EXISTING CONDITIONS AND TRENDS: POPULATION, EMPLOYMENT, AND LAND USE

2

Credit: SEWRPC Staff

2.1 INTRODUCTION

Information regarding existing conditions and historic trends with respect to the demographic and economic base, natural environment, and built environment is essential to land use and transportation planning. The Commission has developed an extensive database pertaining to these and other aspects of the Region that is updated periodically. A major inventory update effort was conducted in the early 2010s in support of preparing the new regional land use and transportation plan and other elements of the comprehensive plan for the Region. This chapter presents a summary of the results of that inventory update pertaining to the population, economy, land use, sanitary sewer and water supply services, natural resource base, agricultural resource base, and existing planning framework within the Region. Transportation-related inventory data are presented in Chapters 4 and 5 of this volume.

2.2 DEMOGRAPHIC AND ECONOMIC BASE

Population

The Commission conducted a detailed inventory and analysis of the regional population following the release of the 2010 Federal Census. A summary of population trends is presented in this section. Detailed findings are presented in SEWRPC Technical Report No. 11 (5th Edition), *The Population of Southeastern Wisconsin*, dated April 2013.

Historic Trends and Distribution Among Counties

Table 2.1 shows population trends in the Region relative to the State and Nation. The population of the Region in 2010 was 2,020,000 persons, which is an increase of 4.6 percent (88,800 persons) over the 2000 population of 1,931,200 persons. This was less than the 6.7 percent increase in regional population that occurred during the 1990s, but greater than the increases that occurred during the 1970s and 1980s.

The population of the Region was 2,020,000 persons in 2010. That's an increase of 88,800 people from the year 2000.

In relative terms, the Region's population grew at a somewhat slower rate than the State (6.0 percent) and Nation (9.7 percent) between 2000 and 2010. As a result, the Region's share of Wisconsin's population declined slightly from 36.0 percent to 35.5 percent, with the Region's share of the national population also declining. Table 2.1 shows the Region's share of the State and national population has been gradually declining since 1960.

All seven counties in the Region experienced population growth in the 2000s, including Milwaukee County after three decades of decline.

Table 2.2 and Figure 2.1 show 2010 population and population trends between 1950 and 2010 by county in the Region. All seven counties in the Region experienced population growth in the 2000s, including Milwaukee County after three decades of decline. Population growth between 2000 and 2010 by county includes:

- Kenosha County: 16,800 persons, or 11.3 percent
- Milwaukee County: 7,600 persons, or 0.8 percent
- Ozaukee County: 4,100 persons, or 5.0 percent
- Racine County: 6,600 persons, or 3.5 percent
- Walworth County: 10,200 persons, or 11.1 percent
- Washington County: 14,400 persons, or 12.2 percent
- Waukesha County: 29,100 persons, or 8.1 percent

Waukesha County's share of the regional population has increased from 7% to 19% over the last 60 years.

Although Milwaukee County gained population during the 2000s, its share of the regional population decreased by about 2 percent. The share of each of the other six counties in the Region remained about the same or increased slightly. Figure 2.2 shows that the most notable change in the distribution over the last 60 years has been the increase in Waukesha County's share of the regional population from 7 percent to 19 percent, and the decrease in Milwaukee County's share from 70 percent to 47 percent.

Current and historic population levels for cities, villages, and towns in the Region are set forth in Appendix A of SEWRPC Technical Report No. 11. Year 2010 data for the four largest cities in the Region and the remainder of their respective counties are presented in Table 2.3. These include the Cities of Milwaukee, Kenosha, Racine, and Waukesha. The table shows the City of Milwaukee's share of the regional population has decreased substantially between 1950 and 2010, from about 51 percent to about 29 percent of the Region's population. The remainder of Milwaukee County's share of the regional population also decreased during this period, but only by about 1 percent. The portion of Waukesha County outside of the City of Waukesha increased its share of the regional population from about 5 percent in 1950 to almost 16 percent in 2010.

Components of Population Change

Population change can be attributed to natural increase and net migration. Natural increase is the balance between births and deaths in an area over a given period of time, which can be measured directly from historical records on the number of births and deaths for an area. Net migration is the balance between migration to and from an area over a given period of time, which can be determined by subtracting natural increase from total population change for the time period concerned.

Table 2.1
Population in the Region, Wisconsin, and the United States: 1950-2010

	Region Population			Wisconsin Population			United States Population			Region Population as a Percent of:	
		Change from Preceding Census			Change from Preceding Census			Change from Preceding Census			
Year	Number	Absolute	Percent	Number	Absolute	Percent	Number	Absolute	Percent	Wisconsin	United States
1950	1,240,618	- -	- -	3,434,575	- -	- -	151,325,798	- -	- -	36.1	0.82
1960	1,573,614	332,996	26.8	3,951,777	517,202	15.1	179,323,175	27,997,377	18.5	39.8	0.88
1970	1,756,083	182,469	11.6	4,417,821	466,044	11.8	203,302,031	23,978,856	13.4	39.7	0.86
1980	1,764,796	8,713	0.5	4,705,642	287,821	6.5	226,504,825	23,202,794	11.4	37.5	0.78
1990	1,810,364	45,568	2.6	4,891,769	186,127	4.0	249,632,692	23,127,867	10.2	37.0	0.73
2000	1,931,165	120,801	6.7	5,363,675	471,906	9.6	281,421,906	31,789,214	12.7	36.0	0.69
2010	2,019,970	88,805	4.6	5,686,986	323,311	6.0	308,745,538	27,323,632	9.7	35.5	0.65

Source: U.S. Bureau of the Census and SEWRPC

Table 2.2
Population in the Region by County: 1950-2010

Year	Kenosha County Population				Milwaukee County Population			
	Number	Change from Preceding Census		Percent of Region Total	Number	Change from Preceding Census		Percent of Region Total
		Absolute	Percent			Absolute	Percent	
1950	75,238	- -	- -	6.1	871,047	- -	- -	70.2
1960	100,615	25,377	33.7	6.4	1,036,041	164,994	18.9	65.8
1970	117,917	17,302	17.2	6.7	1,054,249	18,208	1.8	60.0
1980	123,137	5,220	4.4	7.0	964,988	-89,261	-8.5	54.7
1990	128,181	5,044	4.1	7.1	959,275	-5,713	-0.6	53.0
2000	149,577	21,396	16.7	7.7	940,164	-19,111	-2.0	48.7
2010	166,426	16,849	11.3	8.2	947,735	7,571	0.8	46.9

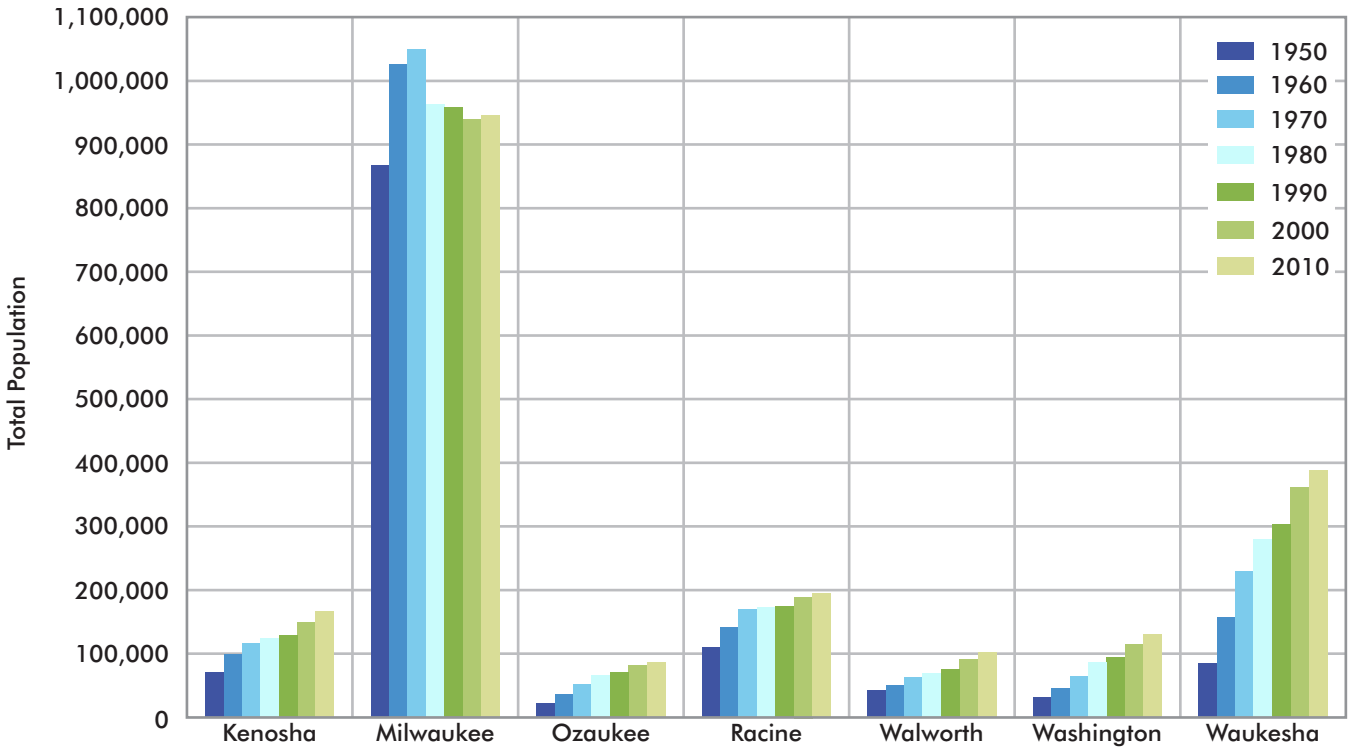
Year	Ozaukee County Population				Racine County Population			
	Number	Change from Preceding Census		Percent of Region Total	Number	Change from Preceding Census		Percent of Region Total
		Absolute	Percent			Absolute	Percent	
1950	23,361	- -	- -	1.9	109,585	- -	- -	8.8
1960	38,441	15,080	64.6	2.5	141,781	32,196	29.4	9.0
1970	54,461	16,020	41.7	3.1	170,838	29,057	20.5	9.7
1980	66,981	12,520	23.0	3.8	173,132	2,294	1.3	9.8
1990	72,831	5,850	8.7	4.0	175,034	1,902	1.1	9.7
2000	82,317	9,486	13.0	4.2	188,831	13,797	7.9	9.8
2010	86,395	4,078	5.0	4.3	195,408	6,577	3.5	9.7

Year	Walworth County Population				Washington County Population			
	Number	Change from Preceding Census		Percent of Region Total	Number	Change from Preceding Census		Percent of Region Total
		Absolute	Percent			Absolute	Percent	
1950	41,584	- -	- -	3.4	33,902	- -	- -	2.7
1960	52,368	10,784	25.9	3.3	46,119	12,217	36.0	2.9
1970	63,444	11,076	21.2	3.6	63,839	17,720	38.4	3.7
1980	71,507	8,063	12.7	4.0	84,848	21,009	32.9	4.8
1990	75,000	3,493	4.9	4.1	95,328	10,480	12.4	5.3
2000	92,013	17,013	22.7	4.8	117,496	22,168	23.3	6.1
2010	102,228	10,215	11.1	5.1	131,887	14,391	12.2	6.5

Year	Waukesha County Population				Region Population			
	Number	Change from Preceding Census		Percent of Region Total	Number	Change from Preceding Census		Percent of Region Total
		Absolute	Percent			Absolute	Percent	
1950	85,901	- -	- -	6.9	1,240,618	- -	- -	100.0
1960	158,249	72,348	84.2	10.1	1,573,614	332,996	26.8	100.0
1970	231,335	73,086	46.2	13.2	1,756,083	182,469	11.6	100.0
1980	280,203	48,868	21.1	15.9	1,764,796	8,713	0.5	100.0
1990	304,715	24,512	8.7	16.8	1,810,364	45,568	2.6	100.0
2000	360,767	56,052	18.4	18.7	1,931,165	120,801	6.7	100.0
2010	389,891	29,124	8.1	19.3	2,019,970	88,805	4.6	100.0

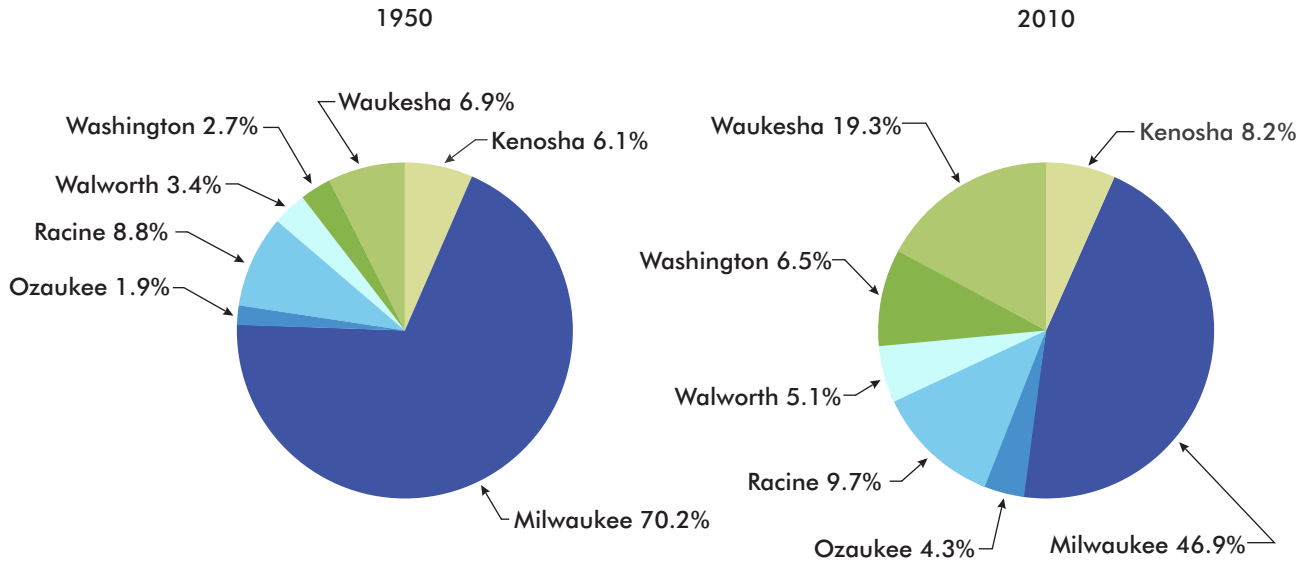
Source: U.S. Bureau of the Census and SEWRPC

Figure 2.1
Population in the Region by County: 1950-2010



Source: U.S. Bureau of the Census and SEWRPC

Figure 2.2
Share of Regional Population by County: 1950 and 2010



Source: U.S. Bureau of the Census and SEWRPC

Table 2.3
Population in the Region by Area: 1950-2010

Year	City of Milwaukee Population				Remainder of Milwaukee County Population			
	Number	Change from Preceding Census		Percent of Region Total	Number	Change from Preceding Census		Percent of Region Total
		Absolute	Percent			Absolute	Percent	
1950	637,392	- -	- -	51.4	233,655	- -	- -	18.8
1960	741,324	103,932	16.3	47.1	294,717	61,062	26.1	18.7
1970	717,372	-23,952	-3.2	40.9	336,877	42,160	14.3	19.2
1980	636,295	-81,077	-11.3	36.1	328,693	-8,184	-2.4	18.6
1990	628,088	-8,207	-1.3	34.7	331,187	2,494	0.8	18.3
2000	596,974	-31,114	-5.0	30.9	343,190	12,003	3.6	17.8
2010	594,833	-2,141	-0.4	29.4	352,902	9,712	2.8	17.5

Year	City of Kenosha Population				Remainder of Kenosha County Population			
	Number	Change from Preceding Census		Percent of Region Total	Number	Change from Preceding Census		Percent of Region Total
		Absolute	Percent			Absolute	Percent	
1950	54,368	- -	- -	4.4	20,870	- -	- -	1.7
1960	67,899	13,531	24.9	4.3	32,716	11,846	56.8	2.1
1970	78,805	10,906	16.1	4.5	39,112	6,396	19.6	2.2
1980	77,685	-1,120	-1.4	4.4	45,452	6,340	16.2	2.6
1990	80,426	2,741	3.5	4.4	47,755	2,303	5.1	2.6
2000	90,352	9,926	12.3	4.7	59,225	11,470	24.0	3.1
2010	99,218	8,866	9.8	4.9	67,208	7,983	13.5	3.3

Year	City of Racine Population				Remainder of Racine County Population			
	Number	Change from Preceding Census		Percent of Region Total	Number	Change from Preceding Census		Percent of Region Total
		Absolute	Percent			Absolute	Percent	
1950	71,193	- -	- -	5.7	38,392	- -	- -	3.1
1960	89,144	17,951	25.2	5.7	52,637	14,245	37.1	3.3
1970	95,162	6,018	6.8	5.4	75,676	23,039	43.8	4.3
1980	85,725	-9,437	-9.9	4.9	87,407	11,731	15.5	5.0
1990	84,298	-1,427	-1.7	4.7	90,736	3,329	3.8	5.0
2000	81,855	-2,443	-2.9	4.2	106,976	16,240	17.9	5.5
2010	78,860	-2,995	-3.7	3.9	116,548	9,572	8.9	5.8

Year	City of Waukesha Population				Remainder of Waukesha County Population			
	Number	Change from Preceding Census		Percent of Region Total	Number	Change from Preceding Census		Percent of Region Total
		Absolute	Percent			Absolute	Percent	
1950	21,233	- -	- -	1.7	64,668	- -	- -	5.2
1960	30,004	8,771	41.3	1.9	128,245	63,577	98.3	8.1
1970	40,271	10,267	34.2	2.3	191,064	62,819	49.0	10.9
1980	50,365	10,094	25.1	2.9	229,838	38,774	20.3	13.0
1990	56,894	6,529	13.0	3.1	247,821	17,983	7.8	13.7
2000	64,825	7,931	13.9	3.4	295,942	48,121	19.4	15.3
2010	70,718	5,893	9.1	3.5	319,173	23,231	7.8	15.8

Source: U.S. Bureau of the Census and SEWRPC

Table 2.4 and Figure 2.3 show that the population increase in the Region between 2000 and 2010 can be largely attributed to natural increase. There was a natural increase of about 109,200 persons in the Region; however, there was a net out-migration of about 20,400 persons. This resulted in a population increase of about 88,800 persons in the Region during the 2000s. The level of natural increase has been relatively steady since the 1970s, averaging about 116,600 persons per decade. This is significantly lower than the levels experienced during the 1950s and 1960s, which include much of the post-World War II Baby Boom era.

Table 2.4
Levels of Population Change, Natural Increase, and Net Migration for the Region by County: 1950-2010

County	1950-1960 Population Change	1950-1960 Natural Increase	1950-1960 Net Migration	1960-1970 Population Change	1960-1970 Natural Increase	1960-1970 Net Migration
Kenosha	25,377	13,931	11,446	17,302	15,125	2,177
Milwaukee	164,994	150,141	14,853	18,208	122,192	-103,984
Ozaukee	15,080	5,926	9,154	16,020	6,090	9,930
Racine	32,196	21,473	10,723	29,057	20,441	8,616
Walworth	10,784	5,733	5,051	11,076	4,685	6,391
Washington	12,217	7,501	4,716	17,720	8,122	9,598
Waukesha	72,348	19,746	52,602	73,086	25,699	47,387
Region	332,996	224,451	108,545	182,469	202,354	-19,885

County	1970-1980 Population Change	1970-1980 Natural Increase	1970-1980 Net Migration	1980-1990 Population Change	1980-1990 Natural Increase	1980-1990 Net Migration
Kenosha	5,220	7,746	-2,526	5,044	8,177	-3,133
Milwaukee	-89,261	60,105	-149,366	-5,713	69,529	-75,242
Ozaukee	12,520	4,798	7,722	5,850	5,141	709
Racine	2,294	12,842	-10,548	1,902	13,720	-11,818
Walworth	8,063	2,451	5,612	3,493	2,939	554
Washington	21,009	7,163	13,846	10,480	7,756	2,724
Waukesha	48,868	18,011	30,857	24,512	20,068	4,444
Region	8,713	113,116	-104,403	45,568	127,330	-81,762

County	1990-2000 Population Change	1990-2000 Natural Increase	1990-2000 Net Migration	2000-2010 Population Change	2000-2010 Natural Increase	2000-2010 Net Migration
Kenosha	21,396	9,365	12,031	16,849	9,028	7,821
Milwaukee	-19,111	64,145	-83,256	7,571	64,589	-57,018
Ozaukee	9,486	3,916	5,570	4,078	2,156	1,922
Racine	13,797	11,127	2,670	6,577	10,463	-3,886
Walworth	17,013	2,592	14,421	10,215	3,508	6,707
Washington	22,168	7,159	15,009	14,391	6,195	8,196
Waukesha	56,052	18,582	37,470	29,124	13,302	15,822
Region	120,801	116,886	3,915	88,805	109,241	-20,436

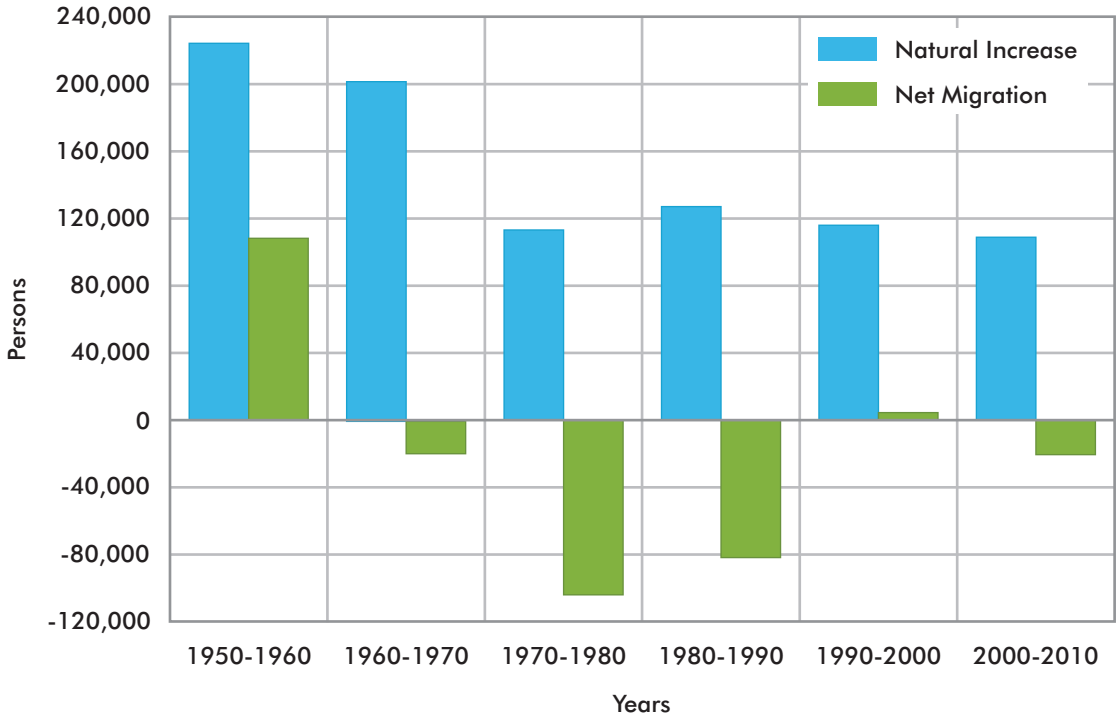
Source: U.S. Bureau of the Census, Wisconsin Department of Health Services, and SEWRPC

There has typically been a net out-migration of people from the Region during the decades from 1960 to 2010. The only decade to experience a net in-migration of people during this time period was the 1990s, which experienced a modest in-migration of about 3,900 persons. The net out-migration experienced during the 2000s is similar to that experienced during the 1960s, and significantly less than the 1970s and 1980s.

The in-migration of persons to the Region from abroad is an important aspect of net migration. There was a significant movement of foreign-born persons into the Region during the 2000s. The U.S. Census Bureau's 2006-2010 American Community Survey (ACS) indicated that there were 43,400 foreign-born persons residing in the Region who had entered the U.S. in or after 2000. This is about the same as reported in the 2000 decennial Census for the period from 1990 to 2000 and significantly more than reported in the 1970, 1980, and 1990 decennial Censuses. The in-migration of foreign-born population, including a significant Hispanic component, is a key aspect of the population migration pattern for the Region during 2000s.

There was a significant movement of foreign-born people into the Region during the 2000s.

Figure 2.3
Components of Population Change in the Region: 1950-2010



Source: U.S. Bureau of the Census, Wisconsin Department of Health Services, and SEWRPC

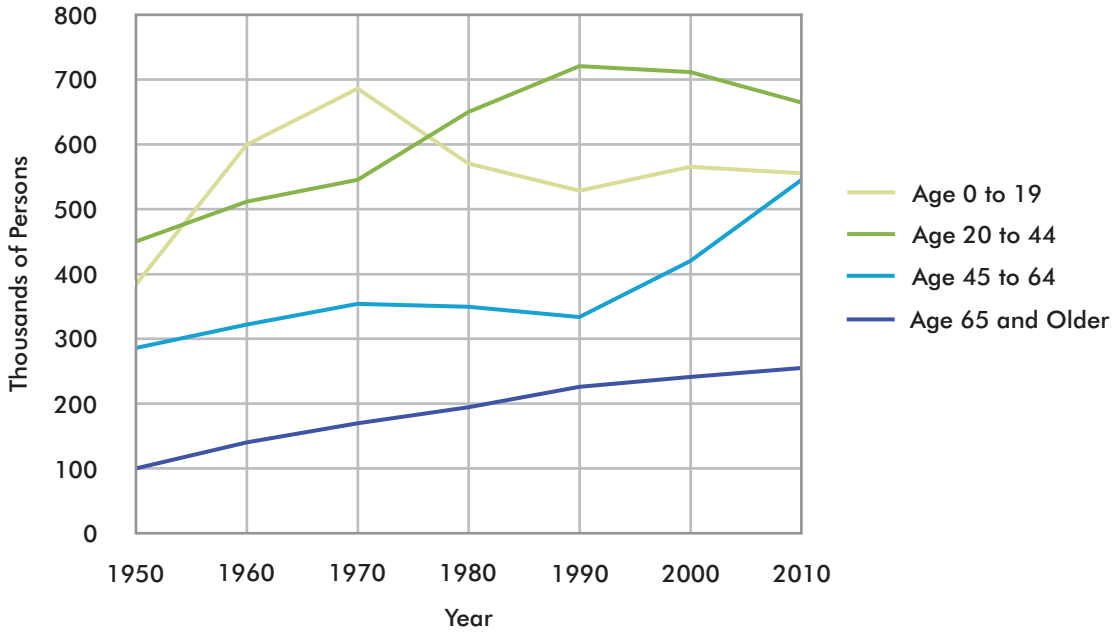
There was significant growth in the 45- to 64- age group between 2000 and 2010, reflecting the aging of the "Baby-Boomers."

Population Characteristics

Change in the size and distribution of the Region's population has been accompanied by change in the characteristics of the population, including age composition and racial/ethnic makeup. Figure 2.4 shows population in the Region by general age group from 1950 to 2010. The figure shows significant growth in the 45- to 64-year age group between 2000 and 2010. This largely reflects the aging of the "Baby-Boomers" (those born from 1946 through 1964). There was also a decrease in the 20- to 44-year age group between 2000 and 2010. This is a reflection of Baby-Boomers moving out of the upper bounds of this age group coupled with a smaller number of people born in the late 1960s and early 1970s moving into this age group.

Table 2.5 shows the size of the minority population in the Region, identified on the basis of Hispanic origin and race, as reported in the past four Censuses. The minority population includes persons reported in the Census as being of Hispanic origin and/or reporting their race as Black or African American, American Indian/Alaska Native, Asian, Native Hawaiian/Pacific Islander, some other race, or more than one race. The minority population of the Region increased from 453,800 persons in 2000 to 582,900 in 2010, which is an increase of about 28 percent. The minority share of the total regional population increased from 24 percent to 29 percent over the same time period. The non-Hispanic White population of the Region decreased from 1,479,100 persons in 2000 to 1,437,100 in 2010, which is a decrease of about 3 percent. The non-Hispanic White share of the total regional population decreased from about 77 percent to about 71 percent over the same time period.

Figure 2.4
Population in the Region by General Age Group: 1950-2010



Source: U.S. Bureau of the Census and SEWRPC

Table 2.6 shows that the minority share of the total population has increased throughout the Region between 1980 and 2010; however, minority populations remain concentrated in the Region's largest cities. Concentrations of racial and ethnic groups in the Region are shown on Maps 2.1 through 2.8.

The minority share of the total population increased throughout the Region between 1980 and 2010; however, minority populations remain concentrated in the Region's largest cities.

Households

In addition to population, the number of households (or occupied housing units) is important in land use and transportation planning. Households directly influence the demand for urban land as well as the demand for transportation and other public facilities and services. A household includes all persons who occupy a housing unit, which is defined by the Census Bureau as a house, apartment, mobile home, group of rooms, or single-room that is occupied, or intended for occupancy, as separate living quarters. A summary of household trends is presented in this section. Detailed findings are presented in SEWRPC Technical Report No. 11 (5th Edition). Detailed data and findings regarding the Region's housing stock and housing costs are set forth in SEWRPC Planning Report No. 54, *A Regional Housing Plan for Southeastern Wisconsin: 2035*, dated March 2013.

Historic Trends and Distribution Among Counties

There were about 800,100 households in the Region in 2010. This is an increase of about 51,000 households, or 6.8 percent, over the 2000 level of 749,000 households. This follows increases of 72,900 households during the 1990s, 48,200 households during the 1980s, 91,500 households during the 1970s, 70,600 households during the 1960s, and 111,400 households during the 1950s.

All counties in the Region experienced increases in the number of households during the 2000s, led by Waukesha County. Waukesha County gained

Table 2.5
Population by Race and Hispanic Origin in the Region: 1980-2010

Race/Ethnicity[a]	1980 Population		1990 Population		2000 Population		2010 Population	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Non-Hispanic White Population	1,531,800	86.8	1,494,797	82.6	1,479,103	76.5	1,437,105	71.1
Minority Population:[b]								
Non-Hispanic Black/African American	166,532	9.5	217,573	12.0	259,881	13.5	288,550	14.3
Non-Hispanic Other Race	20,135	1.1	30,057	1.7	67,530	3.5	94,096	4.7
Hispanic—Any Race	46,452	2.6	67,937	3.7	126,394	6.5	200,219	9.9
Subtotal	233,119	13.2	315,567	17.4	453,805	23.5	582,865	28.9
Total	1,764,919	100.0	1,810,364	100.0	1,932,908	100.0	2,019,970	100.0

Race/Ethnicity[a]	Change 1980-1990		Change 1990-2000		Change 2000-2010		Change 1980-2010	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Non-Hispanic White Population	-37,003	-2.4	-15,694	-1.0	-41,998	-2.8	-94,695	-6.2
Minority Population:[b]								
Non-Hispanic Black/African American	51,041	30.6	42,308	19.4	28,669	11.0	122,018	73.3
Non-Hispanic Other Race	9,922	49.3	37,473	124.7	26,566	39.3	73,961	367.3
Hispanic—Any Race	21,485	46.3	58,457	86.0	73,825	58.4	153,767	331.0
Subtotal	82,448	35.4	138,238	43.8	129,060	28.4	349,746	150.0
Total	45,445	2.6	122,544	6.8	87,062	4.5	255,051	14.5

NOTE: Population counts by race may exclude population adjustments made subsequent to the conduct of the decennial censuses which were not allocated to the race categories.

