Educational services	Health Care and Social Assistance	Arts, Entertainment and Recreation	Accommodation and Food Services
Kewaunee	105	254	(D)	(D)	(D)	(D)	200	518
Manitowoc	1,089	1,090	429	1,699	580	4,732	613	2,644
Milwaukee	16,335	32,290	18,445	46,214	27,693	97,198	12,948	40,049
Ozaukee	2,316	4,360	354	2,883	2,545	5,955	1,542	3,991
Sheboygan	2,040	2,610	875	3,486	981	7,388	1,537	4,705
Washington	2,116	2,372	231	2,965	808	6,635	1,532	4,610
Study Areas								
Study Area 1	23,896	42,722	20,334	57,247	32,607	121,908	18,172	55,999
Study Area 2	24,001	42,976	20,334	57,247	32,607	121,908	18,372	56,517
Wisconsin	101,477	163,149	61,081	183,332	70,142	413,995	70,172	246,964
United States	8,135,100	12,822,700	2,336,000	11,734,900	4,439,000	20,832,900	4,149,400	13,476,300

Table A. 8 Total Full and Part-time Employment by Industry for the U.S., WI, Study Area 1, Study Area 2 and Counties, 2014 (continued).

County	Other Services, except public administration	Government and government enterprises	Federal, civilian	Military	State and Local	State government	Local Government
Kewaunee	(D)	1,281	68	56	1,157	69	1,088
Manitowoc	2,186	4,251	189	244	3,818	382	3,436
Milwaukee	33,643	63,843	9,384	2,931	51,528	12,240	39,288
Ozaukee	2,916	3,959	146	238	3,575	208	3,367
Sheboygan	3,576	6,099	203	329	5,567	554	5,013
Washington	4,126	5,863	257	368	5,238	496	4,742
Study Areas							
Study Area 1	46,447	84,015	10,179	4,110	69,726	13,880	55,846
Study Area 2	46,447	85,296	10,247	4,166	70,883	13,949	56,934
Wisconsin	189,866	434,631	28,740	16,403	389,488	113,373	276,115
United States	10,893,600	24,030,000	2,790,000	1,982,000	19,258,000	5,280,000	13,978,000

Table A. 9. Unemployment Rates and Labor Force by Country, 2000, 2005, 2010, 2014.

	Unemployment Rates				Labor Force			
County	2000	2005	2010	2014	2000	2005	2010	2014
Kewaunee	2.8	4.5	8.2	5.1	11,561	11,800	11,178	10,857
Manitowoc	3.4	4.9	9.9	6.1	46,826	45,215	44,630	42,625
Milwaukee	4.4	5.7	10	6.9	474,899	474,899	476,449	479,375
Ozaukee	2.2	3.7	7.1	4.2	47,313	47,313	47,416	48,010
Sheboygan	2.6	4	9.3	4.6	64,092	64,550	62,238	61,301
Washington	2.9	4.2	8.1	4.6	69,541	71,985	75,603	75,874
Study Areas								
Study Area 1	3.9	5.2	9.6	6.3	702,671	703,962	706,336	707,185
Study Area 2	3.9	5.2	9.5	6.3	714,232	715,762	717,514	718,042
Wisconsin	3.5	4.7	8.6	5.4	2,960,937	3,021,913	3,080,069	3,083,860
United States	4	5.1	9.6	6.2	138,820,935	147,302,852	155,176,999	158,967,626


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