[a] *In the 2000 and 2010 censuses, respondents were given the opportunity to specify more than one race when responding to questions on racial identity. On this table, all Non-Hispanic persons reporting more than one race in 2000 and/or 2010 are included in the "Non-Hispanic Other Race" category.*

[b] *The minority population includes persons reported in the Census as being of Hispanic origin and/or reporting their race as Black or African American, American Indian/Alaska Native, Asian, Native Hawaiian/Pacific Islander, some other race, or more than one race.*

Source: U.S. Bureau of the Census and SEWRPC

17,400 households over the decade, which was a 13 percent increase. Table 2.7 shows changes in distribution of households in the Region over the last 60 years. These changes are similar to the distributional changes in population. Table 2.8 presents current and historic household data for the four largest cities in the Region as of 2010 and the remainder of their respective counties. The trends are similar to the population trends for these areas presented in the previous section.

Household Size

The rate of growth in number of households in the Region during the 2000s exceeded the rate of population growth (6.8 percent to 4.6 percent). Similar patterns were observed over each of the previous five decades. The number of households in the Region increased by 126 percent over the last 60 years, while the population increased by 63 percent. These differential growth rates in households and population have been accompanied by declining average household size.

The average household size[1] for the Region decreased from 2.52 persons in 2000 to 2.47 persons in 2010. This decrease is a continuation of a long-term trend in declining average household size for the Region over the past

[1] *Average household size is calculated by dividing the household population by the number of households.*

Table 2.6
Population by Race and Hispanic Origin in the Region by Area: 1980-2010

	Race/Ethnicity[a]	1980 Population		1990 Population		2000 Population		2010 Population	
		Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
City of Kenosha	Non-Hispanic White Population	71,083	91.5	69,798	86.8	71,686	79.3	68,967	69.5
	Minority Population:[b]								
	Non-Hispanic Black/African American	2,777	3.6	5,037	6.3	6,810	7.5	9,540	9.6
	Non-Hispanic Other Race	715	0.9	785	1.0	2,853	3.2	4,581	4.6
	Hispanic—Any Race	3,110	4.0	4,732	5.9	9,003	10.0	16,130	16.3
	Subtotal	6,602	8.5	10,554	13.2	18,666	20.7	30,251	30.5
	Total	77,685	100.0	80,352	100.0	90,352	100.0	99,218	100.0
Remainder of Kenosha County	Non-Hispanic White Population	44,608	98.1	46,425	97.1	55,601	93.9	60,925	90.6
	Minority Population:[b]								
	Non-Hispanic Black/African American	73	0.2	153	0.3	636	1.1	1,115	1.7
	Non-Hispanic Other Race	303	0.7	403	0.8	1,234	2.1	1,706	2.5
	Hispanic—Any Race	468	1.0	848	1.8	1,754	2.9	3,462	5.2
	Subtotal	844	1.9	1,404	2.9	3,624	6.1	6,283	9.4
	Total	45,452	100.0	47,829	100.0	59,225	100.0	67,208	100.0
Kenosha County	Non-Hispanic White Population	115,691	94.0	116,223	90.7	127,287	85.1	129,892	78.0
	Minority Population:[b]								
	Non-Hispanic Black/African American	2,850	2.3	5,190	4.0	7,446	5.0	10,655	6.4
	Non-Hispanic Other Race	1,018	0.8	1,188	0.9	4,087	2.7	6,287	3.8
	Hispanic—Any Race	3,578	2.9	5,580	4.4	10,757	7.2	19,592	11.8
	Subtotal	7,446	6.0	11,958	9.3	22,290	14.9	36,534	22.0
	Total	123,137	100.0	128,181	100.0	149,577	100.0	166,426	100.0
City of Milwaukee	Non-Hispanic White Population	453,576	71.3	381,714	60.8	270,989	45.4	220,219	37.0
	Minority Population:[b]								
	Non-Hispanic Black/African American	145,832	22.9	189,408	30.1	220,432	36.9	233,325	39.2
	Non-Hispanic Other Race	10,693	1.7	17,557	2.8	33,907	5.7	38,282	6.5
	Hispanic—Any Race	26,111	4.1	39,409	6.3	71,646	12.0	103,007	17.3
	Subtotal	182,636	28.7	246,374	39.2	325,985	54.6	374,614	63.0
	Total	636,212	100.0	628,088	100.0	596,974	100.0	594,833	100.0
Remainder of Milwaukee County	Non-Hispanic White Population	319,703	97.2	317,150	95.7	312,492	91.1	294,739	83.5
	Minority Population:[b]								
	Non-Hispanic Black/African American	2,475	0.8	4,175	1.3	8,039	2.3	15,469	4.4
	Non-Hispanic Other Race	3,366	1.0	4,600	1.4	11,899	3.5	19,662	5.6
	Hispanic—Any Race	3,232	1.0	5,262	1.6	10,760	3.1	23,032	6.5
	Subtotal	9,073	2.8	14,037	4.3	30,698	8.9	58,163	16.5
	Total	328,776	100.0	331,187	100.0	343,190	100.0	352,902	100.0
Milwaukee County	Non-Hispanic White Population	773,279	80.1	698,864	72.8	583,481	62.0	514,958	54.3
	Minority Population:[b]								
	Non-Hispanic Black/African American	148,307	15.4	193,583	20.2	228,471	24.3	248,794	26.3
	Non-Hispanic Other Race	14,059	1.5	22,157	2.3	45,806	4.9	57,944	6.1
	Hispanic—Any Race	29,343	3.0	44,671	4.7	82,406	8.8	126,039	13.3
	Subtotal	191,709	19.9	260,411	27.2	356,683	38.0	432,777	45.7
	Total	964,988	100.0	959,275	100.0	940,164	100.0	947,735	100.0

Table continued on next page.

Table 2.6 (Continued)

	Race/Ethnicity[a]	1980 Population		1990 Population		2000 Population		2010 Population	
		Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Ozaukee County	Non-Hispanic White Population	65,627	98.0	71,274	97.8	78,894	95.9	80,689	93.4
	Minority Population:[b]								
	Non-Hispanic Black/African American	438	0.6	485	0.7	759	0.9	1,144	1.3
	Non-Hispanic Other Race	386	0.6	555	0.8	1,591	1.9	2,606	3.0
	Hispanic—Any Race	530	0.8	517	0.7	1,073	1.3	1,956	2.3
	Subtotal	1,354	2.0	1,557	2.2	3,423	4.1	5,706	6.6
	Total	66,981	100.0	72,831	100.0	82,317	100.0	86,395	100.0
City of Racine	Non-Hispanic White Population	67,056	78.2	61,408	72.9	51,962	63.5	42,189	53.5
	Minority Population:[b]								
	Non-Hispanic Black/African American	12,480	14.6	15,270	18.1	16,349	20.0	17,341	22.0
	Non-Hispanic Other Race	688	0.8	767	0.9	2,122	2.6	3,021	3.8
	Hispanic—Any Race	5,501	6.4	6,853	8.1	11,422	13.9	16,309	20.7
	Subtotal	18,669	21.8	22,890	27.1	29,893	36.5	36,671	46.5
	Total	85,725	100.0	84,298	100.0	81,855	100.0	78,860	100.0
Remainder of Racine County	Non-Hispanic White Population	83,880	96.0	86,337	95.1	98,276	91.9	103,225	88.6
	Minority Population:[b]								
	Non-Hispanic Black/African American	1,251	1.4	1,423	1.6	3,092	2.9	3,871	3.3
	Non-Hispanic Other Race	576	0.7	795	0.9	2,040	1.9	3,215	2.8
	Hispanic—Any Race	1,700	1.9	2,181	2.4	3,568	3.3	6,237	5.3
	Subtotal	3,527	4.0	4,399	4.9	8,700	8.1	13,323	11.4
	Total	87,407	100.0	90,736	100.0	106,976	100.0	116,548	100.0
Racine County	Non-Hispanic White Population	150,936	87.2	147,745	84.4	150,238	79.6	145,414	74.4
	Minority Population:[b]								
	Non-Hispanic Black/African American	13,731	7.9	16,693	9.5	19,441	10.3	21,212	10.9
	Non-Hispanic Other Race	1,264	0.7	1,562	0.9	4,162	2.2	6,236	3.2
	Hispanic—Any Race	7,201	4.2	9,034	5.2	14,990	7.9	22,546	11.5
	Subtotal	22,196	12.8	27,289	15.6	38,593	20.4	49,994	25.6
	Total	173,132	100.0	175,034	100.0	188,831	100.0	195,408	100.0
Walworth County	Non-Hispanic White Population	69,090	96.6	71,834	95.8	85,428	91.1	88,690	86.8
	Minority Population:[b]								
	Non-Hispanic Black/African American	416	0.6	443	0.6	747	0.8	904	0.9
	Non-Hispanic Other Race	671	0.9	706	0.9	1,448	1.5	2,056	2.0
	Hispanic—Any Race	1,330	1.9	2,017	2.7	6,136	6.6	10,578	10.3
	Subtotal	2,417	3.4	3,166	4.2	8,331	8.9	13,538	13.2
	Total	71,507	100.0	75,000	100.0	93,759	100.0	102,228	100.0
Washington County	Non-Hispanic White Population	83,929	98.9	94,002	98.6	113,870	96.9	124,348	94.3
	Minority Population:[b]								
	Non-Hispanic Black/African American	65	0.1	121	0.1	447	0.4	1,115	0.8
	Non-Hispanic Other Race	382	0.4	535	0.6	1,647	1.4	3,039	2.3
	Hispanic—Any Race	472	0.6	670	0.7	1,529	1.3	3,385	2.6
	Subtotal	919	1.1	1,326	1.4	3,623	3.1	7,539	5.7
	Total	84,848	100.0	95,328	100.0	117,493	100.0	131,887	100.0

Table continued on next page.

Table 2.6 (Continued)

	Race/Ethnicity[a]	1980 Population Number	1980 Population Percent of Total	1990 Population Number	1990 Population Percent of Total	2000 Population Number	2000 Population Percent of Total	2010 Population Number	2010 Population Percent of Total
City of Waukesha	Non-Hispanic White Population	46,977	93.4	52,417	92.0	56,191	86.7	56,868	80.4
	Minority Population:[b]								
	Non-Hispanic Black/African American	189	0.4	301	0.5	797	1.2	1,570	2.2
	Non-Hispanic Other Race	570	1.1	874	1.6	2,274	3.5	3,751	5.3
	Hispanic—Any Race	2,583	5.1	3,366	5.9	5,563	8.6	8,529	12.1
	Subtotal	3,342	6.6	4,541	8.0	8,634	13.3	13,850	19.6
	Total	50,319	100.0	56,958	100.0	64,825	100.0	70,718	100.0
Remainder of Waukesha County	Non-Hispanic White Population	226,271	98.4	242,438	97.9	283,714	95.9	296,246	92.8
	Minority Population:[b]								
	Non-Hispanic Black/African American	536	0.2	757	0.3	1,773	0.6	3,156	1.0
	Non-Hispanic Other Race	1,785	0.8	2,480	1.0	6,515	2.2	12,177	3.8
	Hispanic—Any Race	1,415	0.6	2,082	0.8	3,940	1.3	7,594	2.4
	Subtotal	3,736	1.6	5,319	2.1	12,228	4.1	22,927	7.2
	Total	230,007	100.0	247,757	100.0	295,942	100.0	319,173	100.0
Waukesha County	Non-Hispanic White Population	273,248	97.5	294,855	96.8	339,905	94.2	353,114	90.6
	Minority Population:[b]								
	Non-Hispanic Black/African American	725	0.3	1,058	0.3	2,570	0.7	4,726	1.2
	Non-Hispanic Other Race	2,355	0.8	3,354	1.1	8,739	2.5	15,928	4.1
	Hispanic—Any Race	3,998	1.4	5,448	1.8	9,503	2.6	16,123	4.1
	Subtotal	7,078	2.5	9,860	3.2	20,862	5.8	36,777	9.4
	Total	280,326	100.0	304,715	100.0	360,767	100.0	389,891	100.0

NOTE: Population counts by race may exclude population adjustments made subsequent to the conduct of the decennial censuses which were not allocated to the race categories.

[a] *In the 2000 and 2010 Censuses, respondents were given the opportunity to specify more than one race when responding to questions about racial identity. On this table, all Non-Hispanic persons reporting more than one race in 2000 and/or 2010 are included in the "Non-Hispanic Other Race" category.*

[b] *The minority population includes persons reported in the Census as being of Hispanic origin and/or reporting their race as Black or African American, American Indian/Alaska Native, Asian, Native Hawaiian/Pacific Islander, some other race, or more than one race.*

Source: U.S. Bureau of the Census and SEWRPC

60 years. A particularly large decrease in average household size occurred between 1970 and 1980. Table 2.9 and Figure 2.5 show that each of the seven counties in the Region have experienced a similar long-term trend of declining household size. The decline in household size is related in part to changing household types. Single-person households and other nonfamily households have increased at a much faster rate than family households in the Region over the past four decades.

Employment

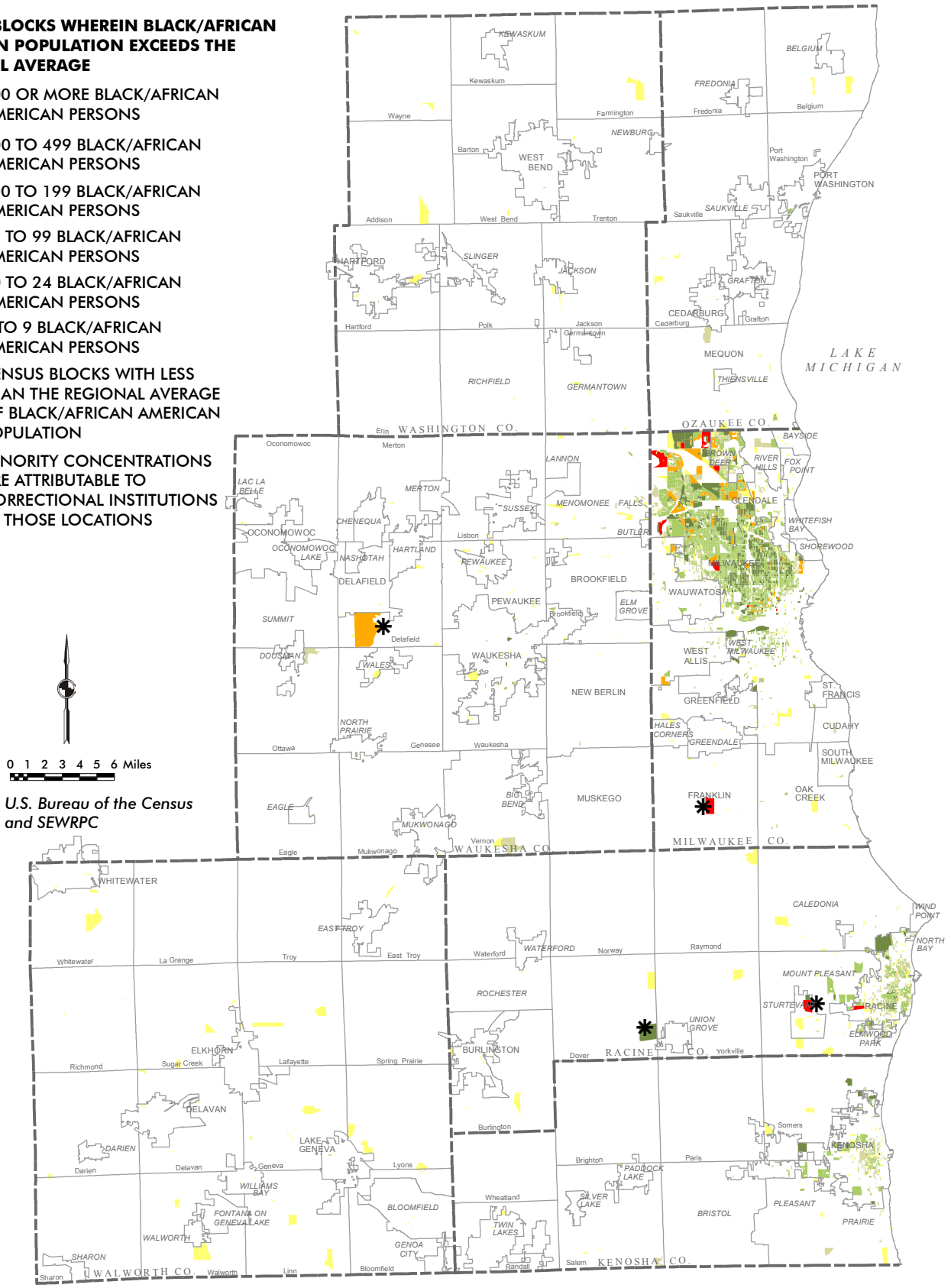
Information regarding the number and type of employment opportunities, or jobs, in an area is an important measure of the size and structure of the area's economy. A summary of employment and personal income data is presented in this section. The data pertain to both wage and salary employment and the self-employed, and include full- and part-time jobs. Detailed findings are presented in SEWRPC Technical Report No. 10 (5th Edition), *The Economy of Southeastern Wisconsin,* dated April 2013. Technical Report No. 10 also includes current and historic data regarding the Region's labor force.

Map 2.1
Concentrations of Black/African American Persons in the Region: 2010

CENSUS BLOCKS WHEREIN BLACK/AFRICAN AMERICAN POPULATION EXCEEDS THE REGIONAL AVERAGE

- 500 OR MORE BLACK/AFRICAN AMERICAN PERSONS
- 200 TO 499 BLACK/AFRICAN AMERICAN PERSONS
- 100 TO 199 BLACK/AFRICAN AMERICAN PERSONS
- 25 TO 99 BLACK/AFRICAN AMERICAN PERSONS
- 10 TO 24 BLACK/AFRICAN AMERICAN PERSONS
- 1 TO 9 BLACK/AFRICAN AMERICAN PERSONS
- CENSUS BLOCKS WITH LESS THAN THE REGIONAL AVERAGE OF BLACK/AFRICAN AMERICAN POPULATION

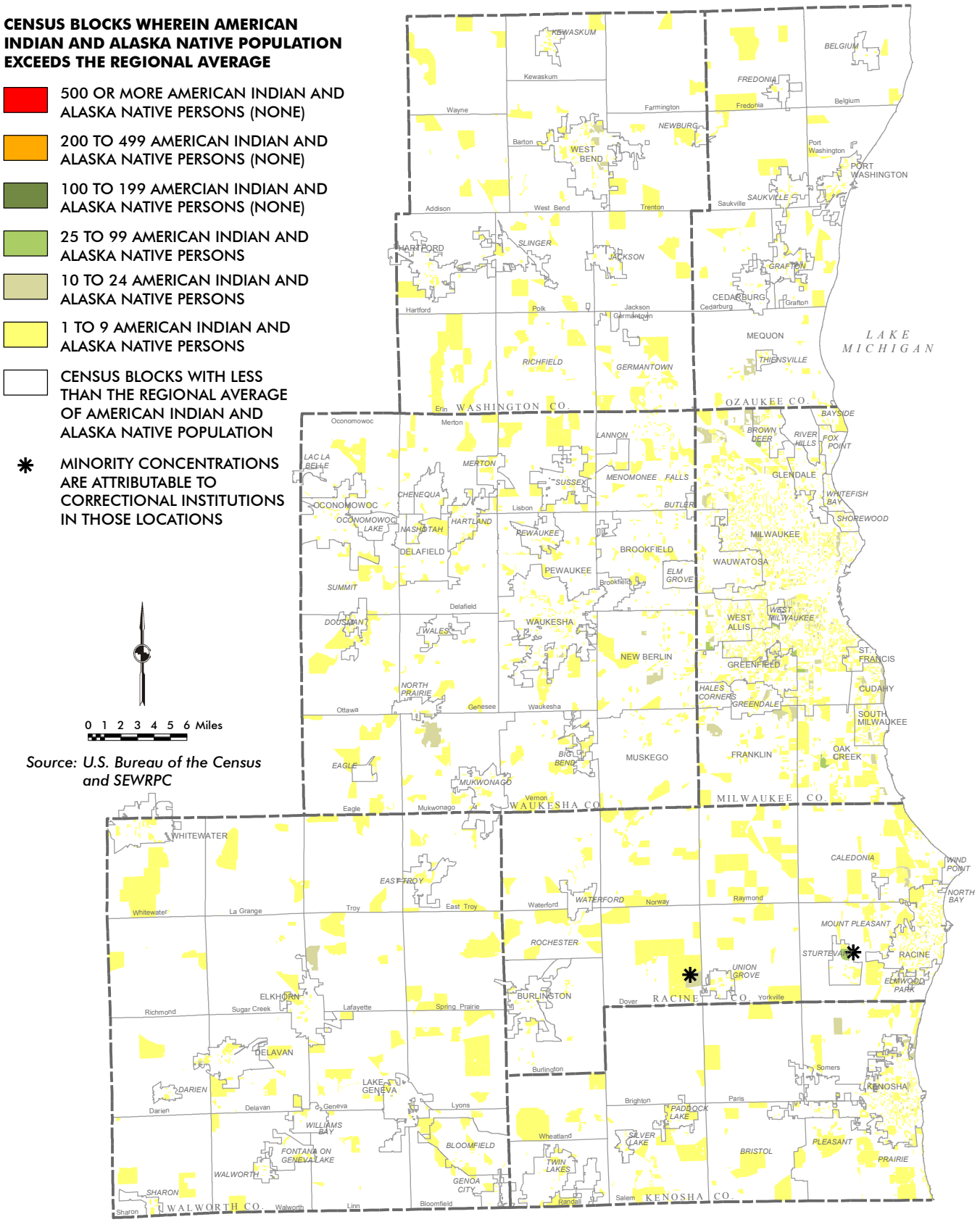
* MINORITY CONCENTRATIONS ARE ATTRIBUTABLE TO CORRECTIONAL INSTITUTIONS IN THOSE LOCATIONS



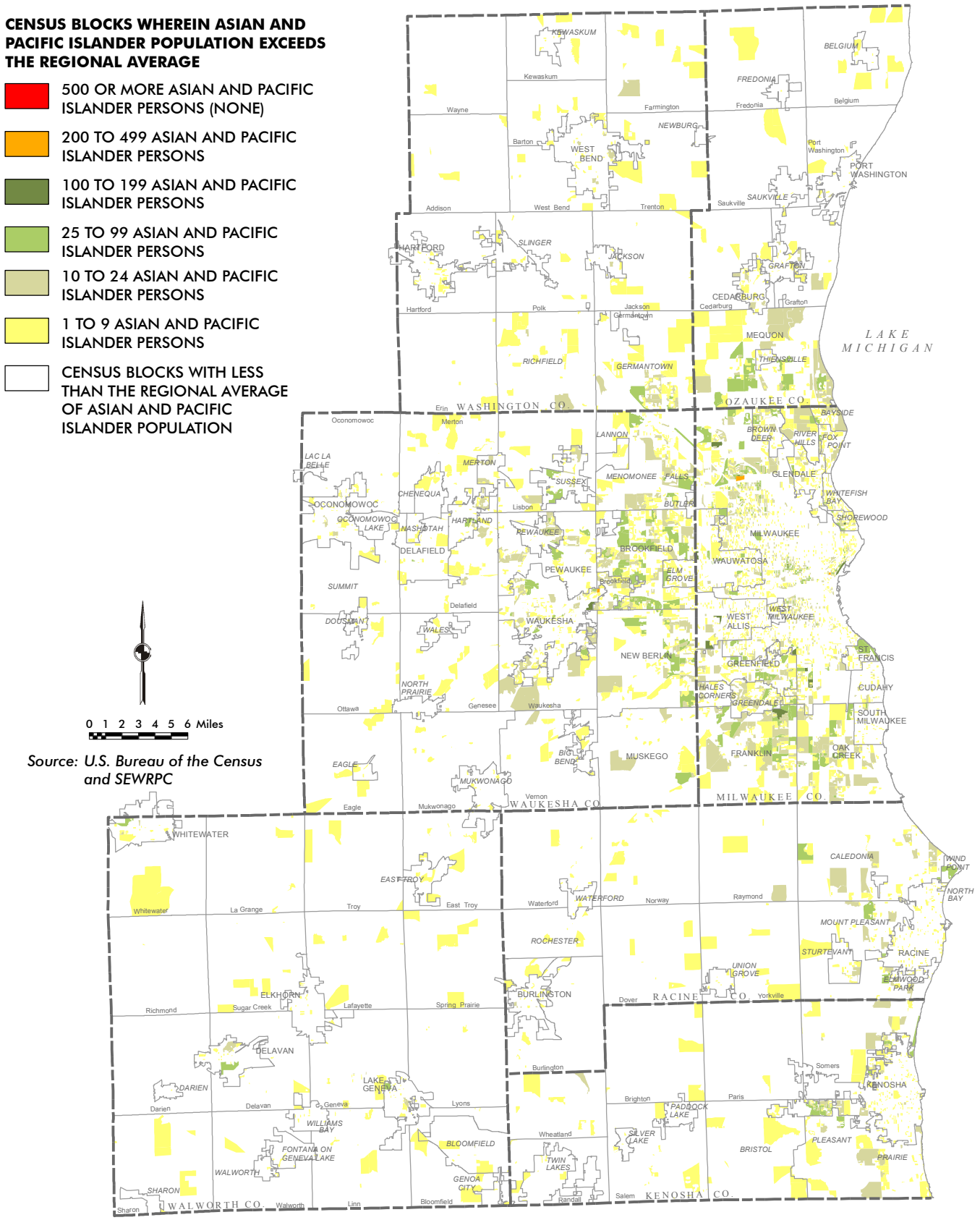
0 1 2 3 4 5 6 Miles

Source: U.S. Bureau of the Census and SEWRPC

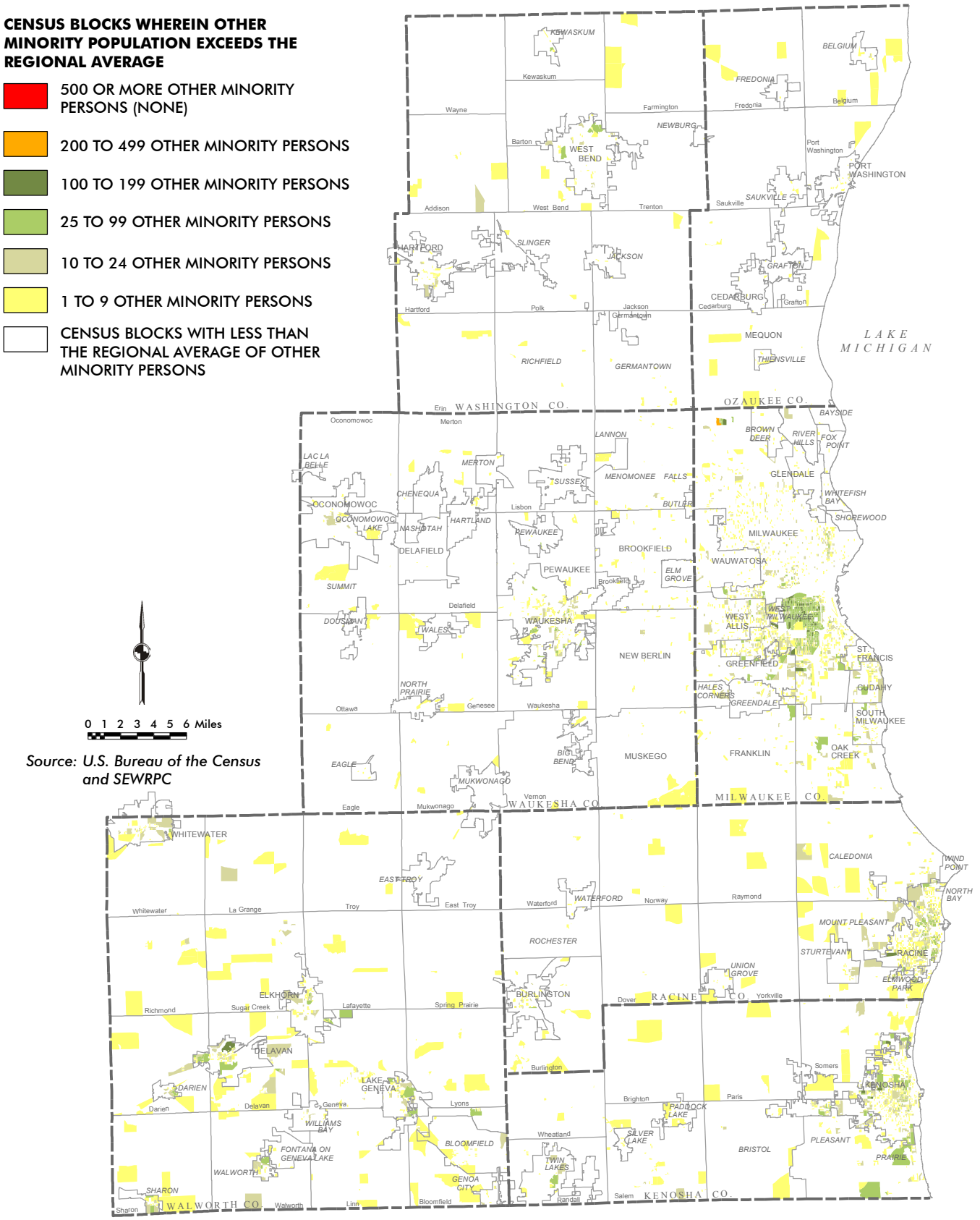
Map 2.2
Concentrations of American Indian and Alaska Native Persons in the Region: 2010



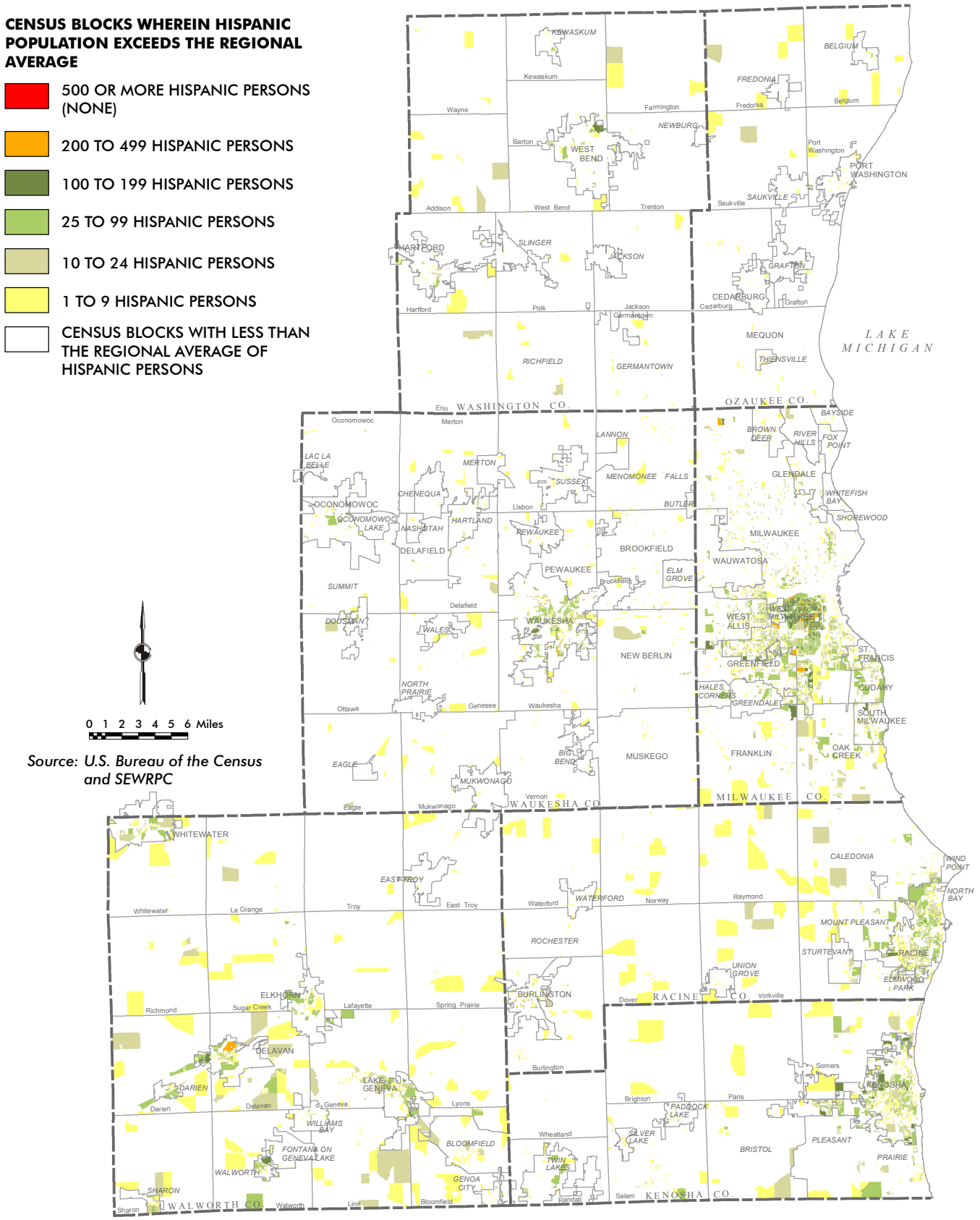
Map 2.3
Concentrations of Asian and Pacific Islander Persons in the Region: 2010



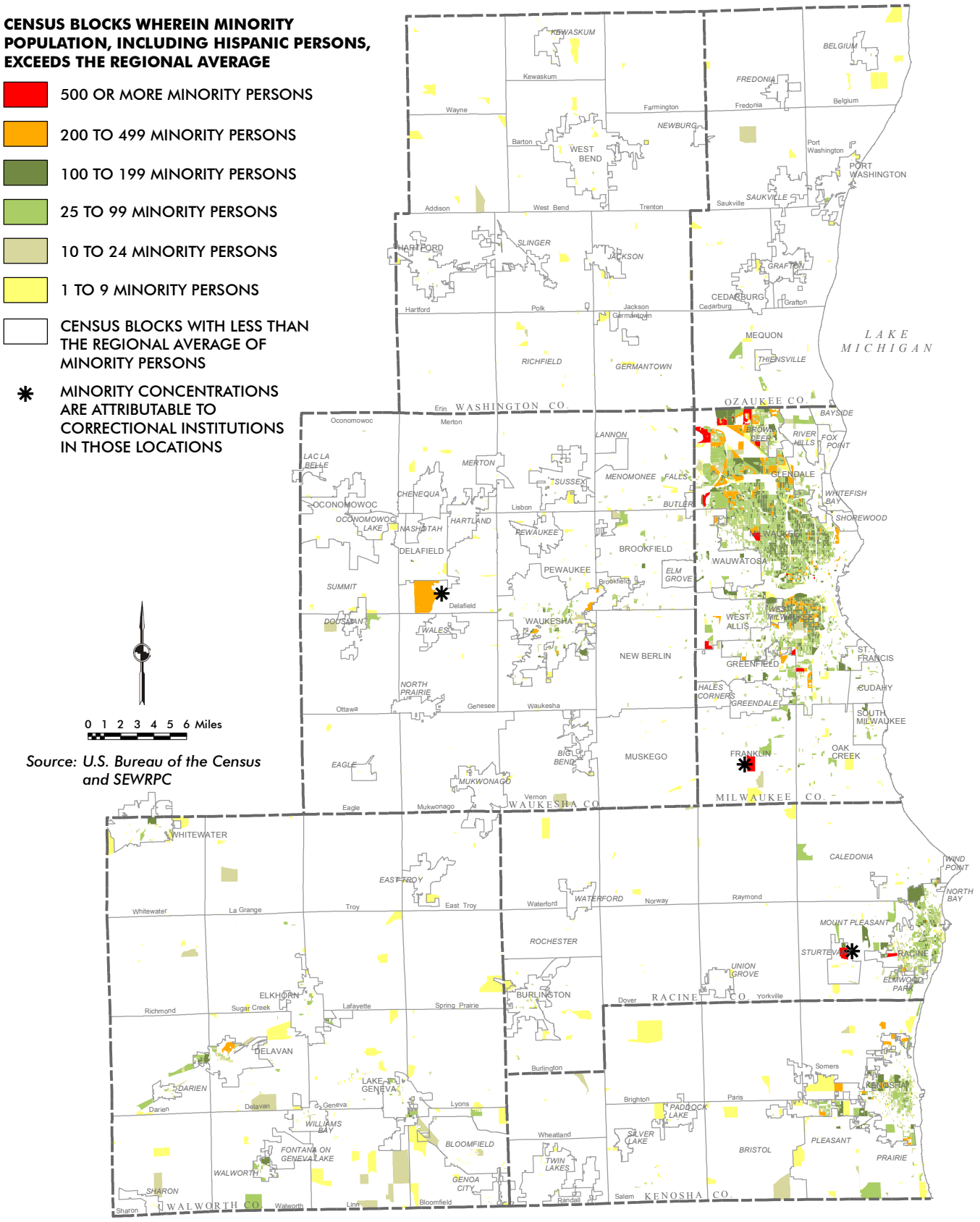
Map 2.4
Concentrations of Other Minority Persons in the Region: 2010



Map 2.5
Concentrations of Hispanic Persons in the Region: 2010

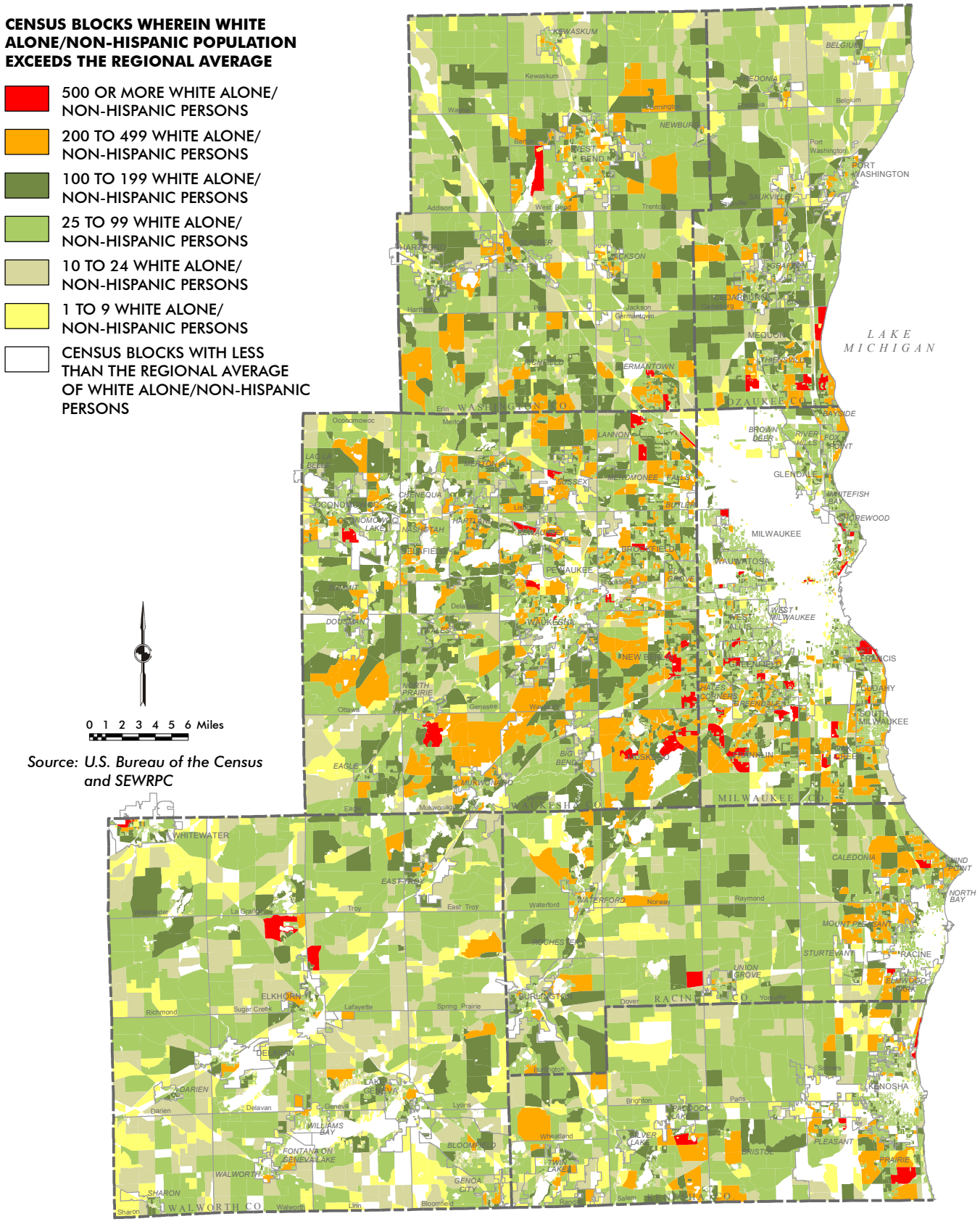


Map 2.6
Concentrations of Total Minority Persons in the Region: 2010



Source: U.S. Bureau of the Census and SEWRPC

Map 2.7
Concentrations of White Alone/Non-Hispanic Persons in the Region: 2010



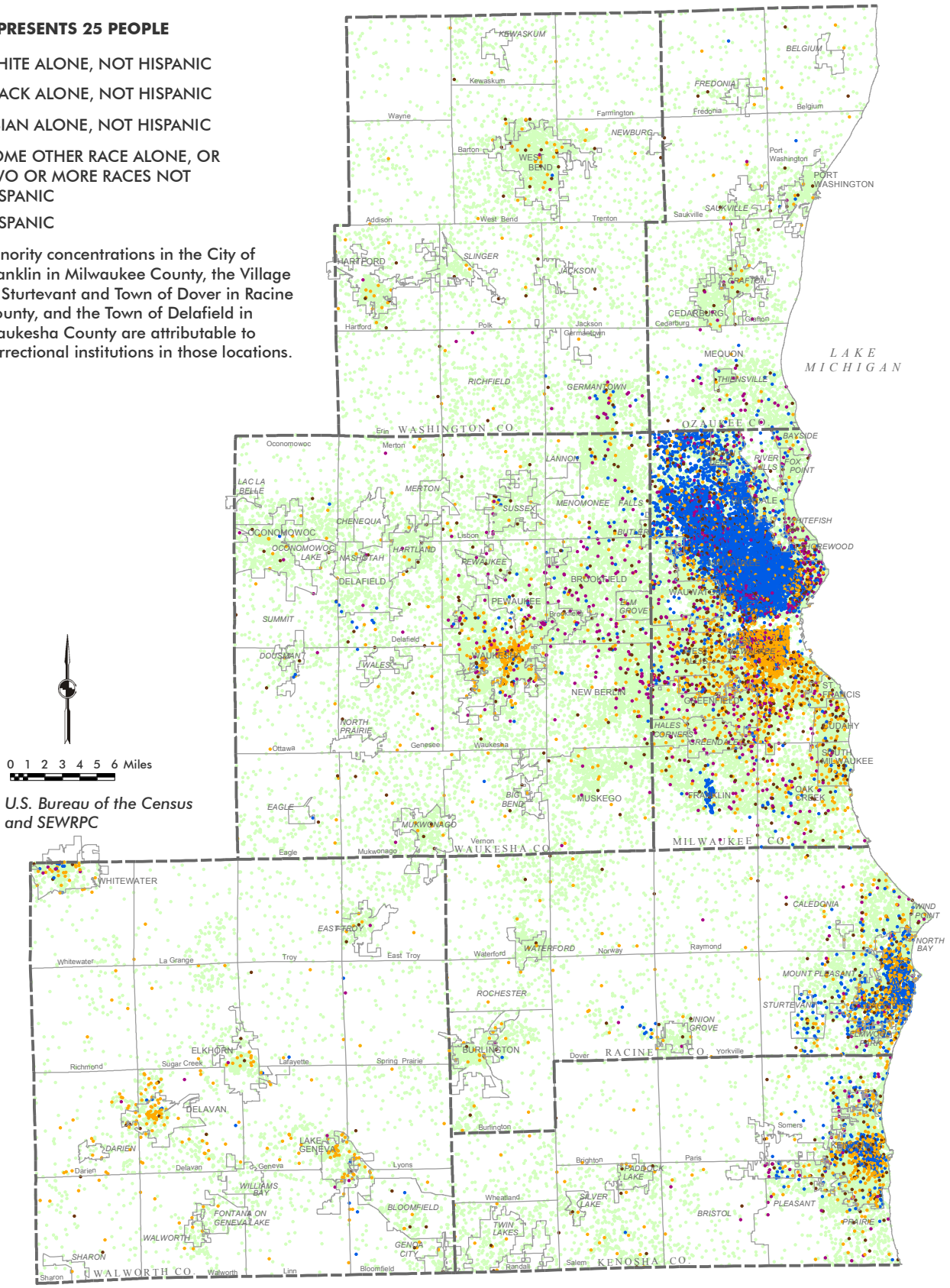
Source: U.S. Bureau of the Census and SEWRPC

Map 2.8
Population by Race and Ethnicity in the Region: 2010

1 DOT REPRESENTS 25 PEOPLE

- WHITE ALONE, NOT HISPANIC
- BLACK ALONE, NOT HISPANIC
- ASIAN ALONE, NOT HISPANIC
- SOME OTHER RACE ALONE, OR TWO OR MORE RACES NOT HISPANIC
- HISPANIC

Note: Minority concentrations in the City of Franklin in Milwaukee County, the Village of Sturtevant and Town of Dover in Racine County, and the Town of Delafield in Waukesha County are attributable to correctional institutions in those locations.



Source: U.S. Bureau of the Census and SEWRPC

Table 2.7
Households in the Region by County: 1950-2010

Year	Kenosha County Households				Milwaukee County Households			
		Change from Preceding Census		Percent of Region		Change from Preceding Census		Percent of Region
	Number	Absolute	Percent	Total	Number	Absolute	Percent	Total
1950	21,958	- -	- -	6.2	249,232	- -	- -	70.3
1960	29,545	7,587	34.6	6.3	314,875	65,643	26.3	67.6
1970	35,468	5,923	20.0	6.6	338,605	23,730	7.5	63.1
1980	43,064	7,596	21.4	6.9	363,653	25,048	7.4	57.9
1990	47,029	3,965	9.2	6.9	373,048	9,395	2.6	55.2
2000	56,057	9,028	19.2	7.5	377,729	4,681	1.3	50.4
2010	62,650	6,593	11.8	7.8	383,591	5,862	1.6	47.9

Year	Ozaukee County Households				Racine County Households			
		Change from Preceding Census		Percent of Region		Change from Preceding Census		Percent of Region
	Number	Absolute	Percent	Total	Number	Absolute	Percent	Total
1950	6,591	- -	- -	1.9	31,399	- -	- -	8.8
1960	10,417	3,826	58.0	2.3	40,736	9,337	29.7	8.7
1970	14,753	4,336	41.6	2.7	49,796	9,060	22.2	9.3
1980	21,763	7,010	47.5	3.5	59,418	9,622	19.3	9.5
1990	25,707	3,944	18.1	3.8	63,736	4,318	7.3	9.4
2000	30,857	5,150	20.0	4.0	70,819	7,083	11.1	9.5
2010	34,228	3,371	10.9	4.3	75,651	4,832	6.8	9.5

Year	Walworth County Households				Washington County Households			
		Change from Preceding Census		Percent of Region		Change from Preceding Census		Percent of Region
	Number	Absolute	Percent	Total	Number	Absolute	Percent	Total
1950	12,369	- -	- -	3.5	9,396	- -	- -	2.6
1960	15,414	3,045	24.6	3.3	12,532	3,136	33.4	2.7
1970	18,544	3,130	20.3	3.5	17,385	4,853	38.7	3.3
1980	24,789	6,245	33.7	3.8	26,716	9,331	53.7	4.3
1990	27,620	2,831	11.4	4.1	32,977	6,261	23.4	4.9
2000	34,505	6,885	24.9	4.6	43,843	10,866	33.0	5.9
2010	39,699	5,194	15.1	5.0	51,605	7,762	17.7	6.4

Year	Waukesha County Households				Region Households			
		Change from Preceding Census		Percent of Region		Change from Preceding Census		Percent of Region
	Number	Absolute	Percent	Total	Number	Absolute	Percent	Total
1950	23,599	- -	- -	6.7	354,544	- -	- -	100.0
1960	42,394	18,795	79.6	9.1	465,913	111,369	31.4	100.0
1970	61,935	19,541	46.1	11.5	536,486	70,573	15.1	100.0
1980	88,552	26,617	43.0	14.1	627,955	91,469	17.0	100.0
1990	105,990	17,438	19.7	15.7	676,107	48,152	7.7	100.0
2000	135,229	29,239	27.6	18.1	749,039	72,932	10.8	100.0
2010	152,663	17,434	12.9	19.1	800,087	51,048	6.8	100.0

Source: U.S. Bureau of the Census and SEWRPC

Table 2.8
Households in the Region by Area: 1950-2010

Year	Households in the City of Milwaukee				Households in the Remainder of Milwaukee County			
	Number	Change from Preceding Census		Percent of Region Total	Number	Change from Preceding Census		Percent of Region Total
		Absolute	Percent			Absolute	Percent	
1950	185,734	- -	- -	52.4	63,498	- -	- -	17.9
1960	230,987	45,253	24.4	49.6	83,888	20,390	32.1	18.0
1970	236,981	5,994	2.6	44.2	101,624	17,736	21.1	18.9
1980	241,818	4,837	2.0	38.5	121,835	20,211	19.9	19.4
1990	240,540	-1,278	-0.5	35.6	132,508	10,673	8.8	19.6
2000	232,188	-8,352	-3.5	31.0	145,541	13,033	9.8	19.4
2010	230,221	-1,967	-0.8	28.8	153,370	7,829	5.4	19.2

Year	Households in the City of Kenosha				Households in the Remainder of Kenosha County			
	Number	Change from Preceding Census		Percent of Region Total	Number	Change from Preceding Census		Percent of Region Total
		Absolute	Percent			Absolute	Percent	
1950	16,102	- -	- -	4.5	5,856	- -	- -	1.7
1960	20,593	4,491	27.9	4.4	8,952	3,096	52.9	1.9
1970	24,245	3,652	17.7	4.5	11,223	2,271	25.4	2.1
1980	27,964	3,719	15.3	4.5	15,100	3,877	34.5	2.4
1990	29,919	1,955	7.0	4.4	17,110	2,010	13.3	2.5
2000	34,411	4,492	15.0	4.6	21,646	4,536	26.5	2.9
2010	37,376	2,965	8.6	4.7	25,274	3,628	16.8	3.2

Year	Households in the City of Racine				Households in the Remainder of Racine County			
	Number	Change from Preceding Census		Percent of Region Total	Number	Change from Preceding Census		Percent of Region Total
		Absolute	Percent			Absolute	Percent	
1950	21,165	- -	- -	6.0	10,234	- -	- -	2.9
1960	27,064	5,899	27.9	5.8	13,672	3,438	33.6	2.9
1970	29,851	2,787	10.3	5.6	19,945	6,273	45.9	3.7
1980	31,744	1,893	6.3	5.1	27,674	7,729	38.8	4.4
1990	31,767	23	0.1	4.7	31,969	4,295	15.5	4.7
2000	31,449	-318	-1.0	4.2	39,370	7,401	23.2	5.3
2010	30,530	-919	-2.9	3.8	45,121	5,751	14.6	5.6

Year	Households in the City of Waukesha				Households in the Remainder of Waukesha County			
	Number	Change from Preceding Census		Percent of Region Total	Number	Change from Preceding Census		Percent of Region Total
		Absolute	Percent			Absolute	Percent	
1950	5,782	- -	- -	1.6	17,817	- -	- -	5.0
1960	8,572	2,790	48.3	1.8	33,822	16,005	89.8	7.3
1970	11,748	3,176	37.1	2.2	50,187	16,365	48.4	9.4
1980	17,644	5,896	50.2	2.8	70,908	20,721	41.3	11.3
1990	21,235	3,591	20.4	3.1	84,755	13,847	19.5	12.5
2000	25,663	4,428	20.9	3.4	109,566	24,811	29.3	14.6
2010	28,295	2,632	10.3	3.5	124,368	14,802	13.5	15.5

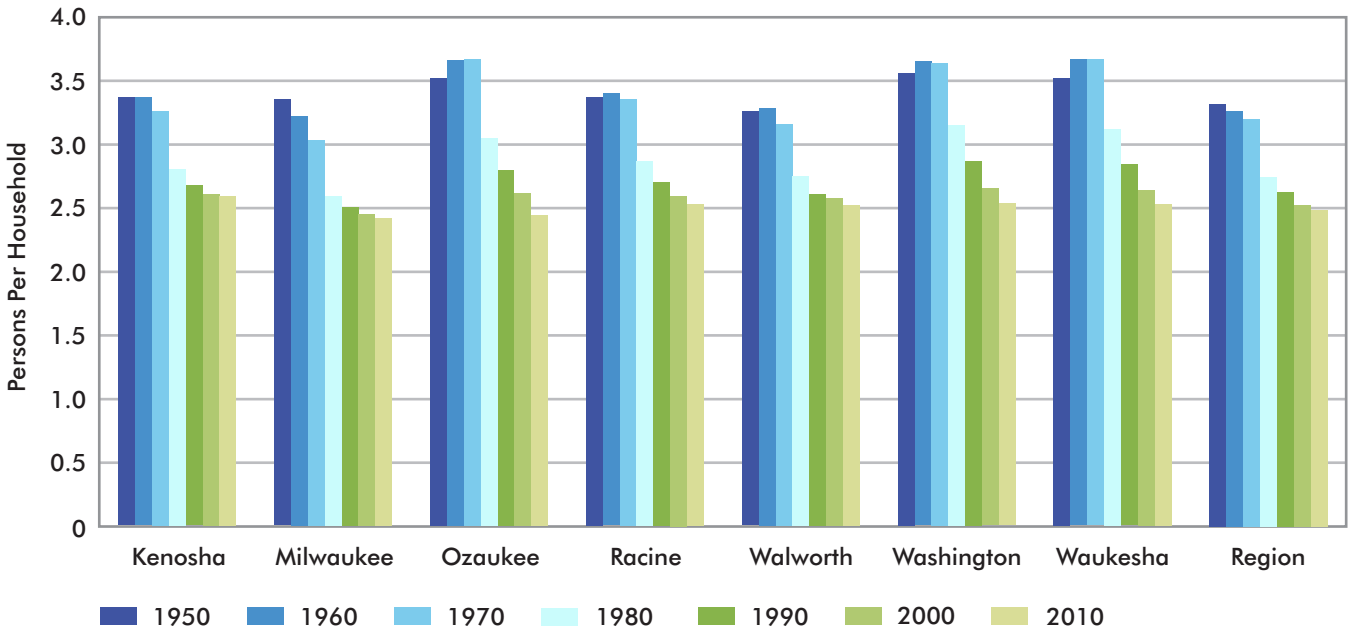
Source: U.S. Bureau of the Census and SEWRPC

Table 2.9
Average Household Size in the Region by County: 1950-2010

County	Average Persons per Household						
	1950	1960	1970	1980	1990	2000	2010
Kenosha	3.36	3.36	3.26	2.80	2.67	2.60	2.58
Milwaukee	3.34	3.21	3.04	2.59	2.50	2.43	2.41
Ozaukee	3.51	3.65	3.66	3.04	2.79	2.61	2.47
Racine	3.37	3.39	3.35	2.86	2.70	2.59	2.52
Walworth	3.25	3.28	3.16	2.74	2.60	2.57	2.51
Washington	3.55	3.64	3.63	3.14	2.86	2.65	2.53
Waukesha	3.51	3.66	3.66	3.11	2.83	2.63	2.52
Region	3.36	3.30	3.20	2.75	2.62	2.52	2.47

Source: U.S. Bureau of the Census and SEWRPC

Figure 2.5
Average Household Size in the Region by County: 1950-2010



Source: U.S. Bureau of the Census and SEWRPC

There were 1,176,600 jobs in the Region in 2010, which is about 2.7% jobs less than in 2000.

Wisconsin and the Nation gained jobs during the 2000s, but at a much slower rate than previous decades.

Historic Trends and Distribution Among Counties

The number of jobs in the Region, as reported by the U.S. Bureau of Economic Analysis, fluctuated somewhat between 2000 and 2010. The number of jobs decreased during the early 2000s, increased during the mid-2000s, and decreased again after 2008. The number of jobs in the Region stood at 1,176,600 in 2010, about 33,200 jobs, or 2.7 percent, less than in 2000. The Region's share of Statewide jobs decreased from 36 percent in 2000 to 34 percent in 2010. The Region's share of national employment also decreased during the 2000s.

Table 2.10 shows that Wisconsin and the Nation gained jobs during the 2000s, but at a much slower rate than previous decades. The State gained 36,500 jobs in the 2000s (1.1 percent increase), compared to 596,600 during the 1990s (21.4 percent increase). The Nation gained 8,221,900 jobs in the 2000s (5.0 percent increase), compared to 27,690,900 during the

Table 2.10
Employment in the Region, Wisconsin, and the United States: 1950-2010

	Region			Wisconsin			United States			Region Employment as a Percent of:	
		Change from Preceding Year			Change from Preceding Year			Change from Preceding Year			
Year	Jobs	Number	Percent	Jobs	Number	Percent	Jobs	Number	Percent	Wisconsin	United States
1950	573,500	- -	- -	1,413,400	- -	- -	61,701,200	- -	- -	40.6	0.93
1960	673,000	99,500	17.3	1,659,400	246,000	17.4	72,057,000	10,355,800	16.8	40.6	0.93
1970	784,900	111,900	16.6	1,929,100	269,700	16.3	88,045,600	15,988,600	22.2	40.7	0.89
1980	945,900	161,000	20.5	2,423,800	494,700	25.6	111,482,200	23,436,600	26.6	39.0	0.85
1990	1,054,000	108,100	11.4	2,789,200	365,400	15.1	135,612,900	24,130,700	21.6	37.8	0.78
2000	1,209,800	155,800	14.8	3,385,800	596,600	21.4	163,303,800	27,690,900	20.4	35.7	0.74
2010	1,176,600	-33,200	-2.7	3,422,300	36,500	1.1	171,525,700	8,221,900	5.0	34.4	0.69

NOTE: Excludes military employment, which amounted to 6,100 jobs in the Region, 16,700 jobs in Wisconsin, and 2,101,000 jobs in the United States in 2010.

Source: U.S. Bureau of Economic Analysis and SEWRPC

1990s (20.4 percent increase). Job gains in the Region were more modest than the State and Nation during the 1990s. The Region gained 155,800 jobs, which was a 14.8 percent increase.

Historically, both national and regional employment levels tend to fluctuate in the short-term, rising and falling in accordance with business cycles. The long period of uninterrupted job growth between 1983 and 2000 is unusual in this respect. Total employment increased each year nationally and in the Region, with the exception of a slight decrease in 1991.

Kenosha, Ozaukee, Walworth, Washington, and Waukesha Counties gained jobs during the 2000s.

Table 2.11 and Figure 2.6 show current and historic employment levels in the Region by county. Five of the seven counties in the Region gained jobs between 2000 and 2010. Kenosha County gained 7,000 jobs during the 2000s, which was the most of any county in the Region. There were also job increases in Washington County (3,600 jobs), Ozaukee County (2,100 jobs), Walworth County (1,500 jobs), and Waukesha County (1,000 jobs). The number of jobs decreased in both Milwaukee and Racine Counties, with much of the decrease occurring during the recession in the late 2000s.

Milwaukee and Racine Counties both experienced a decrease in their share of total regional employment during the 2000s, while the share in each of the other five counties increased. Figure 2.7 shows that Milwaukee County has experienced a substantial decrease in its share of regional employment over the last six decades, and Waukesha County has experienced a substantial increase. Ozaukee, Walworth, and Washington Counties have experienced gradual increases. The regional share in Kenosha County has increased between 1950 and 2010 with some fluctuations. Racine County has also experienced fluctuations over this time period, with its share of total regional employment about the same in 2010 as it was in 1950.

Providing affordable housing for workers is important in areas of the Region experiencing job growth.

Providing affordable housing for workers is important in areas of the Region experiencing employment growth, and workforce housing was one of the primary concerns raised by business groups, employers, and communities when the Commission was developing the regional housing plan (adopted in March 2013). A job/housing analysis was conducted as part of the housing plan to help determine the balance between job wages and housing costs in the Region. The analysis was conducted at a necessarily general, regionwide scope, which was appropriate for use in developing housing recommendations at a regional level. The analysis compares the percentage of lower-cost housing (generally defined as multifamily and two-family housing) and moderate-cost housing (generally defined as smaller single-family homes on smaller lots) to the percentage of lower- and moderate-wage jobs in 39 subareas of the Region. Map 2.9 shows that both lower- and moderate-cost job/housing imbalances can be found in the outlying portions of the Region where recent employment growth has occurred.[2]

Employment by Industry

The service, retail trade, and manufacturing sectors account for almost 80% of the Region's jobs.

Information regarding employment by industry group provides insight into the structure of the regional economy and changes in that structure over time. Table 2.12 shows that the service sector made up the largest portion of

[2] *The job/housing balance analysis is fully documented in the regional housing plan (SEWRPC Planning Report No. 54,* A Regional Housing Plan for Southeastern Wisconsin: 2035*). The job/housing balance analysis includes an analysis of potential existing imbalances based on 2010 wage and housing data, shown on Map 2.9, and projected imbalances for the year 2035 based on local government comprehensive plans. Projected job/housing imbalances are shown on Map 100 of the regional housing plan.*

Table 2.11
Employment in the Region by County: 1950-2010

Year	Kenosha County				Milwaukee County			
	Jobs	Change from Preceding Year		Percent of Region Total	Jobs	Change from Preceding Year		Percent of Region Total
		Number	Percent			Number	Percent	
1950	29,100	- -	- -	5.1	453,500	- -	- -	79.1
1960	42,200	13,100	45.0	6.3	503,300	49,800	11.0	74.8
1970	42,100	-100	-0.2	5.4	525,200	21,900	4.4	66.9
1980	54,000	11,900	28.3	5.7	581,700	56,500	10.8	61.5
1990	51,800	-2,200	-4.1	4.9	604,700	23,000	4.0	57.4
2000	67,900	16,100	31.1	5.6	618,300	13,600	2.2	51.1
2010	74,900	7,000	10.3	6.4	575,400	-42,900	-6.9	48.9

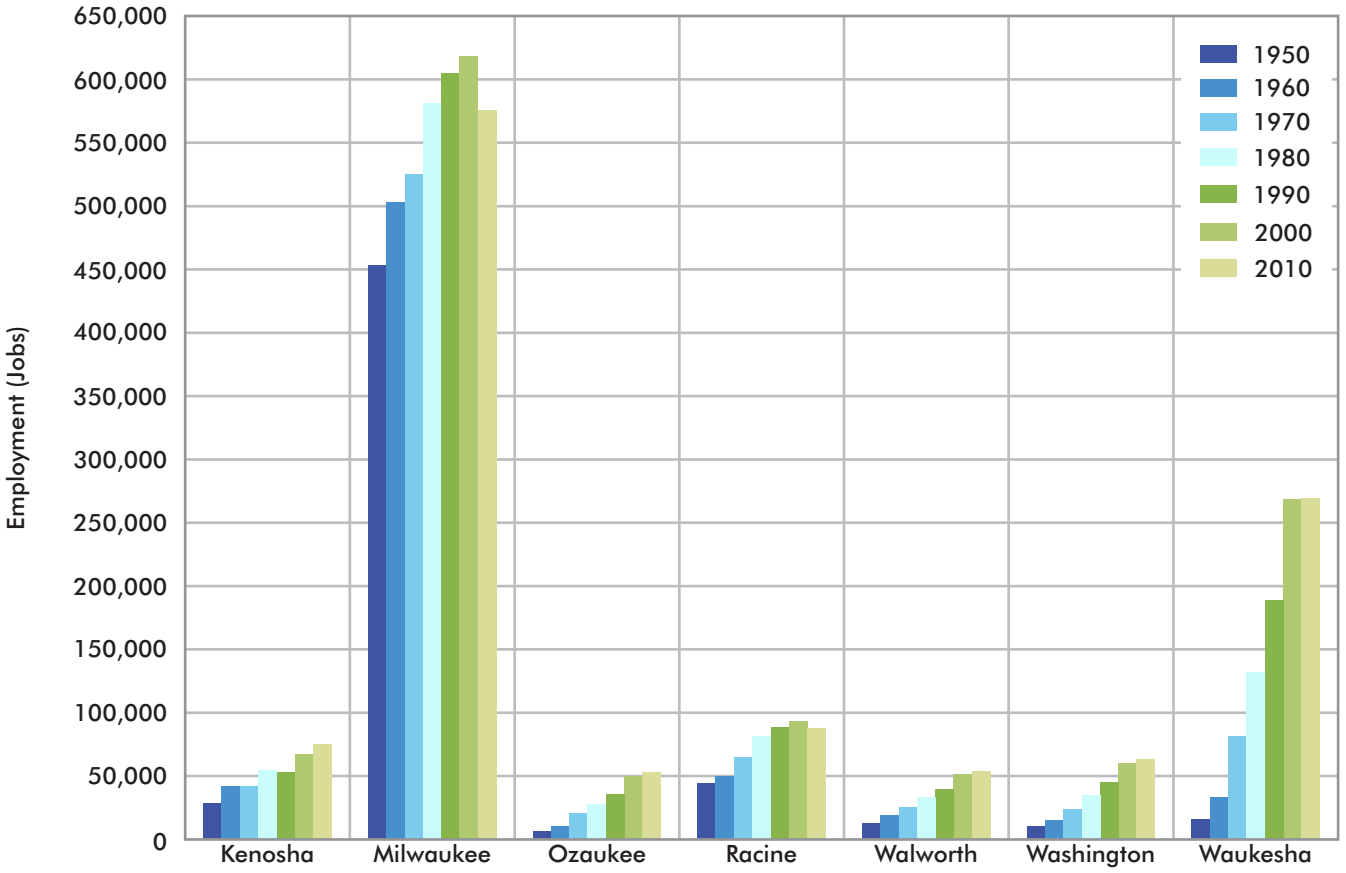
Year	Ozaukee County				Racine County			
	Jobs	Change from Preceding Year		Percent of Region Total	Jobs	Change from Preceding Year		Percent of Region Total
		Number	Percent			Number	Percent	
1950	6,600	- -	- -	1.1	44,500	- -	- -	7.7
1960	10,200	3,600	54.5	1.5	49,900	5,400	12.1	7.4
1970	21,300	11,100	108.8	2.7	64,600	14,700	29.5	8.2
1980	28,200	6,900	32.4	3.0	81,000	16,400	25.4	8.6
1990	35,100	6,900	24.5	3.3	88,900	7,900	9.8	8.4
2000	50,400	15,300	43.6	4.2	93,800	4,900	5.5	7.8
2010	52,500	2,100	4.2	4.5	88,300	-5,500	-5.9	7.5

Year	Walworth County				Washington County			
	Jobs	Change from Preceding Year		Percent of Region Total	Jobs	Change from Preceding Year		Percent of Region Total
		Number	Percent			Number	Percent	
1950	13,200	- -	- -	2.3	10,200	- -	- -	1.8
1960	19,600	6,400	48.5	2.9	15,200	5,000	49.0	2.3
1970	26,400	6,800	34.7	3.4	24,300	9,100	59.9	3.1
1980	33,400	7,000	26.5	3.5	35,100	10,800	44.4	3.7
1990	39,600	6,200	18.6	3.8	45,800	10,700	30.5	4.3
2000	51,200	11,600	29.3	4.2	60,300	14,500	31.7	5.0
2010	52,700	1,500	2.9	4.5	63,900	3,600	6.0	5.4

Year	Waukesha County				Region			
	Jobs	Change from Preceding Year		Percent of Region Total	Jobs	Change from Preceding Year		Percent of Region Total
		Number	Percent			Number	Percent	
1950	16,400	- -	- -	2.9	573,500	- -	- -	100.0
1960	32,600	16,200	98.8	4.8	673,000	99,500	17.3	100.0
1970	81,000	48,400	148.5	10.3	784,900	111,900	16.6	100.0
1980	132,500	51,500	63.6	14.0	945,900	161,000	20.5	100.0
1990	188,100	55,600	42.0	17.9	1,054,000	108,100	11.4	100.0
2000	267,900	79,800	42.4	22.1	1,209,800	155,800	14.8	100.0
2010	268,900	1,000	0.4	22.8	1,176,600	-33,200	-2.7	100.0

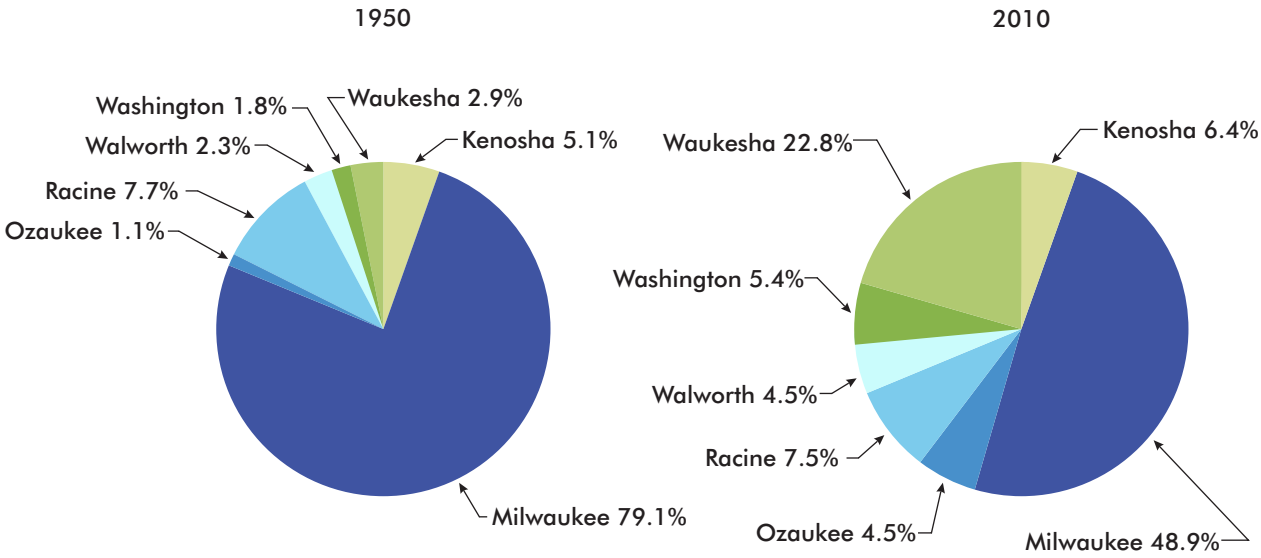
Source: U.S. Bureau of Economic Analysis and SEWRPC

Figure 2.6
Employment in the Region by County: 1950-2010



Source: U.S. Bureau of Economic Analysis and SEWRPC

Figure 2.7
Share of Regional Employment by County: 1950 and 2010



Source: U.S. Bureau of the Economic Analysis and SEWRPC

Map 2.9
Potential Job/Housing Imbalances by Housing Analysis Area in the Region: 2010

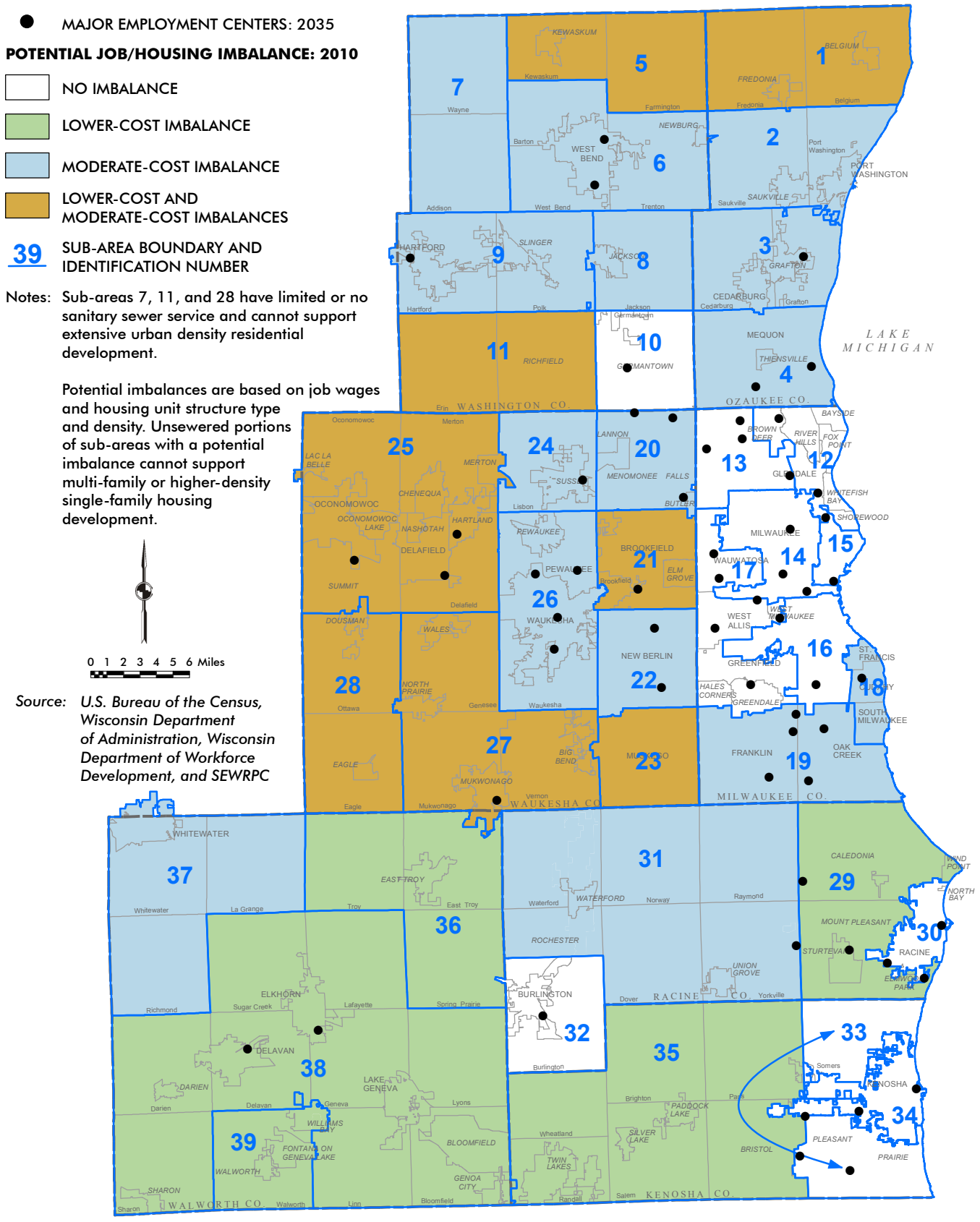


Table 2.12
Employment by General Industry Group in the Region, Wisconsin, and the United States: 2010

General Industry Group	Region		Wisconsin		United States	
	Jobs	Percent of Total	Jobs	Percent of Total	Jobs	Percent of Total
Agriculture	5,200	0.4	92,900	2.7	2,657,000	1.5
Construction	45,900	3.9	156,700	4.6	8,863,700	5.2
Manufacturing	148,100	12.6	445,200	13.0	12,107,900	7.1
Wholesale Trade	48,800	4.1	123,200	3.6	6,045,000	3.5
Retail Trade[a]	185,800	15.8	570,500	16.7	27,850,200	16.2
Services	584,400	49.7	1,470,700	43.0	83,207,100	48.5
Government[b]	117,700	10.0	420,600	12.3	22,578,000	13.2
Other	40,700	3.5	142,500	4.1	8,216,800	4.8
Total	1,176,600	100.0	3,422,300	100.0	171,525,700	100.0

[a] *Retail trade employment includes the standard NAICS retail employment categories (NAICS codes 44 and 45), plus food services/drinking places (NAICS code 722).*

[b] *Government employment includes all employees who work for government agencies and enterprises, regardless of the NAICS code of such entities. Government employment includes, among others, Federal, State, county, and local government staff; police; firefighters; public utility workers; and public school teachers.*

Source: U.S. Bureau of Economic Analysis and SEWRPC

Table 2.13
Services Employment by Service Sector in the Region: 2010

Service Sector	Jobs	Percent of Service Jobs	Percent of Total Jobs
Information	19,700	3.4	1.7
Finance and insurance	67,700	11.6	5.8
Real estate and rental and leasing	44,100	7.5	3.7
Professional, scientific, and technical services	63,300	10.8	5.4
Management of companies and enterprises	24,000	4.1	2.0
Administrative and waste management services	74,100	12.7	6.3
Educational services	37,900	6.5	3.2
Health care and social assistance	154,500	26.4	13.1
Arts, entertainment, and recreation	25,500	4.4	2.2
Accommodation[a]	8,900	1.5	0.8
Other services	64,700	11.1	5.5
Total	584,400	100.0	49.7

[a] *Excludes food service and drinking places (NAICS code 722).*

Source: U.S. Bureau of Economic Analysis and SEWRPC

regional employment in 2010, accounting for half of total employment. Retail trade and manufacturing were the next largest industry sectors, accounting for 16 percent and 13 percent of the total regional employment, respectively. These three industry sectors collectively accounted for almost 80 percent of the jobs in the Region.

Service sector employment in the Region is further broken down in Table 2.13. Health care and social assistance jobs accounted for 26 percent of all service jobs in 2010, followed by administrative and waste management services (13 percent); finance and insurance (12 percent); and professional, scientific, and technical services (11 percent).

Table 2.14 and Figure 2.8 show regional trends in employment by industry from 1970 to 2010.[3] The continuing shift in the regional economy from manufacturing to a service orientation was the most significant economic trend during this time period. Manufacturing employment decreased by 31 percent between 2000 and 2010, and by 38 percent over the last four decades. Conversely, service-related employment increased by 10 percent during the 2000s, and by 183 percent over the last four decades.

Service jobs have increased by 183% and manufacturing jobs have decreased by 38% since 1970.

The proportion of manufacturing jobs relative to total jobs in the Region has decreased from 30 percent in 1970 to 13 percent in the 2010 and the proportion of service-related jobs has increased from 26 percent in 1970 to 50 percent in 2010 due to these differential growth rates. Other major industry groups have maintained a relatively stable proportion of the total employment in the Region. The State and the Nation have experienced a similar shift from manufacturing to service-related employment; however, both the Region and the State have a larger share of manufacturing relative to total employment than the Nation.

The Region and State have a larger share of manufacturing jobs relative to total jobs than the Nation.

Personal Income

Personal income is another indicator of the general trend of the economy of an area. Table 2.15 shows the Region's per capita income was $25,900 in 2010, which is about the same as per capita income for the State and Nation. Per capita income in the Region decreased by 11.3 percent during the 2000s (measured in constant dollars). Constant dollar per capita income for Wisconsin and the Nation also decreased. The Region's median family income was $65,400 in 2010, which exceeded that of the State and Nation. Median family income (constant dollar) in the Region decreased by 11.0 percent during the 2000s, and also decreased for the State and the Nation.

Table 2.16 shows there are considerable differences in personal income levels among the seven counties in the Region and between the Region's largest cities and their surrounding areas. Ozaukee County ($39,000) and Waukesha County ($34,900) had the highest per capita income levels among the Region's counties in 2010. Milwaukee County ($22,400) had the lowest per capita income level, and the City of Milwaukee ($17,900) had a significantly lower per capita income level than the remainder of Milwaukee County ($29,500). Each of the Region's seven counties and four largest cities experienced a decrease in constant dollar per capita income during the 2000s. Median family income levels follow similar patterns.

Table 2.17 shows there are also considerable differences in poverty levels among the seven counties in the Region and between the Region's largest cities and their surrounding areas. Ozaukee County (3.2 percent) had the lowest percentage of families in poverty among the Region's counties in 2010 and Milwaukee County (17.3 percent) had the highest. The Cities of Milwaukee, Racine, Kenosha, and Waukesha each had a significantly higher percentage of families in poverty than the remainders of their respective counties. These concentrations of families in poverty are shown on Map 2.10.

The Cities of Milwaukee, Racine, Kenosha, and Waukesha each have significantly more families in poverty than the rest of their respective counties.

[3] *The North American Industry Classification System (NAICS) has replaced the prior Standard Industrial Classification System (SIC) for classifying employment. Employment by industry data for the years 2001-2010 are largely based on the NAICS. Data for the years 1970-2000 are based on SIC, with adjustments made to certain industry groups to achieve as much consistency with NAICS data as possible. Additional explanation is presented in Table 11 of SEWRPC Technical Report No. 10.*

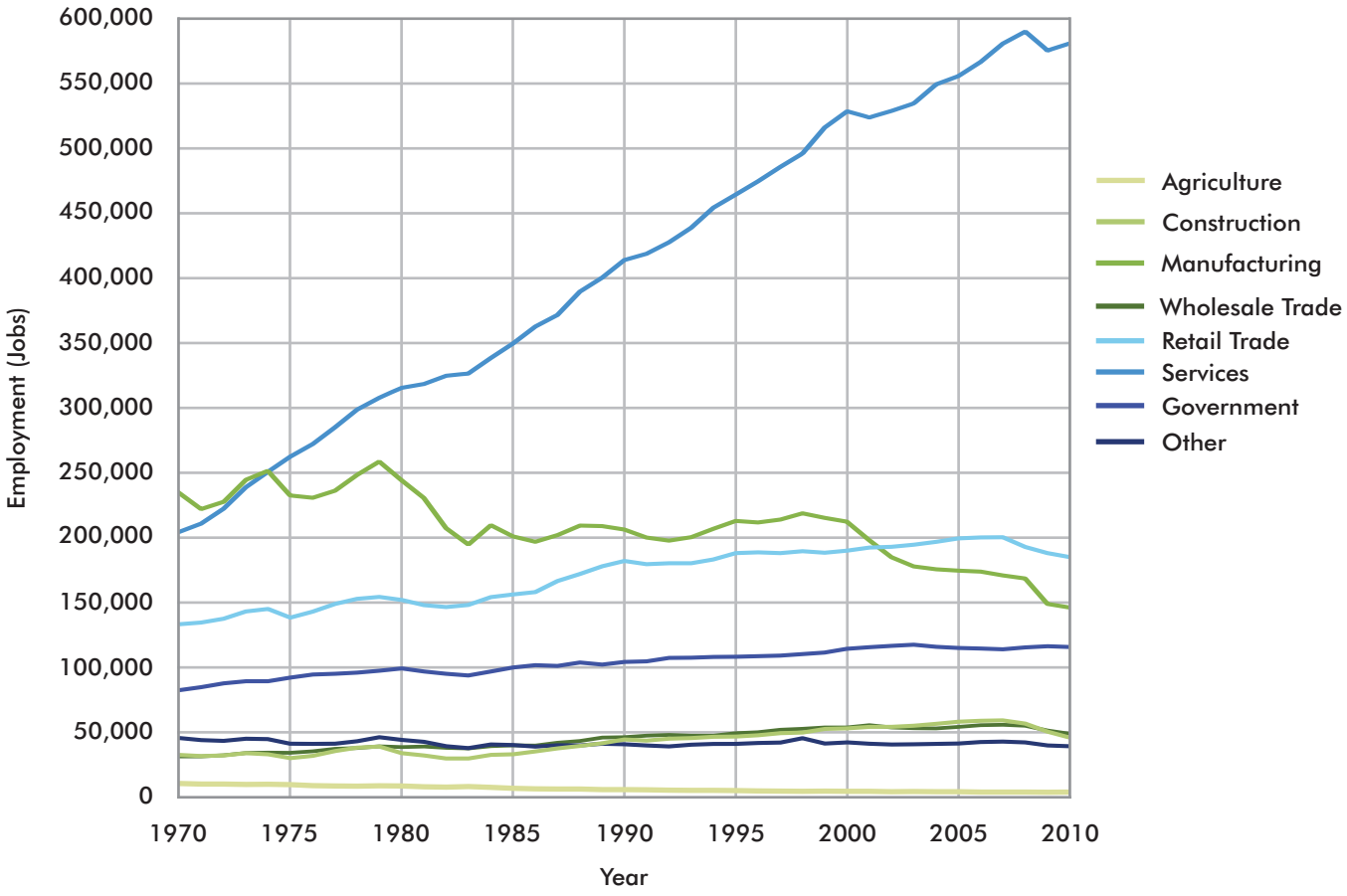
Table 2.14
Employment by General Industry Group in the Region: 1970-2010

General Industry Group	1970 Number	1970 Percent of Total	1980 Number	1980 Percent of Total	1990 Number	1990 Percent of Total	2000 Number	2000 Percent of Total	2010 Number	2010 Percent of Total
Agriculture	12,000	1.5	10,000	1.0	7,200	0.7	5,900	0.5	5,200	0.4
Construction	32,400	4.1	33,700	3.6	44,300	4.2	53,000	4.4	45,900	3.9
Manufacturing	237,500	30.2	246,500	26.1	208,400	19.8	214,500	17.7	148,100	12.6
Wholesale Trade	31,200	4.0	38,500	4.1	46,100	4.4	53,700	4.4	48,800	4.1
Retail Trade	133,900	17.1	152,600	16.1	182,900	17.3	190,800	15.8	185,800	15.8
Services	206,400	26.3	317,900	33.6	416,800	39.5	531,900	44.0	584,400	49.7
Government	84,400	10.8	101,100	10.7	106,100	10.1	116,400	9.6	117,700	10.0
Other	47,100	6.0	45,600	4.8	42,200	4.0	43,600	3.6	40,700	3.5
Total	784,900	100.0	945,900	100.0	1,054,000	100.0	1,209,800	100.0	1,176,600	100.0

General Industry Group	Change 1970-1980 Number	Change 1970-1980 Percent of Total	Change 1980-1990 Number	Change 1980-1990 Percent of Total	Change 1990-2000 Number	Change 1990-2000 Percent of Total	Change 2000-2010 Number	Change 2000-2010 Percent of Total	Change 1970-2010 Number	Change 1970-2010 Percent of Total
Agriculture	-2,000	-16.7	-2,800	-28.0	-1,300	-18.1	-700	-11.9	-6,800	-56.7
Construction	1,300	4.0	10,600	31.5	8,700	19.6	-7,100	-13.4	13,500	41.7
Manufacturing	9,000	3.8	-38,100	-15.5	6,100	2.9	-66,400	-31.0	-89,400	-37.6
Wholesale Trade	7,300	23.4	7,600	19.7	7,600	16.5	-4,900	-9.1	17,600	56.4
Retail Trade	18,700	14.0	30,300	19.9	7,900	4.3	-5,000	-2.6	51,900	38.8
Services	111,500	54.0	98,900	31.1	115,100	27.6	52,500	9.9	378,000	183.1
Government	16,700	19.8	5,000	4.9	10,300	9.7	1,300	1.1	33,300	39.5
Other	-1,500	-3.2	-3,400	-7.5	1,400	3.3	-2,900	-6.7	-6,400	-13.6
Total	161,000	20.5	108,100	11.4	155,800	14.8	-33,200	-2.7	391,700	49.9

Source: U.S. Bureau of Economic Analysis and SEWRPC

Figure 2.8
Employment by General Industry Group in the Region: 1970-2010



Source: U.S. Bureau of Economic Analysis and SEWRPC

Table 2.15
Personal Income Levels in the United States, Wisconsin, and the Region: 1999 and 2010

	Geographic Area	1999	2010	Percent Change
United States	Per Capita Income			
	Reported Dollars	$21,600	$26,100	20.8
	Constant 2010 Dollars	27,700	26,100	-5.8
	Median Family Income			
	Reported Dollars	$50,000	$60,600	21.2
	Constant 2010 Dollars	64,100	60,600	-5.5
Wisconsin	Per Capita Income			
	Reported Dollars	$21,300	$25,500	19.7
	Constant 2010 Dollars	27,300	25,500	-6.6
	Median Family Income			
	Reported Dollars	$52,900	$62,100	17.4
	Constant 2010 Dollars	67,800	62,100	-8.4
Region	Per Capita Income			
	Reported Dollars	$22,800	$25,900	13.6
	Constant 2010 Dollars	29,200	25,900	-11.3
	Median Family Income			
	Reported Dollars	$57,400	$65,400	13.9
	Constant 2010 Dollars	73,500	65,400	-11.0

Source: U.S. Bureau of the Census, U.S. Bureau of Labor Statistics, and SEWRPC

Table 2.16
Personal Income Levels in the Region by Area: 1999 and 2010

Geographic Area	Per Capita Income			Median Family Income		
	1999	2010	Percent Change	1999	2010	Percent Change
City of Kenosha						
Reported Dollars	$19,600	$21,900	11.7	$51,000	$56,300	10.4
Constant 2010 Dollars	25,100	21,900	-12.7	65,300	56,300	-13.8
Remainder of Kenosha County						
Reported Dollars	$23,600	$30,100	27.5	$64,900	$74,500	14.8
Constant 2010 Dollars	30,200	30,100	-0.3	83,100	74,500	-10.3
Kenosha County						
Reported Dollars	$21,200	$25,500	20.3	$56,500	$65,500	15.9
Constant 2010 Dollars	27,200	25,500	-6.3	72,400	65,500	-9.5
City of Milwaukee						
Reported Dollars	$16,200	$17,900	10.5	$37,900	$38,300	1.1
Constant 2010 Dollars	20,800	17,900	-13.9	48,600	38,300	-21.2
Remainder of Milwaukee County						
Reported Dollars	$26,500	$29,500	11.3	$61,900	$72,200	16.6
Constant 2010 Dollars	33,900	29,500	-13.0	79,300	72,200	-9.0
Milwaukee County						
Reported Dollars	$19,900	$22,400	12.6	$47,200	$50,700	7.4
Constant 2010 Dollars	25,500	22,400	-12.2	60,500	50,700	-16.2
Ozaukee County						
Reported Dollars	$31,900	$39,000	22.3	$72,500	$89,200	23.0
Constant 2010 Dollars	40,900	39,000	-4.6	92,900	89,200	-4.0
City of Racine						
Reported Dollars	$17,700	$18,200	2.8	$45,200	$39,100	-13.5
Constant 2010 Dollars	22,700	18,200	-19.8	57,900	39,100	-32.5
Remainder of Racine County						
Reported Dollars	$24,900	$29,500	18.5	$65,000	$77,100	18.6
Constant 2010 Dollars	31,900	29,500	-7.5	83,300	77,100	-7.4
Racine County						
Reported Dollars	$21,800	$25,600	17.4	$56,300	$62,200	10.5
Constant 2010 Dollars	27,900	25,600	-8.2	72,100	62,200	-13.7
Walworth County						
Reported Dollars	$21,200	$24,200	14.2	$55,300	$61,200	10.7
Constant 2010 Dollars	27,200	24,200	-11.0	70,800	61,200	-13.6
Washington County						
Reported Dollars	$24,300	$28,800	18.5	$63,500	$74,400	17.2
Constant 2010 Dollars	31,100	28,800	-7.4	81,300	74,400	-8.5
City of Waukesha						
Reported Dollars	$23,200	$26,500	14.2	$60,800	$69,200	13.8
Constant 2010 Dollars	29,700	26,500	-10.8	77,900	69,200	-11.2
Remainder of Waukesha County						
Reported Dollars	$30,500	$36,200	18.7	$74,700	$92,300	23.6
Constant 2010 Dollars	39,100	36,200	-7.4	95,700	92,300	-3.6
Waukesha County						
Reported Dollars	$29,200	$34,900	19.5	$71,800	$87,600	22.0
Constant 2010 Dollars	37,400	34,900	-6.7	92,000	87,600	-4.8

Source: U.S. Bureau of the Census, U.S. Bureau of Labor Statistics, and SEWRPC

Table 2.17
Families in Poverty in the Region by Area: 2010

Geographic Area	Total Families	Families in Poverty	Percent
Kenosha County	41,329	4,762	11.5
City of Kenosha	23,306	4,216	18.1
Remainder of Kenosha County	18,023	546	3.0
Milwaukee County	211,936	36,736	17.3
City of Milwaukee	125,710	31,721	25.2
Remainder of Milwaukee County	86,226	5,015	5.8
Ozaukee County	23,890	757	3.2
Racine County	47,084	5,675	12.1
City of Racine	17,512	3,984	22.8
Remainder of Racine County	29,572	1,691	5.7
Walworth County	27,957	2,704	9.7
Washington County	36,759	1,883	5.1
Waukesha County	108,718	4,142	3.8
City of Waukesha	17,305	1,554	9.0
Remainder of Waukesha County	91,413	2,588	2.8
Region	497,673	56,659	11.4

Source: U.S. Bureau of the Census and SEWRPC

Population and Employment Trends in Northeastern Illinois

Table 2.18 shows that Lake and McHenry Counties, located immediately south of the Region, continued to grow and develop during the 2000s, although at a slower rate than the 1990s. The population of Lake County grew by 9 percent during the 2000s, compared to 25 percent during the 1990s. The population of McHenry County grew by 19 percent during the 2000s, compared to 42 percent during the 1990s. The combined population of the two counties was over 1,012,000 persons in 2010. Both counties also experienced moderate employment growth during the 2000s. The combined total employment for the two counties was about 535,000 jobs in 2010. A significant number of Kenosha and Walworth County residents are employed in Northeastern Illinois.

2.3 LAND USE

The Commission relies on two types of inventories and analyses in order to monitor urban growth and development in the Region—an urban growth analysis and a land use inventory. The urban growth analysis identifies concentrations of urban development and depicts the urbanization of the Region over the past 160 years. When related to urban population levels, the urban growth analysis provides a good basis for calculating urban population and household densities. By contrast, the Commission land use inventory is a more detailed inventory that places all land and water areas of the Region into one of 65 discrete land use categories, providing a basis for analyzing specific land uses. Both the urban growth analysis and the land use inventory for the Region have been updated to the year 2010 under the continuing regional planning program.

The Commission land use inventory places all land and water areas of the Region into one of 65 discrete land use categories, which provides a basis for analyzing land use.

Urban Growth Analysis

The urban growth analysis shows the historical pattern of urban settlement, growth, and development of the Region since 1850 for selected points in time. Areas identified as urban under this time series analysis include areas of the Region where residential structures or other buildings have been constructed in relatively compact groups, thereby indicating a concentration of residential, commercial, industrial, governmental, institutional, or other urban land uses. In addition, the identified urban areas encompass certain

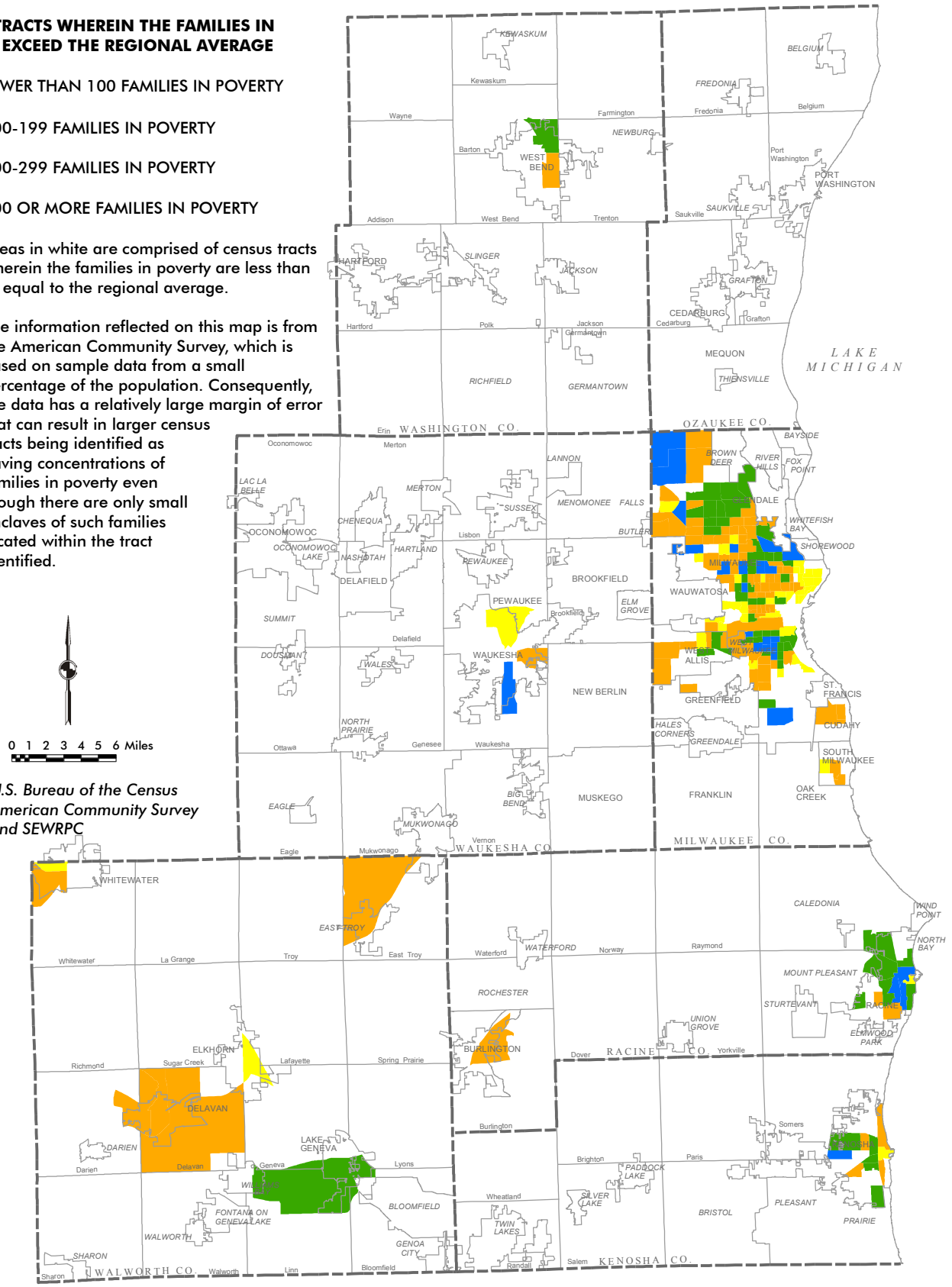
Map 2.10
Concentrations of Families in Poverty in the Region: 2008-2012

CENSUS TRACTS WHEREIN THE FAMILIES IN POVERTY EXCEED THE REGIONAL AVERAGE

- FEWER THAN 100 FAMILIES IN POVERTY
- 100-199 FAMILIES IN POVERTY
- 200-299 FAMILIES IN POVERTY
- 300 OR MORE FAMILIES IN POVERTY

Notes: Areas in white are comprised of census tracts wherein the families in poverty are less than or equal to the regional average.

The information reflected on this map is from the American Community Survey, which is based on sample data from a small percentage of the population. Consequently, the data has a relatively large margin of error that can result in larger census tracts being identified as having concentrations of families in poverty even though there are only small enclaves of such families located within the tract identified.



Source: U.S. Bureau of the Census American Community Survey and SEWRPC

Table 2.18
Population and Employment in Lake and McHenry Counties, Illinois: 1980-2010

		Population			Employment		
			Change from Preceding Year			Change from Preceding Year	
	Year	Population Level	Number	Percent	Employment Level (Jobs)	Number	Percent
Lake County	1980	440,372	- -	- -	186,200	- -	- -
	1990	516,418	76,046	17.3	273,100	86,900	46.7
	2000	644,356	127,938	24.8	390,000	116,900	42.8
	2010	703,462	59,106	9.2	413,600	23,600	6.1
McHenry County	1980	147,987	- -	- -	56,300	- -	- -
	1990	183,241	35,254	23.8	82,500	26,200	46.5
	2000	260,077	76,836	41.9	110,400	27,900	33.8
	2010	308,760	48,683	18.7	121,200	10,800	9.8

Source: U.S. Bureau of the Census, U.S. Bureau of Economic Analysis, and SEWRPC

open space lands such as urban parks and small areas being preserved for resource conservation purposes within the urban areas.[4]

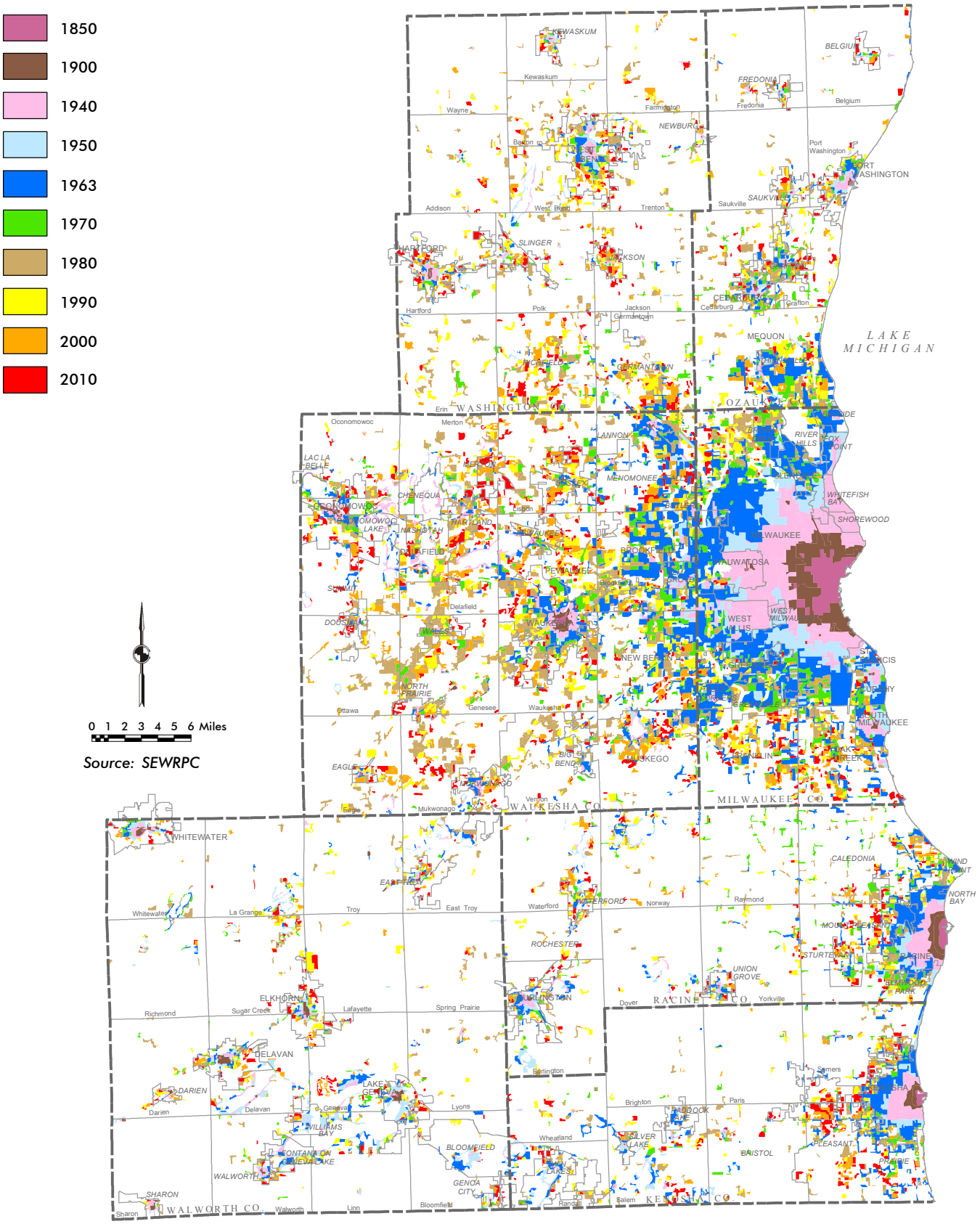
As part of the urban growth analysis, urban growth for the years prior to 1940 was identified using a variety of sources, including the records of local historical societies, land subdivision plat records, farm plat maps, U.S. Geological Survey maps, and Wisconsin Geological and Natural History Survey records. Because of limitations inherent in the source materials, information presented for the years prior to 1940 represents the extent of urban development at approximately those points in time. Urban growth for the years 1940, 1950, 1963, 1970, 1980, 1990, 2000, and 2010 was identified using aerial photographs for those years.

The urban growth analysis, updated through 2010, is presented graphically on Map 2.11. In 1850, the urban portion of the Region was concentrated primarily in the larger urban centers located at Burlington, Kenosha, Milwaukee, Racine, Waukesha, and West Bend, along with many smaller settlements throughout the Region. Over the 100-year period from 1850 to 1950, urban development in the Region occurred in a pattern resembling concentric rings around existing urban centers, resulting in a relatively compact regional settlement pattern. After 1950, there was a significant change in the pattern and rate of urban development in the Region. While substantial amounts of development continued to occur adjacent to established urban centers, considerable development also occurred in isolated enclaves in outlying areas of the Region. Map 2.11 indicates a continuation of this trend during the 2000s, with significant amounts of development occurring adjacent to existing urban centers, and with considerable development continuing to occur in scattered fashion in outlying areas.

Urban development occurred in concentric rings around urban centers prior to 1950, resulting in a relatively compact regional settlement pattern. Considerable development started to occur in isolated enclaves in outlying areas of the Region after 1950.

[4] *As part of the urban growth analysis, urban areas are defined as concentrations of residential, commercial, industrial, governmental, or institutional buildings or structures, along with their associated yards, parking, and service areas, having a combined area of five acres or more. In the case of residential uses, such areas must include at least 10 structures—over a maximum distance of one-half mile—located along a linear feature, such as a roadway or lakeshore, or at least 10 structures located in a relatively compact group within a residential subdivision. Urban land uses that do not meet these criteria because they lack the concentration of buildings or structures—such as cemeteries, airports, public parks, and golf courses—are identified as urban where such uses are surrounded on at least three sides by urban land uses that do meet the aforementioned criteria.*

Map 2.11
Historic Urban Growth in the Region: 1850-2010



The urban growth analysis, in conjunction with the Federal Censuses, provides a basis for calculating urban population and household densities in the Region and changes in density over time. Table 2.19 relates the urban area identified by the urban growth analysis with the urban population and urban households, going back to 1940. With minor exception, the "urban population" indicated in Table 2.19 is the total population of the Region excluding the rural farm population, as reported by the U.S. Bureau of the Census. Similarly, "urban households" as reported in that table consist of all households other than rural farm households.[5]

As indicated in Table 2.19 and Figure 2.9, the population density of the urban portion of the Region decreased modestly over the past two decades from about 3,500 persons per square mile in 1990 to 3,300 in 2000 and 3,200 in 2010. This stands in marked contrast to the substantial decrease in urban population density that occurred in the Region between 1940 and 1980. The urban household density experienced a only slight decrease over the past two decades—from about 1,320 households per square mile in 1990 to 1,290 in 2000 and 1,260 in 2010.

Urban population density has decreased every decade between 1940 and 2010, with the greatest decreases happening in the 1940's and 1950's.

Land Use Inventory

The Commission land use inventory identifies existing land use by detailed land use category for the entire area of the Region at selected points in time. The land use classification system used in the inventory consists of nine major categories that are divisible into 65 sub-categories, making the inventory suitable for land use and transportation planning; adaptable to stormwater drainage, public utility, and community facility planning; and compatible with other land use classification systems. Aerial photographs (orthophotographs) serve as the primary basis for identifying existing land use, supplemented by available oblique aerial photography and other secondary source material as appropriate. The most recent regional land use inventory was carried out based upon aerial photography taken in spring of 2010. Existing 2010 land use in the Region is shown on Map 2.12. The areal extent of existing land use in the Region in 2010 and prior years is indicated in Table 2.20.

Aerial photos are the primary basis for identifying existing land use.

Developed Land

As indicated in Table 2.20, developed lands in the Region—consisting of lands that have been developed for residential; commercial; industrial; transportation, communication, and utility; governmental and institutional; and recreational uses—encompassed about 779 square miles, or 29.0 percent of the total area of the Region, in 2010. Residential land encompassed 401 square miles, accounting for more than half of the developed land area of the Region, followed by transportation, communication, and utilities, with 214 square miles. Commercial land and industrial land each encompassed just over 35 square miles. Governmental/institutional land and recreational land encompassed 37 square miles and 56 square miles, respectively.

The developed land area of the Region increased by 67 square miles, or 9.4 percent between 2000 and 2010, including the following:

- Residential land: 39.2 square miles (10.8 percent increase)
- Commercial land: 5.4 square miles (17.9 percent increase)
- Industrial land: 2.3 square miles (7.0 percent increase)

[5] *The rural farm population and household data for 2010 were not reported in the 2010 Census; accordingly, those figures have been estimated for purposes of this analysis.*

Table 2.19
Urban Population Density and Urban Household Density in the Region: 1940-2010

Year	Urban Area[a] (square miles)	Urban Population		Urban Households	
		Persons[b]	Density (persons per urban square mile)	Households[c]	Density (households per urban square mile)
1940	93	991,535	10,662	272,077	2,926
1950	146	1,179,084	8,076	338,572	2,319
1963	282	1,634,200	5,795	470,856	1,670
1970	338	1,728,666	5,114	529,404	1,566
1980	444	1,749,238	3,940	623,441	1,404
1990	509	1,800,751	3,538	672,896	1,322
2000	579	1,923,674	3,322	746,500	1,289
2010	633	2,012,741	3,180	797,621	1,260

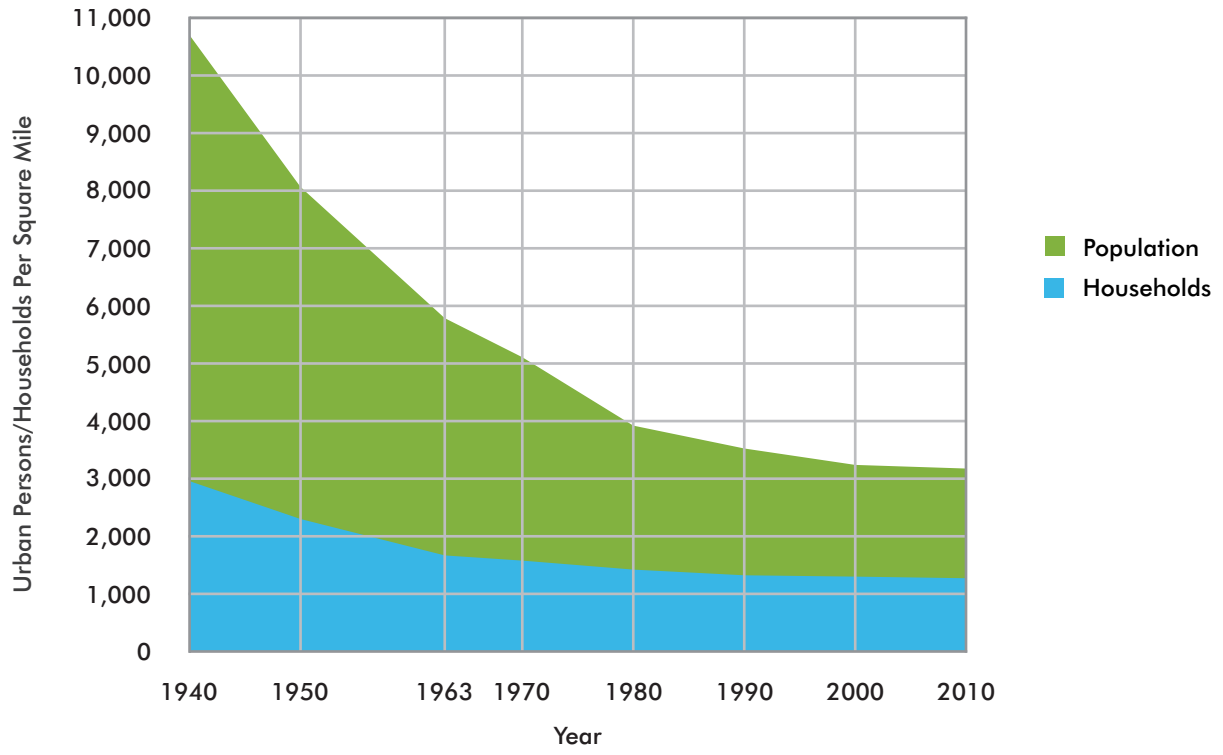
[a] *Based upon the Regional Planning Commission urban growth analysis.*

[b] *Total population, excluding rural farm population, as reported in the Census; 1963 and 2010 are Commission estimates.*

[c] *Total households, excluding rural farm households, as reported in the Census; 1963 and 2010 are Commission estimates.*

Source: U.S. Bureau of the Census and SEWRPC

Figure 2.9
Urban Population and Household Density in the Region: 1940-2010



Source: U.S. Bureau of the Census and SEWRPC

Map 2.12
Existing Land Use in the Region: 2010

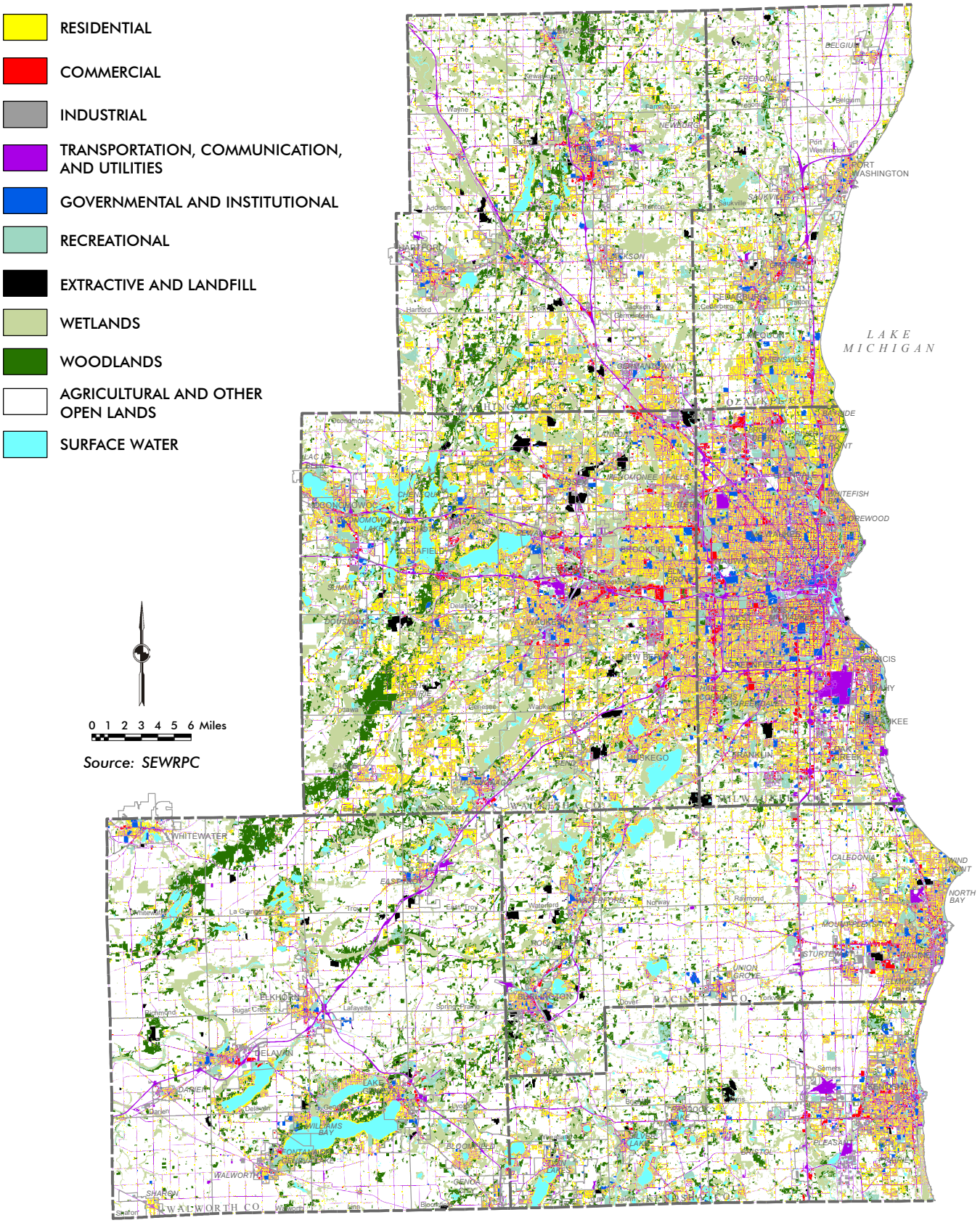


Table 2.20
Generalized Land Use in the Region: 1963-2010

Land Use Category[a]	Existing Land Use								Change in Land Use					
	1963		1980		2000		2010		1963-1980		1980-2000		2000-2010	
	Square Miles	Percent of Total	Square Miles	Percent of Total	Square Miles	Percent of Total	Square Miles	Percent of Total	Square Miles	Percent	Square Miles	Percent	Square Miles	Percent
Developed Land														
Residential	180.0	6.7	269.1	10.0	361.7	13.4	400.9	14.9	89.1	49.5	92.6	34.4	39.2	10.8
Commercial	11.5	0.4	19.3	0.7	30.2	1.1	35.6	1.3	7.8	67.8	10.9	56.5	5.4	17.9
Industrial	13.5	0.5	22.0	0.8	32.9	1.2	35.2	1.3	8.5	63.0	10.9	49.5	2.3	7.0
Transportation, Communication, and Utilities	134.9	5.0	166.1	6.2	202.7	7.5	213.8	8.0	31.2	23.1	36.6	22.0	11.1	5.5
Governmental and Institutional	21.8	0.8	30.0	1.1	33.7	1.3	37.0	1.4	8.2	37.6	3.7	12.3	3.3	9.8
Recreational	26.0	1.0	39.3	1.5	50.4	1.9	56.0	2.1	13.3	51.2	11.1	28.2	5.6	11.1
Developed Land Subtotal	387.7	14.4	545.8	20.3	711.6	26.4	778.5	29.0	158.1	40.8	165.8	30.4	66.9	9.4
Undeveloped Land														
Agricultural	1,637.1	60.9	1,475.4	54.9	1,256.4	46.7	1,155.5[b]	43.0	-161.7	-9.9	-219.0	-14.8	-100.9	-8.0
Natural Resource Areas														
Surface Water	71.6	2.7	76.2	2.8	77.4	2.9	84.7	3.1	4.6	6.4	1.2	1.6	7.3	9.4
Wetlands	274.3	10.2	266.6	9.9	276.5	10.3	315.2	11.7	-7.7	-2.8	9.9	3.7	38.7	14.0
Woodlands	186.8	6.9	181.9	6.8	184.3	6.9	191.4	7.1	-4.9	-2.6	2.4	1.3	7.1	3.9
Natural Resource Areas Subtotal	532.7	19.8	524.7	19.5	538.2	20.1	591.3	21.9	-8.0	-1.5	13.5	2.6	53.1	9.9
Unused & Other Open Lands[c]	131.7	4.9	143.4	5.3	183.7	6.8	164.5	6.1	11.7	8.9	40.3	28.1	-19.2	-10.5
Undeveloped Land Subtotal	2,301.5	85.6	2,143.5	79.7	1,978.3	73.6	1,911.3	71.0	-158.0	-6.9	-165.2	-7.7	-67.0	-3.4
Total	2,689.2	100.0	2,689.3	100.0	2,689.9	100.0	2,689.8	100.0	0.1	- -	0.6	- -	-0.1	- -

NOTE: As a result of a change in inventory procedures, the 2010 data for agriculture, wetlands, and surface water are not directly comparable with data for the year 2000 and prior years. As part of the 2010 land use inventory, wetlands were mapped at a much finer scale and level of detail as compared to prior inventories, increasing the accuracy and precision of wetland mapping throughout the Region and providing for basic consistency with the Wisconsin Wetlands Inventory. This resulted in the identification of more, smaller wetlands than in the past, contributing to the reported increase in the wetland area. This effort also resulted in the identification of more, smaller surface water areas than in the past, contributing to the reported increase in the overall surface water area. The more comprehensive mapping of wetlands and surface water is, in turn, responsible for part of the reported decrease in the agricultural land area of the Region.

[a] *Off-street parking is included in the associated land use.*

[b] *Includes farmed wetlands, which encompassed 9.6 square miles in 2010.*

[c] *Includes landfills, mineral extraction sites, and unused land.*

Source: SEWRPC

- Transportation, communication, and utility land: 11.1 square miles (5.5 percent increase)

- Governmental and institutional land: 3.3 square miles (9.8 percent increase)

- Recreational land: 5.6 square miles (11.1 percent increase)

Development activity in the Region slowed considerably during the major economic recession that began in late 2007.

Based upon available annual data on building permits and land subdivision activity, development activity in the Region slowed considerably during the major economic recession that began in late 2007.[6]

Undeveloped Land

As further indicated in Table 2.20, in 2010 about 1,911 square miles, or 71.0 percent of the Region, consisted of undeveloped lands. Agricultural land encompassed 1,156 square miles, or about 60 percent of all undeveloped lands.[7] Wetlands, woodlands, and surface water combined encompassed 591 square miles, while unused and other open land encompassed 165 square miles.[8] Undeveloped lands in the Region decreased by 67 square miles, or 3.4 percent, between 2000 and 2010.

It should be noted that, as a result of a change in inventory procedures, the 2010 data for agriculture, wetlands, and surface water are not directly comparable with data for the year 2000 and prior years as presented in Table 2.20. As part of the 2010 land use inventory, wetlands were mapped at a much finer scale and level of detail as compared to prior inventories, increasing the accuracy and precision of wetland mapping throughout the Region and providing for basic consistency with the Wisconsin Wetlands Inventory. This resulted in the identification of more, smaller wetlands than in the past, contributing to the reported increase in the wetland area. This effort also resulted in the identification of more, smaller surface water areas than in the past, contributing to the reported increase in the overall surface water area. The more comprehensive mapping of wetlands and surface water is, in turn, responsible for part of the reported decrease in the agricultural land area of the Region.

The change in inventory procedures notwithstanding, much of the change in wetlands, agriculture, and woodlands between 2000 and 2010 indicated in Table 2.20 reflects real change in use, hydrology, or land cover, as discussed below.

Change in Wetlands

The increase in the wetland area indicated in Table 2.20 is attributable in part to the more comprehensive mapping of wetlands in 2010, as noted above,

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[6] An average of about 3,000 new housing units per year were built in the Region from 2008 through 2010, compared to an average of more than 9,400 per year from 2000 through 2005. An average of about 670 new residential lots per year were created through subdivision plats in the Region from 2008 through 2010, compared to about 4,100 per year from 2000 through 2005.

[7] Farmed wetlands are included in the agricultural land use category in Table 2.20. Farmed wetlands consist for the most part of wetlands that are cultivated only during drought years and periods of low water table. Such areas encompassed 9.6 square miles in the Region in 2010.

[8] Unused land consists of open lands other than wetlands and woodlands that were not used for agriculture and not developed for any particular use at the time of the land use inventory.

Many areas were identified as having reverted to wetlands between 2000 and 2010. A striking example is in the DNR Turtle Valley Wildlife Area, where about two square miles were restored to wetlands.

and to actual wetland gains in excess of wetland losses in the past 10 years. Wetland gains typically occur as a result of failure to maintain agricultural drainage systems and managed wetland restoration efforts, while wetland losses typically occur as a result of drainage or filling activities attendant to urban development. During the land use inventory update, many areas were identified as having reverted to wetlands since the previous inventory in 2000. A striking example of this is the wetland restoration effort in the Wisconsin Department of Natural Resources (DNR) Turtle Valley Wildlife Area, which resulted in the restoration of about two square miles of agricultural-related land to wetlands.

Change in Agricultural Land
The decrease in the agricultural area indicated in Table 2.20 is attributable in part to the more comprehensive mapping of wetlands noted above; to the actual conversion of agricultural land to urban use; and to agricultural lands being taken out of production but remaining in open use—reverting to wetlands or woodlands or otherwise lying fallow.

Change in Woodlands
The increase in woodland area indicated in Table 2.20 primarily reflects actual gains in woodlands in excess of woodland losses in the Region since the last inventory in 2000. During the land use inventory update, many "new" woodland areas were identified, appropriately reflecting the results of managed reforestation efforts and natural succession over time.

2.4 PUBLIC UTILITIES

An estimated 1.8 million people, or about 89% of the Region's population, were served by public sewers in 2010.

Sanitary sewerage and water supply utilities are particularly important to land use planning because the location and density of urban development influences the need for such facilities and, conversely, the existence of such facilities influences the location and density of new urban development. The extent and location of areas served by existing sanitary sewerage and water supply utilities are thus important considerations in land use and transportation planning.

Sanitary Sewer Service
Areas served by public sanitary sewers in 2010 encompassed about 525 square miles, or about 19.5 percent of the total area of the Region—compared to about 477 square miles, or about 17.7 percent of the Region, in 2000 (see Map 2.13 and Table 2.21). An estimated 1.80 million persons, or 89.0 percent of the regional population, were served by public sanitary sewers in 2010, compared to 1.71 million persons, or 88.7 percent of the regional population, in 2000.

The increase in the land area and population served by public sanitary sewers primarily reflects new development designed to be served by sanitary sewers that occurred during the 2000s. Some of the increase is also the result of the retrofitting of certain developed areas—initially served by private onsite wastewater treatment systems—with public sanitary sewers. Examples of such retrofitting efforts include the extension of sanitary sewer service to developed areas around Upper and Lower Nashotah Lakes, Upper and Lower Nemahbin Lakes, and Silver Lake in Waukesha County.

Under State administrative rules, sanitary sewers may be extended only to areas located within planned sanitary sewer service areas identified in local sanitary sewer service area plans adopted as part of the Commission's regional water quality management plan. Sewer service area plans are long-

Map 2.13
Areas Served by Public Sanitary Sewerage Systems and Sewage Treatment Facilities in the Region: 2010

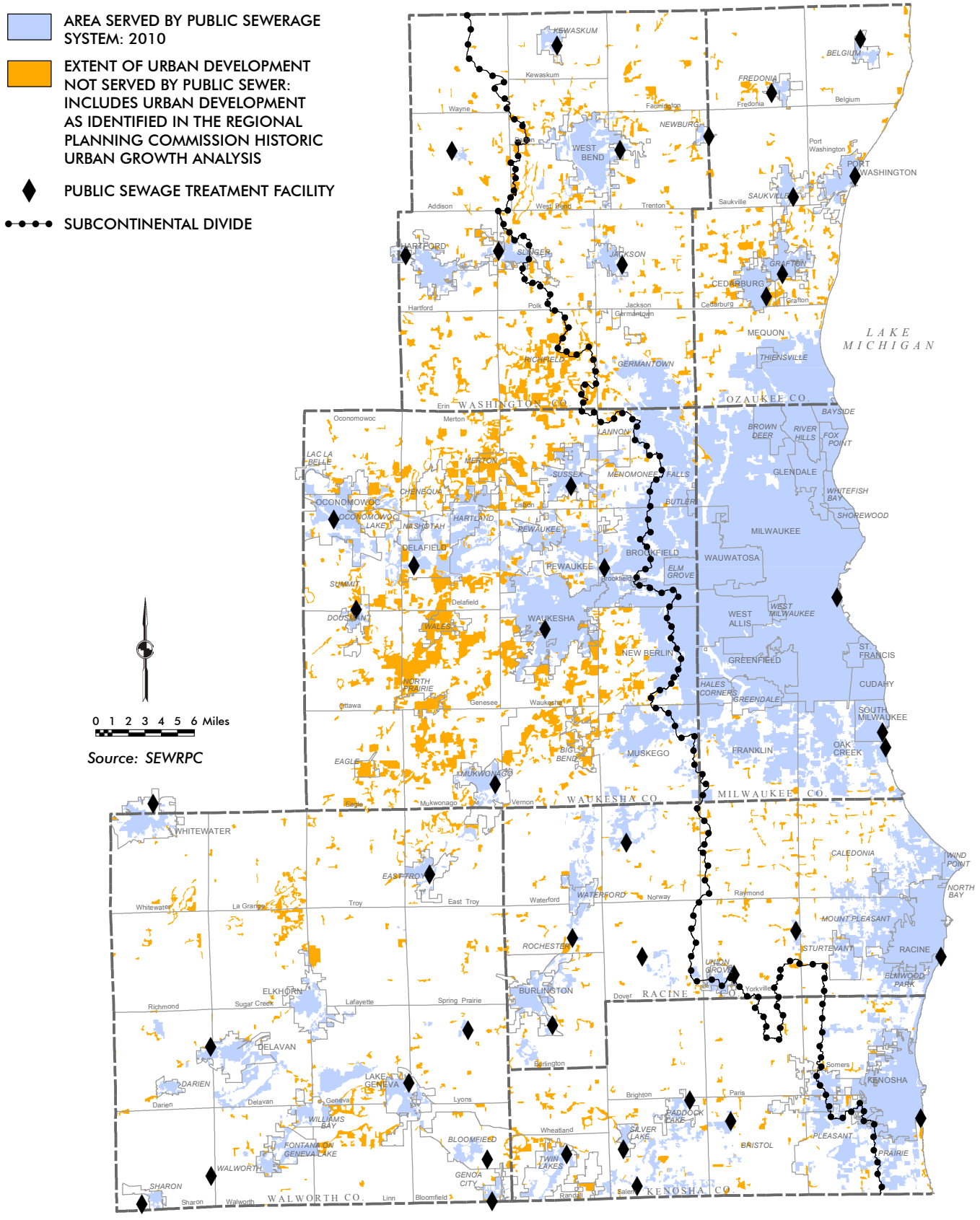


Table 2.21
Existing Area and Population Served by Public Sanitary Sewers in the Region by County: 2000 and 2010

County	Area Served by Public Sanitary Sewers				Population Served by Public Sanitary Sewers			
	2000		2010		2000		2010	
	Square Miles	Percent of County/ Region	Square Miles	Percent of County/ Region	Persons	Percent of County/ Region	Persons	Percent of County/ Region
Kenosha	41.2	14.8	45.8	16.5	133,800	89.5	150,200	90.3
Milwaukee	193.2	79.6	198.7	81.9	938,800	99.9	947,000	99.9
Ozaukee	29.3	12.4	33.3	14.1	64,400	78.2	67,800	78.5
Racine	51.6	15.1	57.0	16.7	169,900	90.0	176,100	90.1
Walworth	27.6	4.8	30.3	5.3	62,100	67.5	70,500	69.0
Washington	23.2	5.3	29.1	6.7	71,500	60.9	84,300	63.9
Waukesha	110.7	19.1	130.3	22.4	272,200	75.5	301,100	77.2
Region	476.8	17.7	524.5	19.5	1,712,700	88.7	1,797,000	89.0

Source: SEWRPC

Public sewers can only be extended within planned sanitary sewer service areas identified in local sanitary sewer service area plans adopted as part of the Commission's regional water quality management plan.

An estimated 1.68 million people, or about 83% of the Region's population, were served by public water utilities in 2010.

range plans intended to guide the provision of sanitary sewer service over a 20-year period. Sewer service area plans are prepared through a cooperative planning process involving the local unit of government responsible for operation of the sewage treatment facility, the Regional Planning Commission, and the DNR. Such plans may be amended in response to changing local conditions and needs as well as in response to new population projections, subject to the provisions of *Wisconsin Administrative Code* Chapter NR 121. Currently adopted sanitary sewer service areas in the Region are shown on Map 2.14.

Water Supply Service

Areas with water supply service provided by public water utilities in 2010 encompassed about 444 square miles, or 16.5 percent of the total area of the Region—compared to about 390 square miles, or 14.5 percent of the Region, in 2000 (see Map 2.15 and Table 2.22). An estimated 1.68 million persons, or 83.2 percent of the regional population, were served by public water utilities in 2010, compared to 1.58 million persons, or 81.9 percent of the regional population, in 2000. The increase in the land area and population served by public water supply systems primarily reflects new urban development during the 2000s, and, to a lesser extent, the retrofitting of certain already developed areas—initially served by private wells—with public water supply service.

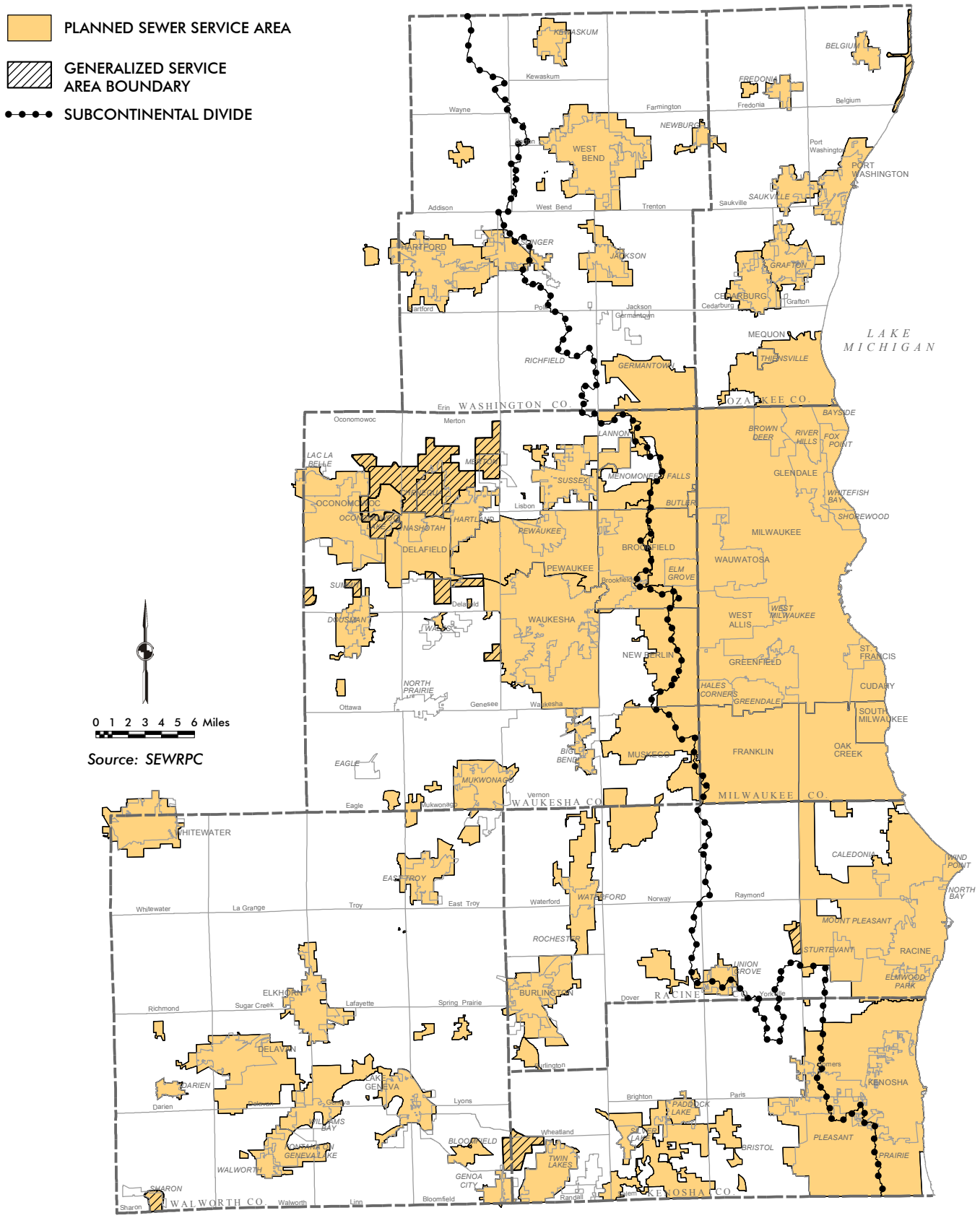
2.5 NATURAL RESOURCE BASE

Land use and transportation planning must recognize the existence of a limited natural resource base to which urban and rural development should be properly adjusted. This section provides a description of some of the key elements of the natural resource base of the Region.

Physiography and Topography

Glaciation has largely determined the physiography and topography, as well as the soils of the Region. Of the four major stages of glaciation, the last and most influential in terms of present physiography and topography was the Wisconsin Stage, which is believed to have ended in the area about 11,000 years ago. As shown on Map 2.16, the dominant physiographic and topographic feature in the Region is the Kettle Moraine, which consists of a complex system of glacial landforms including kames, kettle holes, moraines, eskers, drumlins, outwash plains, and lake basin deposits. The resulting

Map 2.14
Planned Sanitary Sewer Service Areas in the Region: December 2013



Map 2.15
Areas Served by Public Water Utilities in the Region: 2010

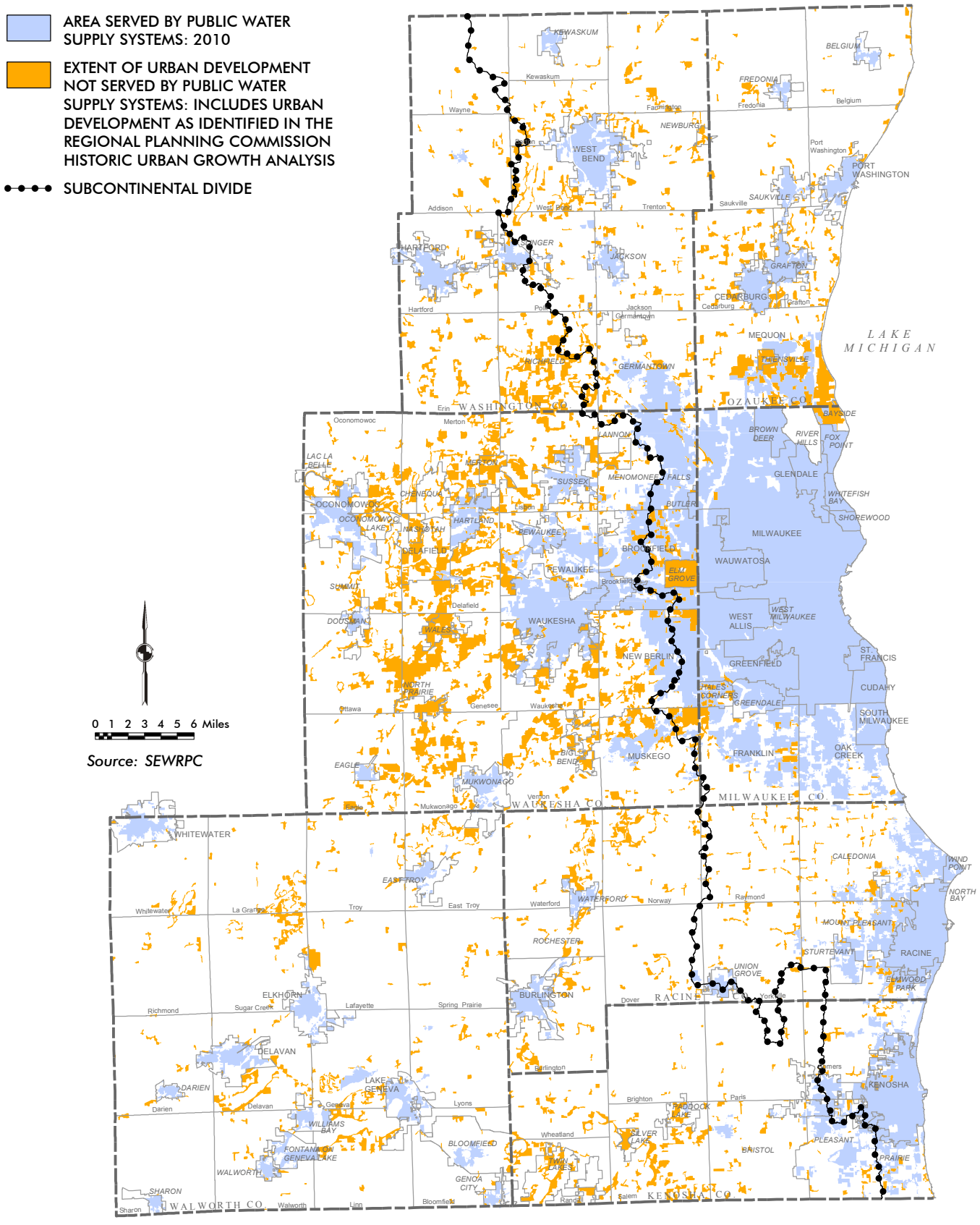


Table 2.22
Existing Area and Population Served by Public Water Utilities in the Region by County: 2000 and 2010

	Area Served by Public Water Utilities				Population Served by Public Water Utilities			
	2000		2010		2000		2010	
County	Square Miles	Percent of County/ Region	Square Miles	Percent of County/ Region	Persons	Percent of County/ Region	Persons	Percent of County/ Region
Kenosha	29.8	10.7	34.7	12.5	111,000	74.2	125,800	75.6
Milwaukee	180.9	74.5	187.3	77.2	927,300	98.6	938,400	99.0
Ozaukee	15.7	6.7	23.4	9.9	45,400	55.2	55,800	64.6
Racine	37.9	11.1	44.3	13.0	146,400	77.5	154,900	79.3
Walworth	22.0	3.8	24.4	4.2	56,200	61.1	63,400	62.0
Washington	21.4	4.9	27.1	6.2	66,800	56.9	80,100	60.7
Waukesha	82.3	14.2	102.6	17.7	228,100	63.2	261,500	67.1
Region	390.0	14.5	443.8	16.5	1,581,200	81.9	1,679,900	83.2

Source: SEWRPC

topography ranges from steep and rolling hills in the western portion of the Region to level or gently sloping areas in the eastern portion of the Region.

Soils

Soil properties exert a strong influence on the manner in which land is used. Consequently, a need exists in any comprehensive planning effort to examine not only how soils and land are currently used, but also how they can best be used and managed over time. Map 2.17 shows the location and extent of eight broad groups of soils in Southeastern Wisconsin, providing an overview of the general pattern of soils that exists in the Region. Underlying this generalized soils map are detailed soil surveys that provide definitive data on the physical, chemical, and biological properties of specific soil types, along with interpretations of the soil properties for planning, engineering, agricultural, and resource conservation purposes. Soil survey maps and soil attribute data can be accessed through the U.S. Natural Resources Conservation Service website.

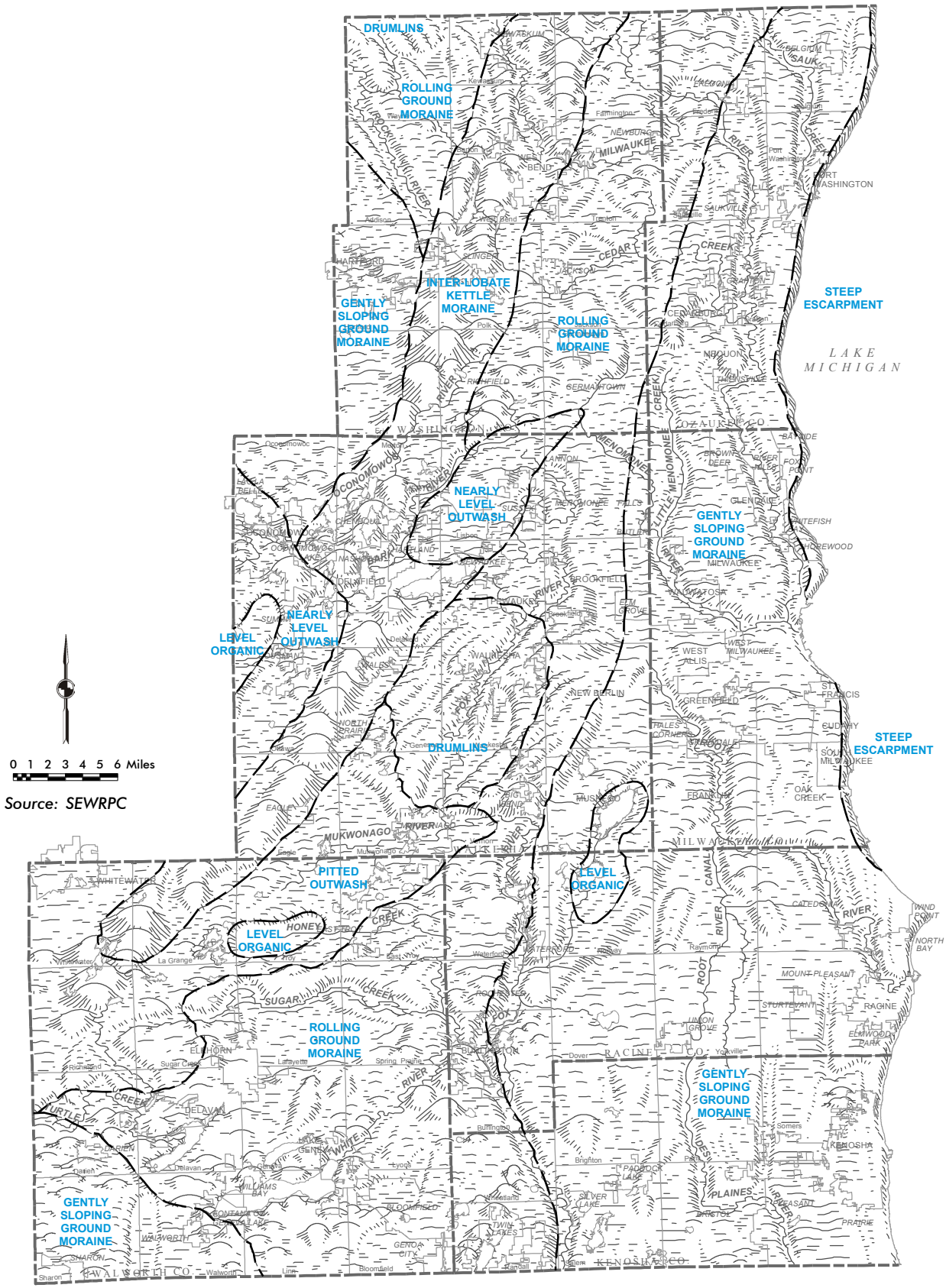
Surface Drainage and Surface Water

The surface drainage pattern of the Region is very complex because of the effects of glaciation. The land surface is complex as a result of being covered by glacial deposits containing thousands of closed depressions that range in size from potholes to large areas. Significant areas of the Region are covered by wetlands, and many streams are mere threads of water through these wetlands.

There are 11 major watersheds in the Region as shown on Map 2.18. Also shown on this map, a major subcontinental drainage divide, oriented in a generally northwesterly-southeasterly direction, bisects the Region. About 1,680 square miles, or 62 percent of the Region, are located west of the divide and drain to the Upper Mississippi River system; the remaining 1,009 square miles, or 38 percent, drain to the Great Lakes-St.Lawrence River system. The subcontinental divide is a major feature of the overall drainage pattern of the Region, having important implications for the use of Lake Michigan as a source of water supply. The Great Lakes Compact, implemented in Chapter 281 of the *Wisconsin Statutes*, prohibits the diversion of water from the Great Lakes Basin, with very limited exceptions.

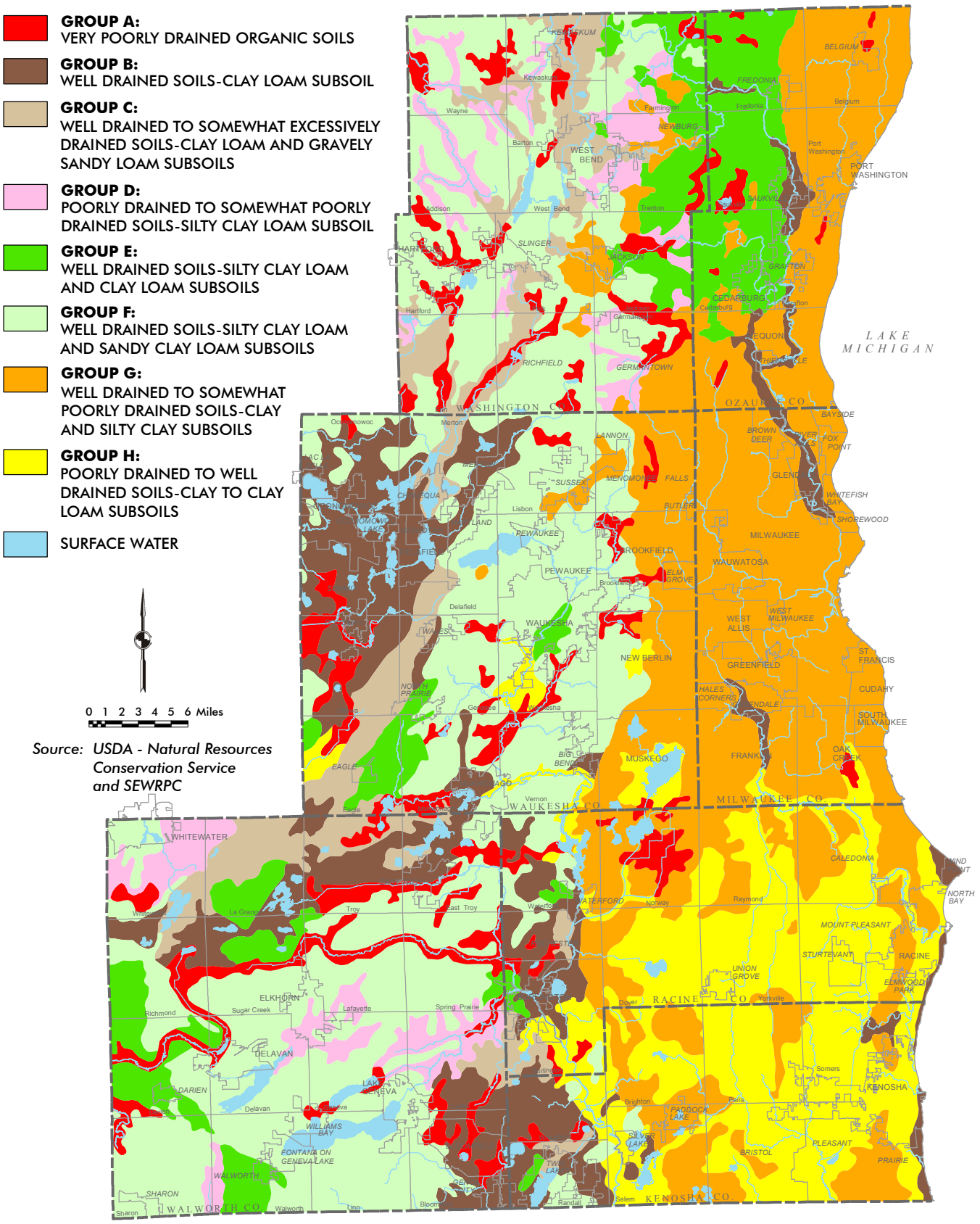
About 62% of the Region is located west of a major subcontinental divide and drains to the Mississippi River. The remaining 38% is east of the divide and drains to the Great Lakes Basin.

Map 2.16
Physiographic Features of the Region



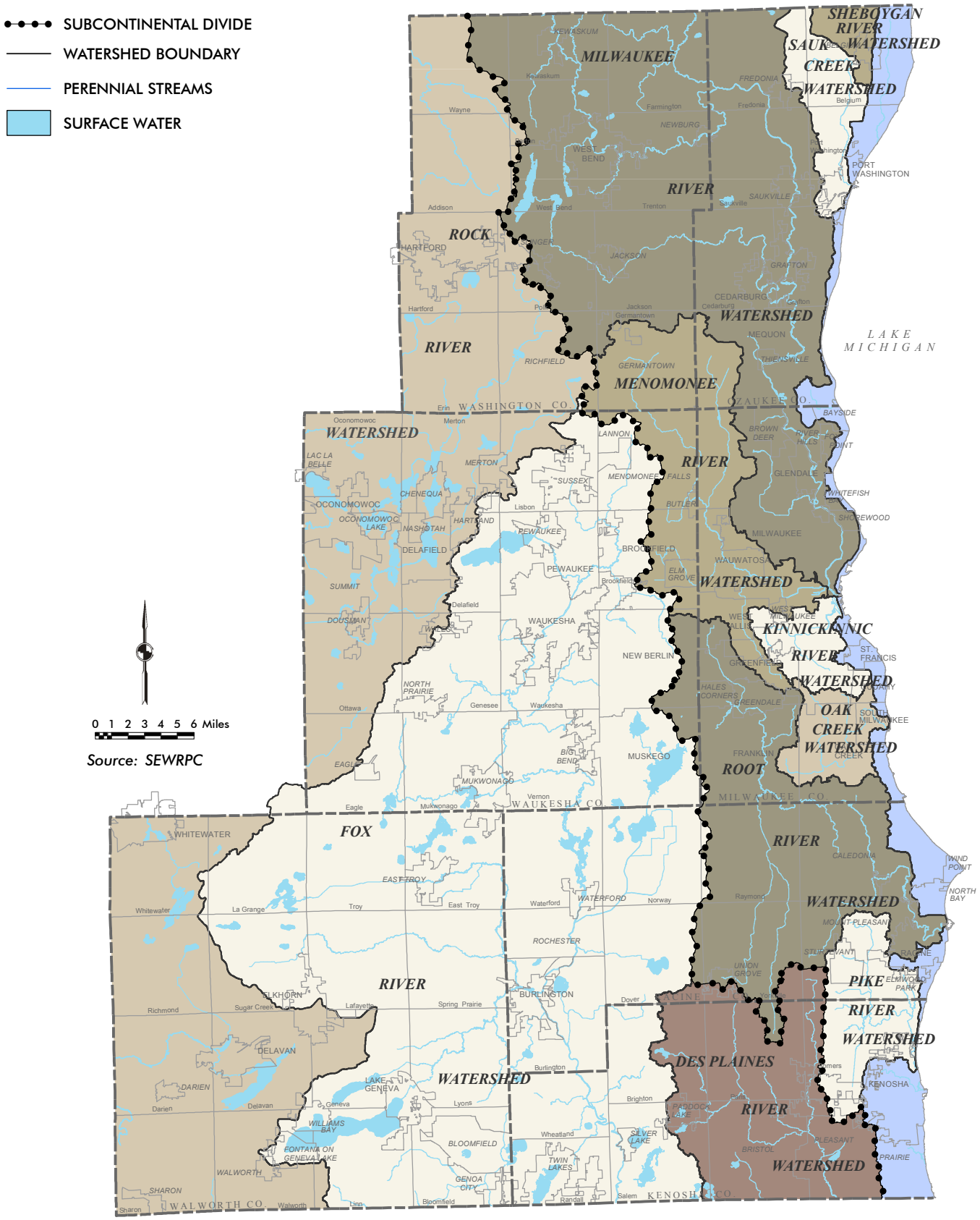
Source: SEWRPC

Map 2.17
Generalized Soil Association Groups in the Region



Source: USDA - Natural Resources Conservation Service and SEWRPC

Map 2.18
Surface Drainage and Surface Water in the Region



Also shown on Map 2.18 are the 101 major lakes of at least 50 acres in area and the 1,150-mile perennial stream network in the Region. In addition, the Region encompasses numerous lakes and ponds less than 50 acres in size and an extensive network of smaller, intermittent streams. The Region is bounded on the east by Lake Michigan, with 77 miles of shoreline extending from the Wisconsin-Illinois border to the Ozaukee-Sheboygan County line.

The Great Lakes Compact prohibits diverting water from the Great Lakes Basin, with very limited exceptions.

The quality of the Region's surface waters can potentially degenerate as a result of—among other factors—malfunctioning or improperly placed private onsite wastewater treatment systems; inadequate operation of wastewater treatment facilities; inadequate soil conservation and other agricultural practices; construction site erosion; and urban runoff. Lakes and streams may also be adversely affected by the excessive development of lacustrine and riverine areas and the filling of peripheral wetlands.

Objectives, or classifications, for biological and recreational uses, as well as for public health and welfare and wildlife protection, have been developed for streams and lakes by the DNR and integrated into the regional water quality management plan developed by the Regional Planning Commission. The objectives for biological and recreational uses range from coldwater fishery and full recreational use to limited aquatic life and limited recreational use. Water use objectives for streams and lakes are set forth in Chapter NR 102 of the *Wisconsin Administrative Code* and are summarized in SEWRPC Memorandum Report No. 93, *A Regional Water Quality Management Plan for Southeastern Wisconsin: An Update and Status Report*, and SEWRPC Planning Report No. 50, *A Regional Water Quality Management Plan Update for the Greater Milwaukee Watersheds*.

In addition, the DNR has identified a limited number of streams and lakes as "outstanding" and "exceptional" resource waters. "Outstanding" resource waters have the highest value as a resource, excellent water quality, and high-quality fisheries; they do not receive wastewater discharges, and point source discharges will not be allowed in the future unless the quality of such a discharge meets or exceeds the quality of the receiving water. Within the Region, Bluff, Potawatomi, and Van Slyke Creeks, all in Walworth County, along with Lulu Lake in Walworth County and Spring Lake in Waukesha County have been classified as outstanding resource waters. "Exceptional" resource waters have excellent water quality and valued fisheries but already receive wastewater discharges or may in the future receive discharges necessary to correct environmental or public health problems. Within the Region, the following have been classified as exceptional water resources: the East Branch of the Milwaukee River from the Long Lake outlet to STH 28 in Washington County; and Genesee Creek above STH 59, the Mukwonago River from Eagle Springs Lake to Upper Phantom Lake, and the Oconomowoc River below North Lake to Okauchee Lake, all in Waukesha County.

Groundwater Resources

Groundwater resources constitute another key element of the natural resource base of the Region. Groundwater not only sustains lake levels and wetlands and provides the base flows of streams in the Region, it also comprises a major source of water supply for domestic, municipal, industrial, and agricultural water users.

Groundwater is a major source of water supply for domestic, municipal, industrial, and agricultural users.

Groundwater occurs within three major aquifers that underlie the Region. From the land's surface downward, they are: 1) the sand and gravel deposits in the glacial drift; 2) the shallow dolomite strata in the underlying bedrock; and 3) the deeper sandstone, dolomite, siltstone, and shale strata. Because

of their proximity to the land's surface and hydraulic interconnection, the first two aquifers are commonly referred to collectively as the "shallow aquifer," while the latter is referred to as the deep aquifer. Within most of the Region, the shallow and deep aquifers are separated by the Maquoketa shale, which forms a relatively impermeable barrier between the two aquifers (see Figure 2.10).

Groundwater is susceptible to depletion and deterioration as a result of urban and rural development.

Like surface water, groundwater is susceptible to depletion in quantity and to deterioration in quality as a result of urban and rural development in the Region. Natural conditions may limit the use of groundwater as a source of water supply, including the relatively high levels of naturally occurring radium in groundwater in the deep sandstone aquifer, found in certain areas of the Region.

Recharge of the aquifers underlying the Region is derived largely by precipitation. Areas of groundwater recharge are shown on Map 2.19. The map identifies areas based upon the rate of annual groundwater recharge from precipitation in the Region. The areas with high or very high recharge potential are particularly important to the maintenance of groundwater resources.

Vegetation

Presettlement Vegetation

Historically, vegetational patterns in the Region were influenced by such factors as climate, soils, fire, topography, and natural drainage patterns. Historical records, particularly the records of the original U.S. Public Land Survey carried out within the Region in 1835 and 1836, indicate that large portions of Southeastern Wisconsin once consisted of open, level plains containing orchard-like stands of oak or prairies dominated by big blue-stem grass and colorful prairie forbs. Other portions of the Region were covered by mixed hardwood forests.

Prairies

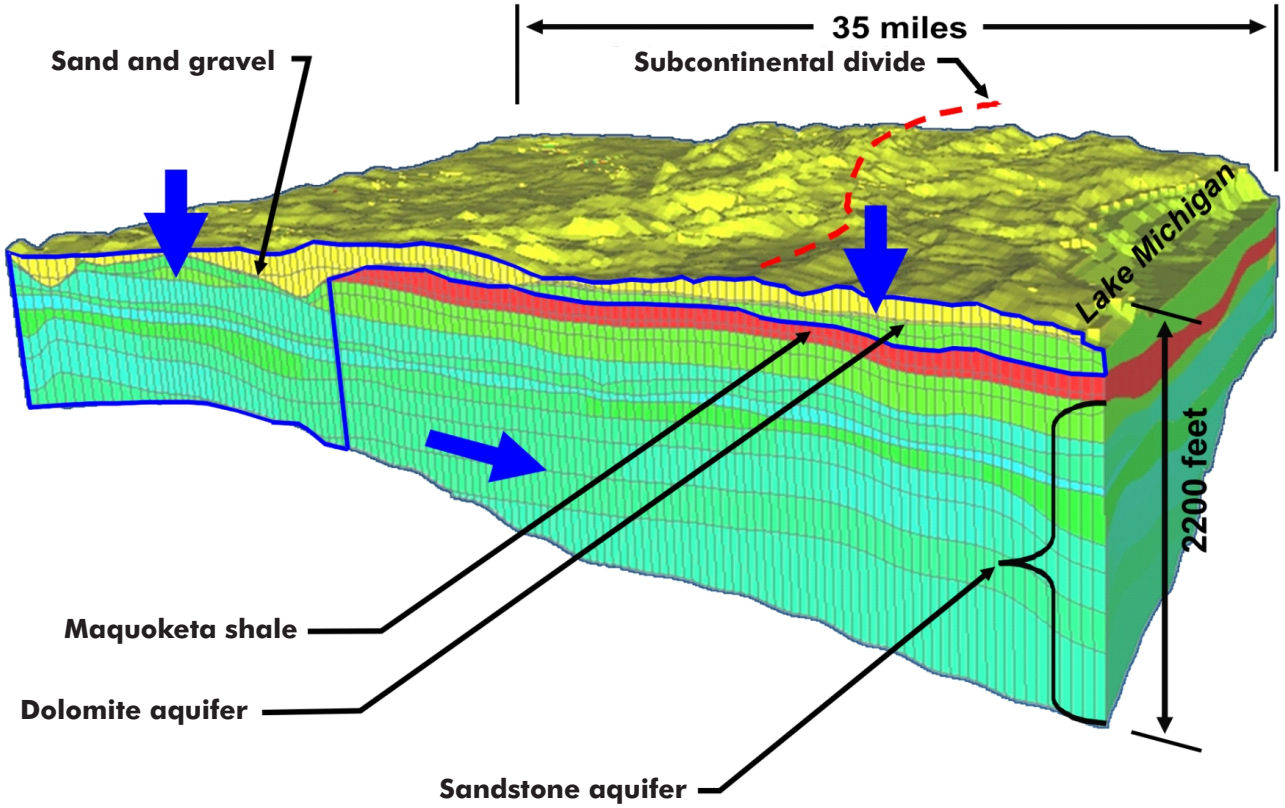
Prairies are treeless or generally treeless areas dominated by perennial native grasses. For the purpose of this report, prairies also include savannas, which are defined as areas dominated by native grasses but having between one and 17 trees per acre. In Southeastern Wisconsin, there are two types of savannas: oak openings and cedar glades. Prairies, which once covered extensive areas of Southeastern Wisconsin, have been reduced to scattered remnants, primarily in the southern and western portions of the Region. The chief causes of the loss of prairies is their conversion to urban and agricultural use and the suppression of wildfires, which had served to constrain the advancing shrubs and trees that shade out the prairie plants. The remaining prairies in the Region have important ecological and scientific value. Many of the remaining prairies are encompassed within the natural areas and critical species habitat sites described later in this section.

Woodlands

Woodlands covered about 191 square miles, or about 7% of the total area of the Region in 2010.

Six woodland types are recognized in the Region: northern upland hardwoods, southern upland hardwoods, northern lowland hardwoods, southern lowland hardwoods, northern lowland conifers, and northern upland conifers. The northern and southern upland hardwood types are the most common in the Region. The remaining stands of trees within the Region consist largely of even-aged mature, or nearly mature specimens, with insufficient reproduction and saplings to maintain the stands when the old trees are harvested or die of disease or age. Located largely on ridges and slopes and along lakes and streams, woodlands are a natural resource

Figure 2.10
Aquifer Systems in Southeastern Wisconsin



Source: US Geological Survey

of immeasurable value. Woodlands enhance the natural beauty of, and are essential to the overall environmental wellbeing of, the Region.

Woodlands encompassed about 191 square miles, or 7 percent of the total area of the Region, in 2010.[9] Existing woodlands in the Region are shown on Map 2.20. It should be noted that lowland wooded areas, such as tamarack swamps, are classified as wetlands.

Wetlands

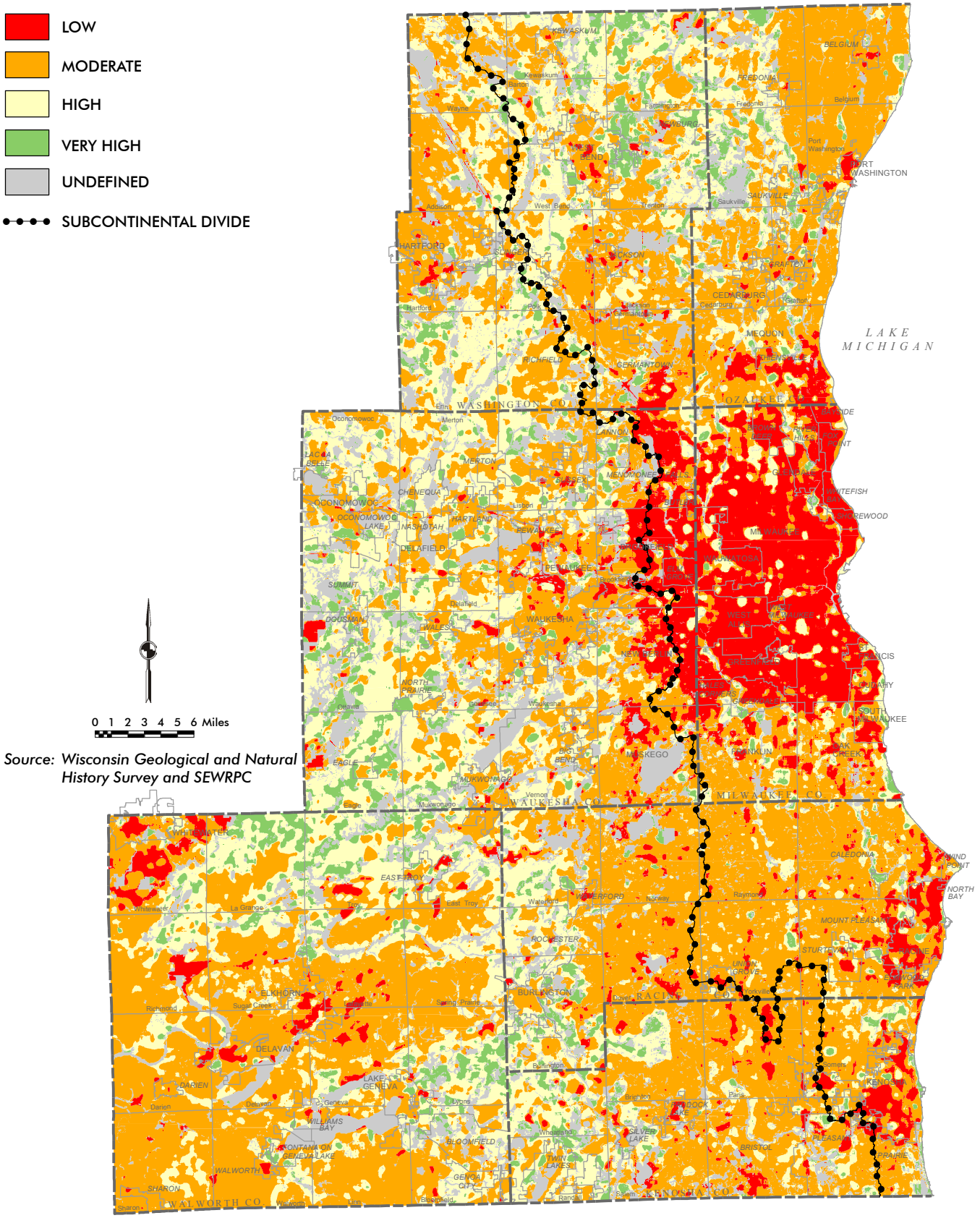
Wetlands generally occur in depressions and near the bottom of slopes, particularly along lakeshores and stream banks, and on large land areas that are poorly drained.[10] Wetlands may, however, under certain conditions, occur on slopes and even on hilltops. Wetlands perform an important set of natural functions, which include support of a wide variety of desirable, and

Wetlands support a variety of plant and animal life, water quality protection, and reduction in stormwater runoff.

[9] *For purposes of this report, woodlands are defined as areas having 17 or more deciduous trees per acre each measuring at least four inches in diameter at breast height and having at least a 50 percent canopy cover. In addition, coniferous tree plantations and reforestation projects are defined as woodlands.*

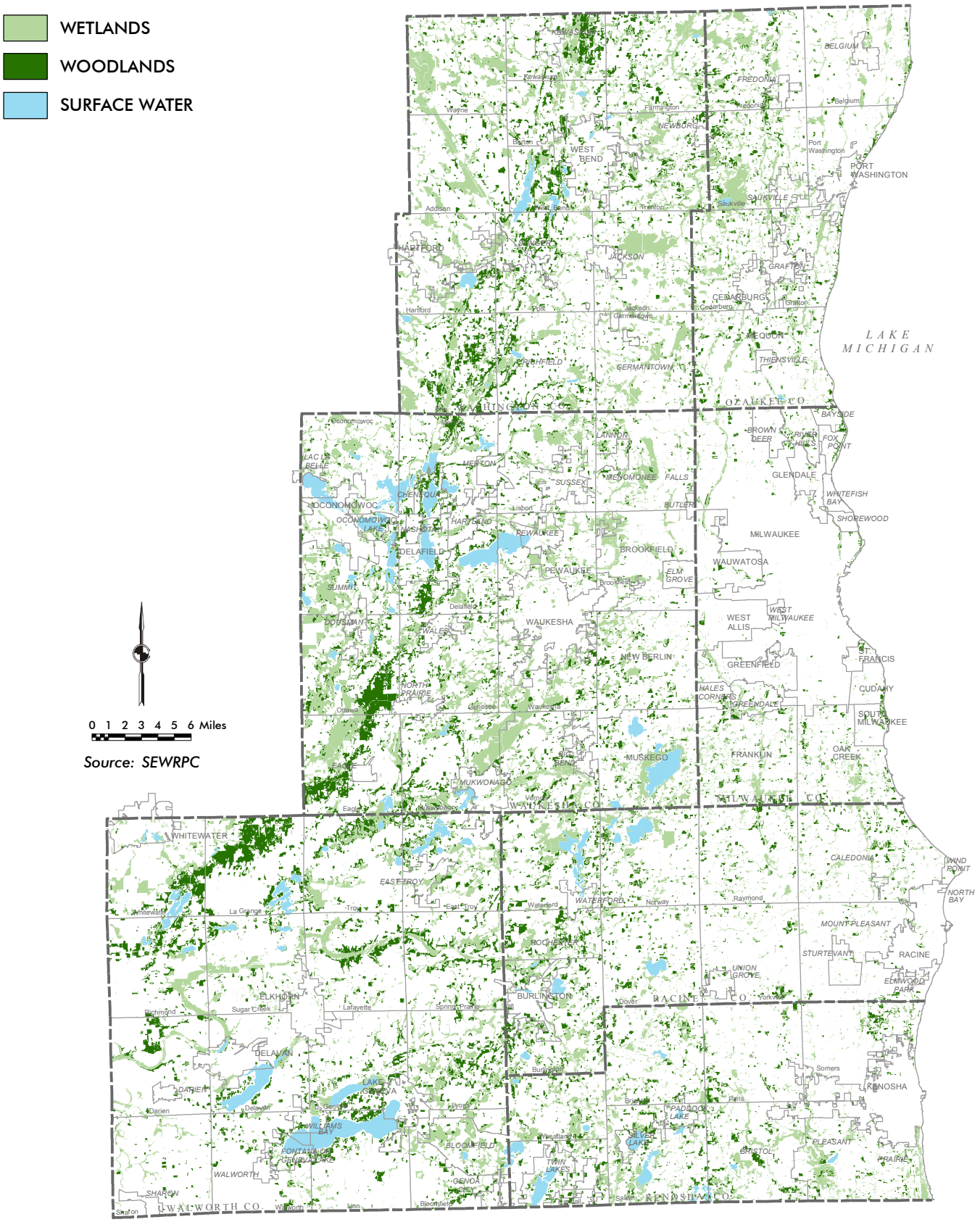
[10] *The definition of wetlands utilized by the Commission is the same as that of the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency. Under this definition, wetlands are areas that are inundated or saturated by surface water or groundwater at a frequency, and with a duration sufficient to support, and that under normal circumstance do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.*

Map 2.19
Groundwater Recharge Potential in the Region



Source: Wisconsin Geological and Natural History Survey and SEWRPC

Map 2.20
Wetlands and Woodlands in the Region: 2010



sometimes unique, forms of plant and animal life; water quality protection; stabilization of lake levels and streamflows; reduction in stormwater runoff by providing areas for floodwater impoundment and storage; protection of shorelines from erosion; and provision of groundwater discharge areas.

Wetlands covered about 315 square miles, or about 12% of the total area of the Region in 2010.

Wetlands encompassed about 315 square miles, or 12 percent of the total area of the Region, in 2010. Those wetlands are shown on Map 2.20. The wetlands shown on Map 2.20 are based upon the Wisconsin Wetlands Inventory completed in the Region in 2008, updated to the year 2010 as part of the regional land use inventory. It should be noted that the wetlands shown on Map 2.20 include wetlands that have been identified as "farmed wetlands," which are subject to Federal wetland regulations. These areas meet the definition of a wetland but were being actively farmed in 2010. In 2010, farmed wetlands encompassed about 10 square miles in the Region.

Wetlands and their boundaries are continuously changing in response to changes in drainage patterns and climatic conditions. While wetland inventory maps provide a sound basis for areawide planning, detailed field investigations are often necessary to precisely identify wetland boundaries for individual tracts of land at a given point in time.

Natural Areas and Critical Species Habitat Sites

A comprehensive inventory of "natural areas" and "critical species habitat sites" in the Region was completed by the Commission in 1994. The inventory sought to identify the most significant remaining natural areas—essentially, remnants of the pre-European settlement landscape—as well as other areas vital to the maintenance of endangered, threatened, and rare plant and animal species in the Region. A comprehensive update to the inventory was conducted by the Commission in 2009 as part of an amendment to the regional natural areas and critical species habitat protection and management plan.[11]

Natural areas are tracts of land or water that contain intact native plant and animal communities representative of the pre-European-settlement landscape. There are 494 natural areas in the Region covering 101 square miles.

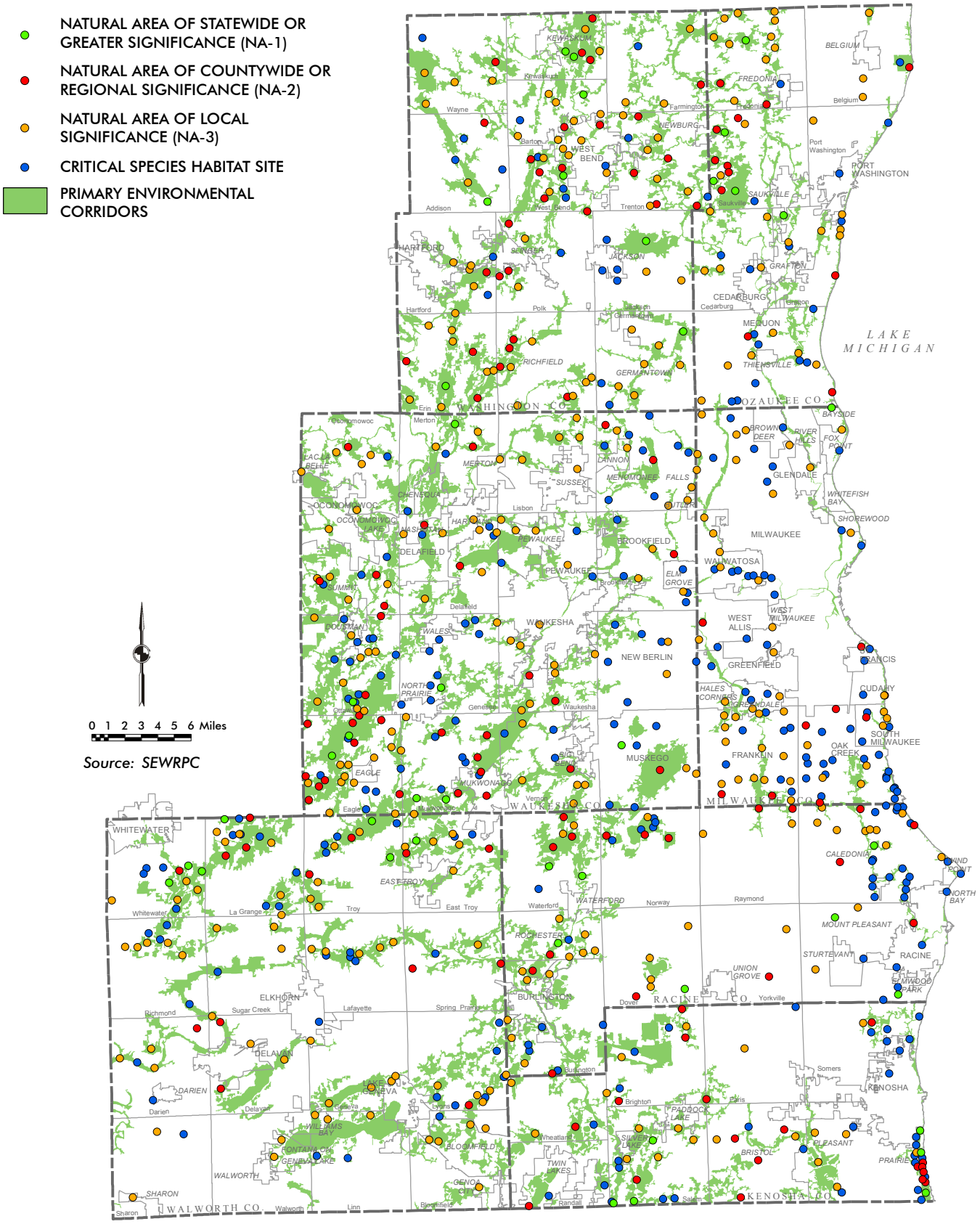
Natural areas are tracts of land or water so little modified by human activity, or sufficiently recovered from the effects of such activity, that they contain intact native plant and animal communities believed to be representative of the landscape before European settlement. Natural areas are classified into one of three categories: natural areas of statewide or greater significance (NA-1), natural areas of countywide or regional significance (NA-2), and natural areas of local significance (NA-3). Classification of an area into one of these three categories is based upon consideration of the diversity of plant and animal species and community types present; the structure and integrity of the native plant or animal community; the extent of disturbance from human activity; the commonness of the plant or animal community; the uniqueness of the natural features; the size of the site; and the educational value. A total of 494 natural areas were identified in the Region in 2009. In combination, these sites encompassed 101 square miles, or 4 percent of the total area of the Region. The location of the natural area sites in the Region is shown on Map 2.21.

Critical species habitat sites support endangered, threatened, or rare plant or animal species. There are 271 sites in the Region covering 31 square miles.

Critical species habitat sites consist of areas, located outside natural areas, which are important for their ability to support endangered, threatened, or rare plant or animal species. Such areas constitute "critical" habitat considered to be important to the survival of a species or group of species of special concern. A total of 271 critical species habitat sites were identified in

[11] *SEWRPC Planning Report No. 42,* A Regional Natural Areas and Critical Species Habitat Protection and Management Plan for Southeastern Wisconsin*, dated September 1997, as amended in 2010.*

Map 2.21
Natural Areas and Critical Species Habitat Sites in the Region: 2009



the Region in 2009. Together, these critical species habitat sites encompassed 31 square miles, or 1 percent of the Region. These sites are also shown on Map 2.21. Most of the identified natural areas and critical species habitat sites in Southeastern Wisconsin are located within the Commission-identified environmental corridors and isolated natural resource areas described below.

Environmental Corridors

One of the most important tasks completed under the regional planning program for Southeastern Wisconsin has been the identification and delineation of areas of the Region in which concentrations of the best remaining elements of the natural resource base occur. It was recognized that preservation of such areas is important to both the maintenance of the overall environmental quality of the Region and to the continued provision of amenities required to maintain a high quality of life for the resident population.

Under the regional planning program, seven elements of the natural resource base have been considered essential to the maintenance of the ecological balance, natural beauty, and overall quality of life in Southeastern Wisconsin: 1) lakes, rivers, and streams, and their associated shorelands and floodlands; 2) wetlands; 3) woodlands; 4) prairies; 5) wildlife habitat areas; 6) wet, poorly drained, and organic soils; and 7) rugged terrain and high-relief topography. In addition, certain other elements, although not part of the natural resource base per se, are closely related to, or centered upon, that base and are a determining factor in identifying and delineating areas with recreational, aesthetic, ecological, and cultural value. These five additional elements are: 1) existing park and open space sites; 2) potential park and open space sites; 3) historic sites; 4) scenic areas and vistas; and 5) natural areas and critical species habitat sites.

The most important elements of the Region's natural resource base often occur in a linear pattern of relatively narrow, elongated areas termed "environmental corridors."

The delineation of these 12 natural resource and natural resource-related elements on maps results, in most areas of the Region, in an essentially linear pattern of relatively narrow, elongated areas that have been termed "environmental corridors" by the Commission.[12] Primary environmental corridors include a variety of the aforementioned important natural resource and resource-related elements and are at least 400 acres in size, two miles in length, and 200 feet in width. Secondary environmental corridors generally connect with the primary environmental corridors and are at least 100 acres in size and one mile in length. In addition, smaller concentrations of natural resource base elements that are separated physically from the environmental corridors by intensive urban or agricultural land uses have also been identified. These areas, which are at least five acres in size, are referred to as isolated natural resource areas.

Environmental corridors are generally poorly suited for urban development. Their preservation can help avoid serious and costly developmental problems.

The preservation of environmental corridors and isolated natural resource areas in essentially natural, open uses, yields many benefits, including recharge and discharge of groundwater; maintenance of surface and groundwater quality; attenuation of flood flows and stages; maintenance of base flows of streams and watercourses; reduction of soil erosion; abatement of air and noise pollution; provision of wildlife habitat; protection of plant and animal diversity; protection of rare and endangered species; maintenance of scenic beauty; and provision of opportunities for recreational, educational, and scientific pursuits. Conversely, since these areas are generally poorly suited for urban development, their preservation can help avoid serious and costly developmental problems.

[12] *A detailed description of the process of delineating environmental corridors in Southeastern Wisconsin is presented in the March 1981 issue (Volume 4, No. 2) of the* SEWRPC Technical Record.

Because of the many interacting relationships existing between living organisms and their environment, the destruction or deterioration of one important element of the total environment may lead to a chain reaction of deterioration and destruction of other elements. The drainage of wetlands, for example, may destroy fish spawning areas, wildlife habitat, groundwater recharge areas, and natural filtration and floodwater storage areas of interconnecting stream systems. The resulting deterioration of surface-water quality may, in turn, lead to a deterioration of the quality of the groundwater that serves as a source of domestic, municipal, and industrial water supply, and upon which low flows of rivers and streams may depend. Similarly, destruction of ground cover may result in soil erosion, stream siltation, more rapid runoff, and increased flooding, as well as the destruction of wildlife habitat. Although the effect of any one of these environmental changes may not in and of itself be overwhelming, the combined effects may eventually lead to a serious deterioration of the underlying and sustaining natural resource base and of the overall quality of the environment for life. In addition to such environmental impacts, the intrusion of intensive urban land uses into such areas may result in the creation of serious and costly developmental problems, such as failing foundations for pavements and structures, wet basements, excessive operation of sump pumps, excessive clear-water infiltration into sanitary sewerage systems, and poor drainage.

Primary Environmental Corridors

As shown on Map 2.22, the primary environmental corridors in the Region are generally located along major stream valleys, around major lakes, and along the Kettle Moraine. These primary environmental corridors contain almost all of the best remaining woodlands, wetlands, and wildlife habitat areas in the Region, and represent a composite of the best remaining elements of the natural resource base. As indicated in Table 2.23, primary environmental corridors encompassed about 484 square miles, or about 18 percent of the total area of the Region, in 2010. The protection of the primary environmental corridors from additional intrusion by incompatible land uses, degradation, and destruction is one of the key objectives of the adopted regional land use plan.

Primary environmental corridors contain almost all the best remaining woodlands, wetlands, and wildlife habitat in the Region. They covered about 484 square miles, or about 18% of the Region in 2010.

Secondary Environmental Corridors

As further shown on Map 2.22, secondary environmental corridors are generally located along the small perennial and intermittent streams within the Region. Secondary environmental corridors also contain a variety of resource elements, often remnant resources from primary environmental corridors that have been developed for intensive urban or agricultural purposes. Secondary environmental corridors facilitate surface-water drainage, maintain pockets of natural resource features, and provide corridors for the movement of wildlife, as well as for the movement and dispersal of seeds for a variety of plant species. In 2010, secondary environmental corridors encompassed about 79 square miles, or about 3 percent of the total area of the Region.

Secondary environmental corridors contain a variety of resource elements, often remnants from primary corridors that were developed for intensive urban or agricultural uses. They covered about 79 square miles, or about 3% of the Region in 2010.

Isolated Natural Resource Areas

In addition to the primary and secondary environmental corridors, other smaller pockets of wetlands, woodlands, surface water, or wildlife habitat exist within the Region (see Map 2.22). These pockets are isolated from the environmental corridors by urban development or agricultural use, and although separated from the environmental corridor network, these isolated natural resource areas have significant value. They may provide the only available wildlife habitat in an area, usually provide good locations for local parks, and lend unique aesthetic character and natural diversity to an area.

Map 2.22
Environmental Corridors and Isolated Natural Resource Areas in the Region: 2010

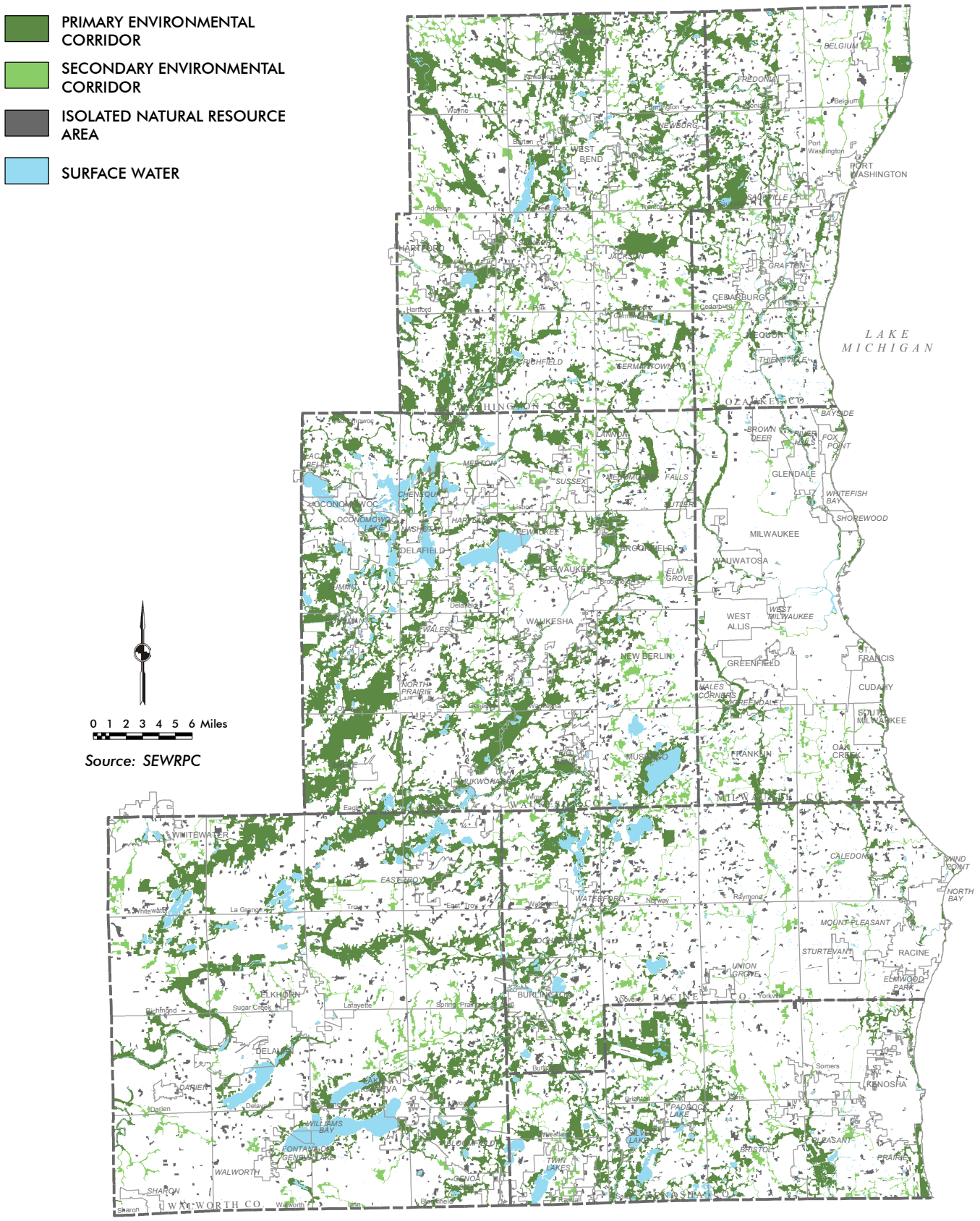


Table 2.23
Environmental Corridors and Isolated Natural Resource Areas in the Region by County: 2010

County	Primary Environmental Corridors		Secondary Environmental Corridors		Isolated Natural Resource Areas		Total Environmental Corridors and Isolated Natural Resource Areas	
	Square Miles	Percent of County/ Region	Square Miles	Percent of County/ Region	Square Miles	Percent of County/ Region	Square Miles	Percent of County/ Region
Kenosha	45.1	16.2	10.6	3.8	6.5	2.3	62.2	22.3
Milwaukee	15.5	6.4	5.7	2.3	3.7	1.5	24.9	10.2
Ozaukee	33.8	14.3	8.4	3.6	6.3	2.7	48.5	20.6
Racine	36.9	10.8	11.2	3.3	13.2	3.9	61.3	18.0
Walworth	106.3	18.4	14.8	2.6	14.4	2.5	135.5	23.5
Washington	97.6	22.4	16.2	3.7	11.3	2.6	125.1	28.7
Waukesha	148.8	25.6	12.1	2.1	14.2	2.5	175.1	30.2
Region	484.0	18.0	79.0	2.9	69.6	2.6	632.6	23.5

Source: SEWRPC

Widely scattered throughout the Region, isolated natural resource areas encompassed about 70 square miles, or just under 3 percent of the total area of the Region, in 2010.

Isolated natural resource areas are pockets of natural resources isolated from corridors by urban or agricultural uses. They covered about 70 square miles, or a little less than 3% of the Region in 2010.

It should be noted that the areal extent of environmental corridors and isolated natural resources identified in 2010 is somewhat greater than in 2000. Thus, the primary environmental corridors encompassed 484 square miles in 2010, compared to 462 square miles in 2000. Secondary environmental corridors encompassed 79 square miles in 2010, compared to 75 square miles in 2000. Isolated natural resource areas encompassed 70 square miles in 2010, compared to 63 square miles in 2000. These patterns are generally consistent with the increase in the areal extent of wetlands and woodlands identified in 2010 compared to 2000, described earlier in this chapter.

Air Quality

The Clean Air Act requires the U.S. Environmental Protection Agency (EPA) to set national ambient air quality standards (NAAQS) for six criteria pollutants (carbon monoxide, lead, nitrogen dioxide, particulate matter, ozone, and sulfur oxides) that are considered harmful to public health and the environment. Benefits of attaining air quality standards include reduced mortality, hospital admissions due to respiratory ailments, school and work absenteeism, and incidence of asthma. Areas not meeting the NAAQS for one or all of the criteria pollutants are designated as nonattainment areas by the EPA. In areas where observed pollutant levels exceed the established NAAQS and are designated as "nonattainment" areas by the EPA, growth and development patterns may be constrained. For example, major sources of pollutants seeking to locate or expand in a designated nonattainment area, or close enough to impact upon it, must apply emission control technologies. In addition, new or expanding industries may be required to obtain a greater than one-for-one reduction in emissions from other sources in the nonattainment area so as to provide a net improvement in ambient air quality. Nonattainment area designation may, therefore, create an economic disincentive for industry with significant emission levels to locating or expanding within or near the boundaries of such an area. In order to eliminate this disincentive and relieve the potential constraint on development, it is necessary to demonstrate compliance with the NAAQS and petition the EPA for redesignation of the nonattainment areas. Areas

designated as being in nonattainment or in maintenance of a NAAQS are also required to demonstrate that transportation plans and programs are consistent with air quality goals established by State implementation of maintenance plans to ensure that the plans and programs do not prevent continued improvement in air quality and achievement or maintenance of a NAAQS.

The combination of local controls and offsets implemented within and outside the Region and national vehicle emissions control requirements have resulted in a significant improvement in ambient air quality.

Over the past decade, the combination of local controls and offsets implemented within and external to the Region, along with national vehicle emissions control requirements, have resulted in a significant improvement in ambient air quality within the Region as well as nationally. The Southeastern Wisconsin Region currently meets all but the ozone NAAQS. The EPA has designated Kenosha County east of IH 94 as part of the Tri-State Chicago-Naperville, IL-IN-WI Marginal Nonattainment Area for the 2008 8-hour ozone standard.[13] Ozone is formed when precursor pollutants, such as volatile organic compounds and nitrogen oxides, react in the presence of sunlight. The ozone air quality problem within the Region is complex because ozone is meteorologically dependent. In addition, the ozone problem in the Region is believed to be attributable in large part to precursor emissions generated in the large urban areas located to the south and southeast and carried by prevailing winds into the Region. The ozone problem thus remains largely beyond the control of the Region and State and can be effectively addressed only through a multi-state abatement effort.

2.6 AGRICULTURAL RESOURCE BASE

About 1,156 square miles, or 43% of the Region, were in agricultural use in 2010. Most of this land has highly productive soils.

About 1,156 square miles, or 43 percent of the total area of the Region, were in agricultural use in 2010. This figure includes lands actually used for agriculture—primarily cultivated lands and lands used for pasture. As shown on Map 2.23, large, essentially uninterrupted blocks of agricultural land remain in the Region, particularly in outlying areas. In other areas, farmland is more fragmented, being intermixed with nonagricultural uses.

As further shown on Map 2.23, much of the existing agricultural land in the Region is covered by highly productive soils—comprised of soils in agricultural capability Class I and Class II, as classified by the U.S. Natural Resources Conservation Service. Agricultural lands covered by Class I and Class II soils encompassed about 887 square miles, or 77 percent of all agricultural land in the Region, in 2010. The adopted regional land use plan recommends the preservation of Class I and Class II soils insofar as practicable.

2.7 EXISTING PLANS AND ZONING

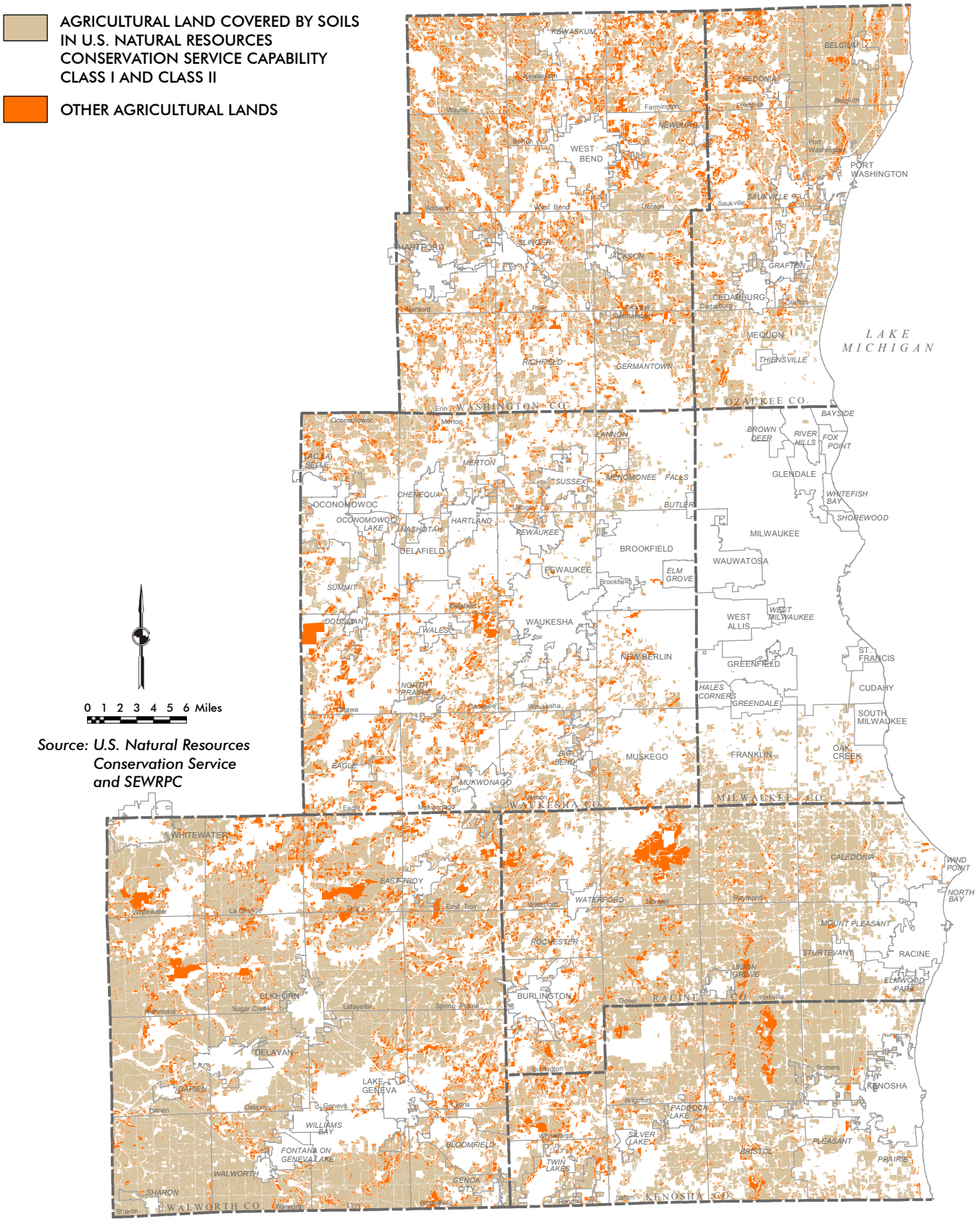
There is a long history of planning at the regional, county, and local level in Southeastern Wisconsin. This section provides an overview of the existing planning framework of the Region, focusing on adopted regional plans and county and local comprehensive plans. This section also describes existing zoning arrangements in the Region, zoning being one of the most important measures available to county and local units of government to implement their plans.

Regional Plans

The Regional Planning Commission has prepared and adopted a number of regional plans that together provide a comprehensive plan for the Region.

[13] There is also a three-county maintenance area for the 2006 24-hour fine particulate standard consisting of the counties of Milwaukee, Racine, and Waukesha, which requires offsets and other measures to ensure that this standard continues to be met.

Map 2.23
Agricultural Lands in the Region: 2010



The Commission has prepared and adopted a number of regional plans that together provide a comprehensive plan for the Region.

The regional land use and transportation system plans are the most basic regional plan elements. A description of the currently adopted year 2035 regional land use and transportation plans, and the implementation status of these plans, is presented in Chapter 3 of this volume. Other key elements of the overall plan for the Region are described as follows.

Regional Water Quality Management Plan

The Commission completed and adopted a regional water quality management plan in 1979, in part to meet the Congressional mandate that the waters of the United States be made "fishable and swimmable" to the extent practical. The plan is documented in SEWRPC Planning Report No. 30, *A Regional Water Quality Management Plan for Southeastern Wisconsin*, Volume One, *Inventory Findings*; Volume Two, *Alternative Plans*; and Volume Three, *Recommended Plan*, July 1979. It provides recommendations for controlling water pollution from point sources such as wastewater treatment plants, points of separate and combined sewer overflow, and industrial waste outfalls. It also recommends controlling nonpoint sources such as urban and rural stormwater runoff. The plan provides the basis for:

- Continued eligibility of local units of government for Federal and State loans and grants that support sewerage system development and redevelopment
- Issuance of waste discharge permits by the DNR
- Review and approval of public sanitary sewer extensions by the DNR
- Review and approval of private sanitary sewer extensions and large onsite wastewater treatment systems and holding tanks by the Wisconsin Department of Safety and Professional Services

The regional water quality management plan provides a basis for review and approval of public sewer extensions by the DNR.

The Commission adopted an update of the regional water quality management plan for the Greater Milwaukee Watersheds in December 2007. This effort was coordinated with a parallel sewerage facilities planning program carried out by the Milwaukee Metropolitan Sewerage District (MMSD). It was designed to utilize the watershed planning approach consistent with historic SEWRPC practice and evolving EPA policies. The update resulted in the re-evaluation and, as necessary, revision of the three major elements comprising the original plan (land use, point source pollution abatement, and nonpoint source pollution abatement). In addition, a groundwater element was added based largely on companion work programs. The updated plan is documented in SEWRPC Planning Report No. 50, *A Regional Water Quality Management Plan Update for the Greater Milwaukee Watersheds*, December 2007.

Regional Water Supply Plan

Important groundwater recharge areas were identified as part of the regional water supply plan.

The Commission adopted a regional water supply plan in December 2010 that represents the third, and final, element of the SEWRPC regional water supply management program. The first two elements included the development of basic groundwater inventories and the development of a groundwater simulation model for the Region. The program involved interagency partnerships with the U.S. Geological Survey, Wisconsin Geological and Natural History Survey, University of Wisconsin-Milwaukee, DNR, and water supply utilities serving the Region. The plan is documented in SEWRPC Planning Report No. 52, *A Regional Water Supply Plan for Southeastern Wisconsin*, December 2010, and includes the following major components:

- Development of recommended water supply service areas and forecast demand for water use

- Development of recommendations for water conservation efforts to reduce water demand

- Evaluation of alternative sources of supply, culminating in identification of recommended sources of supply for each service area and in recommendations for development of the basic infrastructure required to deliver that supply

- Identification of important groundwater recharge areas

- Specification of new institutional structures found necessary to carry out the plan recommendations

Regional Park and Open Space Plan

The Commission adopted a regional park and open space plan for Southeastern Wisconsin in December 1977. The plan has an open space preservation element and an outdoor recreation element. The open space preservation element consists of recommendations for the preservation of environmental corridors and other environmentally significant areas in the Region. The outdoor recreation element consists of:

The regional park and open space plan includes recommendations to preserve environmental corridors.

- A resource-oriented outdoor recreation plan providing recommendations for the number and location of large parks, recreation corridors to accommodate trail-oriented activities, and water-access facilities to enable the recreational use of rivers, inland lakes, and Lake Michigan

- An urban outdoor recreation plan providing recommendations for the number and distribution of local parks and outdoor recreational facilities located in urban areas of the Region

The initial regional park and open space plan is documented in SEWRPC Planning Report No. 27, *A Regional Park and Open Space Plan for Southeastern Wisconsin: 2000*, November 1977. The Commission assists counties in the Region in preparing county-level park and open space plans. These plans refine, detail, and extend the regional park and open space plan. The county plans serve as amendments to the regional plan upon their adoption by the Commission.

Regional Natural Areas Plan

A regional natural areas and critical species habitat protection and management plan for Southeastern Wisconsin was adopted by the Commission in 1997 and amended in 2010. The plan is documented in SEWRPC Planning Report No. 42, *A Regional Natural Areas and Critical Species Habitat Protection and Management Plan for Southeastern Wisconsin*, as amended in 2010. The planning effort was undertaken to identify the most significant remaining natural areas in the Region that are essentially remnants of the pre-European-settlement landscape. Other areas vital to the maintenance of endangered, threatened, and rare plant and animal species in the Region were also identified. The plan recommends the preservation of 494 natural areas and 271 critical species habitat sites, primarily through public and private conservancy ownership.

The regional natural areas plan identifies areas vital to the maintenance of endangered, threatened, and rare plant and animal species.

Regional Housing Plan

The Commission adopted the year 2035 regional housing plan in March 2013, which is documented in SEWRPC Planning Report No. 54, *A Regional Housing Plan for Southeastern Wisconsin: 2035*. The regional housing plan is intended to provide further detail to the residential component of the year 2035 regional land use plan. The focus of the housing plan is providing an adequate supply of affordable housing for all current residents and the anticipated future population of the Region through the design year 2035. Implementing the plan recommendations will benefit current and future residents by:

- Providing housing affordable to all residents of the Region, with a focus on housing affordable to the existing and projected workforce
- Reinforcing the need for improved and expanded public transit in Southeastern Wisconsin
- Providing enough subsidized and low-income tax credit housing to meet the needs of very low-income households and help address the problem of dilapidated, substandard, and unsafe housing in the Region
- Better meeting the existing and future need for accessible housing for people with disabilities
- Reducing the concentration of minorities in the Region's central cities
- Promoting more economical development and preservation of farmland

County and Local Comprehensive Plans

The Wisconsin Legislature enacted legislation that expanded the scope and significance of comprehensive planning in the State in 1999. The legislation, sometimes referred to as the State's "Smart Growth" law, provides a framework for the development, adoption, implementation, and amendment of comprehensive plans by county, city, village, and town units of government. The law is set forth in Section 66.1001 of the *Wisconsin Statutes* and has been amended periodically since its enactment. The law effectively requires the adoption of a comprehensive plan by cities, villages, towns, and counties that administer a general zoning ordinance, a shoreland zoning ordinance, a land subdivision ordinance, or an official mapping ordinance. The law requires consistency between comprehensive plans and such ordinances enacted or amended on or after January 1, 2010. The law requires comprehensive plans to address the following nine elements: issues and opportunities; housing; transportation; utilities and community facilities; agricultural, natural, and cultural resources; economic development; intergovernmental cooperation; land use; and implementation.

State comprehensive planning law effectively requires the adoption of a comprehensive plan by cities, villages, towns, and counties that administer a general zoning ordinance, a shoreland zoning ordinance, a land subdivision ordinance, or an official mapping ordinance.

Existing Comprehensive Plans

Map 2.24 shows that almost every city, village, and town in the Region has adopted a comprehensive plan per State legislation.[14] Six of the seven counties (all except Milwaukee County) have also adopted comprehensive plans.[15]

[14] *The State comprehensive planning law and adopted county and local government comprehensive plans are discussed further in Appendix B.*

[15] *Milwaukee County has not prepared a comprehensive plan because it does not administer a zoning, subdivision, or official mapping ordinance.*

Map 2.24
Comprehensive Plan Status in the Region: 2014

MULTI-JURISDICTIONAL PLAN ADOPTED BY COUNTY BOARD

LOCAL PLAN PREPARED AS PART OF COUNTY-LOCAL MULTI-JURISDICTIONAL PROCESS ADOPTED BY LOCAL GOVERNMENT

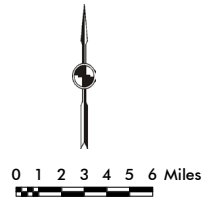
LOCAL GOVERNMENT HAS ADOPTED MULTI-JURISDICTIONAL COUNTY-LOCAL COMPREHENSIVE PLAN AS LOCAL PLAN

LOCAL GOVERNMENTS THAT PARTNERED TO PREPARE AND ADOPT A MULTI-JURISDICTIONAL COMPREHENSIVE PLAN

LOCAL GOVERNMENTS THAT HAVE ADOPTED INDEPENDENT COMPREHENSIVE PLANS

10-YEAR PLAN UPDATE ADOPTED

Note: This map reflects communities that have adopted comprehensive plans under section 66.1001 of the Wisconsin *Statutes*, and have provided a copy of an adopted plan to SEWRPC.



Source: SEWRPC

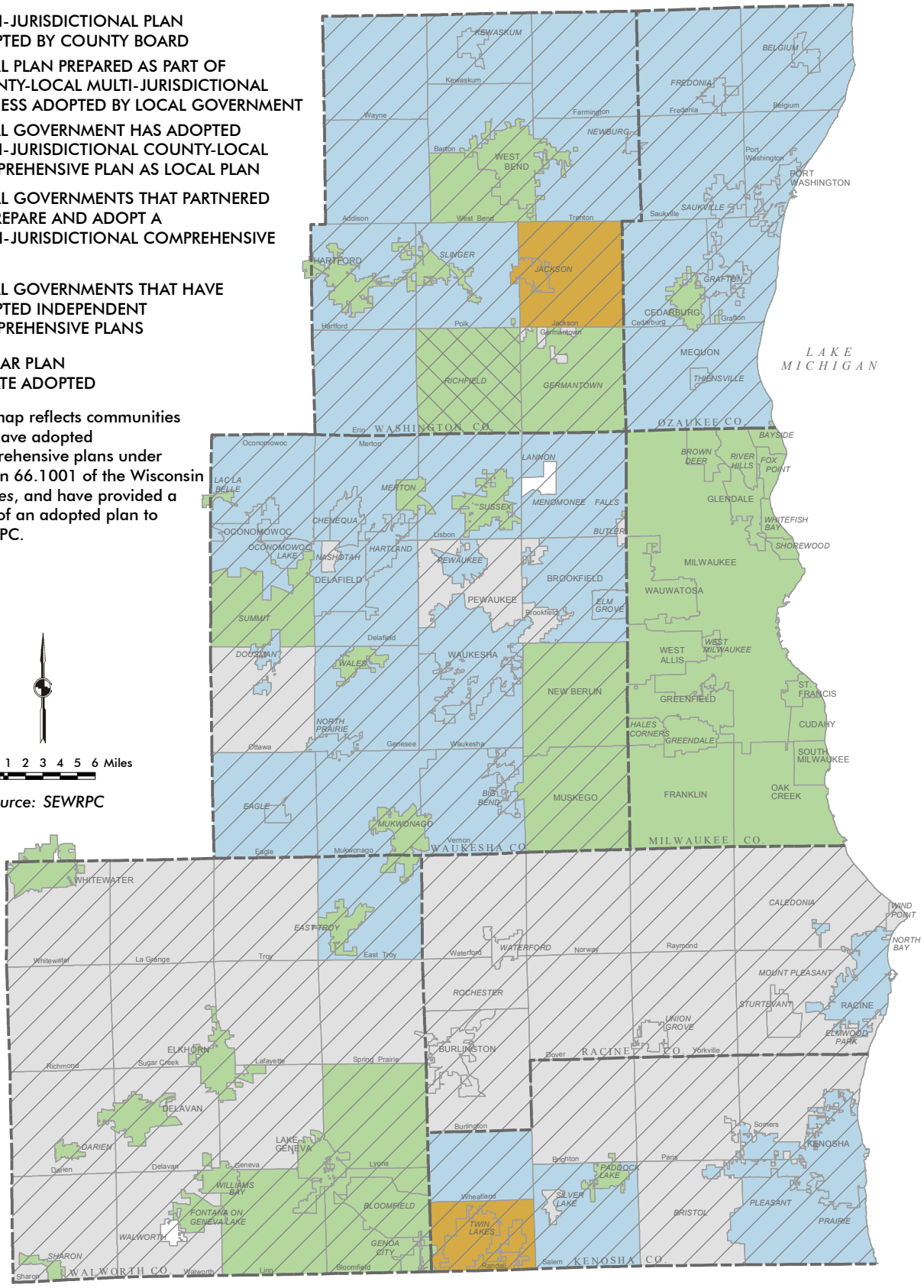


Table 2.24
Housing and Employment Accommodated by Community Comprehensive Plans and the Year 2035 Regional Land Use Plan[a]

	Housing Units			Jobs		
County	Regional Land Use Plan[b]	Comprehensive Plans	Difference	Regional Land Use Plan	Comprehensive Plans	Difference
Kenosha	79,000	84,100	5,100	86,200	306,200	220,000
Milwaukee	427,400	448,000	20,600	628,000	787,000	159,000
Ozaukee	34,800	61,900	27,100	59,800	99,800	40,000
Racine	77,500	92,300	14,800	101,100	186,300	85,200
Walworth	43,800	77,900	34,100	62,300	153,700	91,400
Washington	46,400	61,600	15,200	68,900	144,900	76,000
Waukesha	155,100	225,800	70,700	320,000	412,900	92,900
Region	864,000	1,051,600	187,600	1,327,200	2,090,800	763,600

[a] *Limited to areas planned by local governments to be provided with sanitary sewer service.*

[b] *Refers to the number of occupied housing units, or households, under the regional land use plan.*

Source: SEWRPC

The development of the Region is heavily influenced by these plans, which provide a guide for general location and density of development at least 20 years into the future. Community comprehensive plans should be considered in the regional planning process due to their influence. An important step in this process is to understand the amount of development that could be potentially accommodated by community comprehensive plans.

An analysis of comprehensive plans adopted by communities in the Region was undertaken by the Commission during preparation of the year 2035 regional housing plan. The analysis identifies the amount of residential and job-supporting development—and the associated increase in housing and jobs—that could be expected in the Region if community comprehensive plans were to be fully implemented. The analysis was limited to areas planned by communities to be provided with sanitary sewer service and was conducted at a necessarily general, regionwide scope, which was appropriate for use in the development of a regional-level housing plan.

The analysis indicates that local comprehensive plans would accommodate substantial growth in housing and employment levels in the Region. It is estimated that local comprehensive plans for sewered communities in the Region could potentially accommodate a total of about 1,052,000 housing units and 2,091,000 jobs under full development—or "buildout"—conditions. In comparison, the currently adopted regional land use plan, which is based upon an intermediate-growth scenario, indicates that sewered communities in the Region may be expected to accommodate a total of 864,000 housing units and 1,327,000 jobs by the year 2035 (see Table 2.24).

Community comprehensive plans call for significantly more housing units (1,052,000 compared to 864,000) and jobs (2,091,000 compared to 1,327,000) than reasonably expected under the 2035 regional land use plan.

The higher level of growth associated with the comprehensive plans is primarily due to the practice of many communities to plan for the full buildout of the community and adjacent areas that may be annexed over a relatively long period of time. In many cases these conditions would likely not materialize until long after the stated plan design year (typically 2035). In a number of communities, planned future growth areas extend beyond the long-range planned sewer service areas embodied in the regional land use plan.

Counties and communities often work to align the goals and objectives set forth in other planning efforts, such as county land and water resource management

plans or community sustainability plans, with their comprehensive plans. An example is the City of Milwaukee's *ReFresh Milwaukee* sustainability plan, which was published in 2013. *ReFresh Milwaukee* is a citywide strategic plan to develop a sound environmental, economic, and socially sustainable future. The plan seeks to implement sustainable projects and complement many of the policies set forth in the City's comprehensive plan by creating goals, targets, and strategies that refine and detail the comprehensive plan.

Local Zoning Regulations

A zoning ordinance is a public law that regulates the use of property in the public interest. Local zoning regulations include general zoning regulations and special-purpose regulations governing floodland and shoreland areas. General and special-purpose zoning regulations may be adopted as a single ordinance or as separate ordinances, and may or may not be included in the same document. As previously noted, the State comprehensive planning law establishes a close link between comprehensive plans and zoning, by requiring consistency between comprehensive plans and general zoning and shoreland zoning ordinances enacted or amended on or after January 1, 2010. A description of existing zoning arrangements in cities, villages, towns, and counties in the Region follows.

State comprehensive planning law requires consistency between comprehensive plans and zoning ordinances.

General Zoning

General zoning divides a community into districts for the purpose of regulating the use of land, water, and structures; the height, size, shape, and placement of structures; and the density of population. Cities in Wisconsin are granted authority under Section 62.23 of the *Wisconsin Statutes* to enact general zoning. The same authority is granted to villages under Section 61.35 of the Statutes. General zoning in unincorporated areas is enabled under several statutory provisions. Counties are granted general zoning authority in unincorporated areas under Section 59.69 of the Statutes; however, a county zoning ordinance is only effective in towns that ratify the county ordinance. This is referred to as "county-town" zoning because it is administered jointly by the county and the ratifying towns.

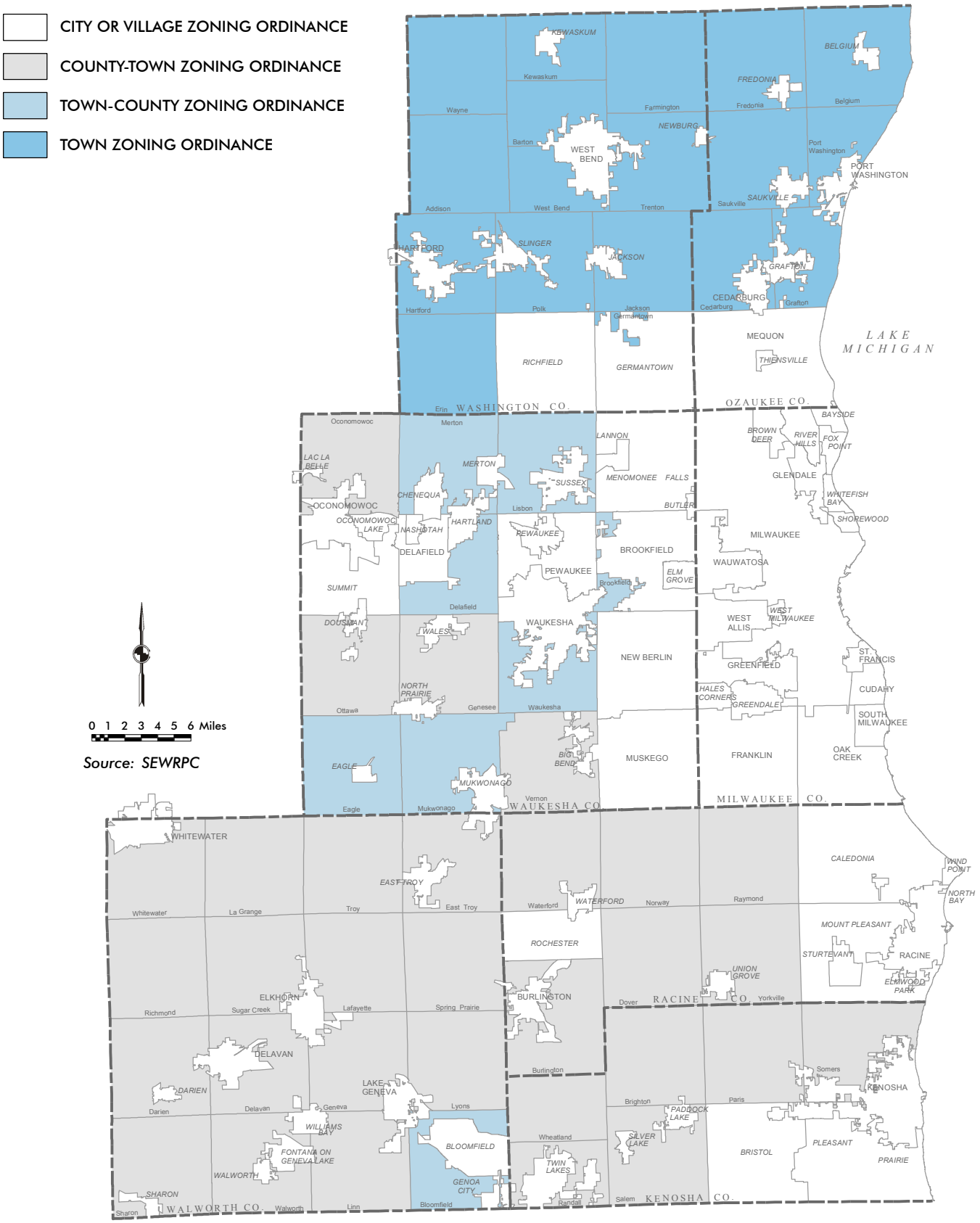
General zoning divides a community into districts to regulate the use of land, water, and structures; the height, size, and placement of structures; and population density. General zoning is in effect for all of the communities in the Region.

Towns that do not adopt a county zoning ordinance may adopt village powers to use city and village general zoning authority, subject to county board approval where a general county zoning ordinance exists. This is referred to as "town-county" zoning because no town zoning ordinance or ordinance amendment may take effect unless approved by a county board. A town may adopt a zoning ordinance under Section 60.61 of the Statutes in counties that have not adopted a general zoning ordinance, but only if the county board fails to adopt a county ordinance at the request of the town board concerned.

The status of general zoning in the Region in 2014 is shown on Map 2.25. General zoning was in effect in each of the 29 cities, 61 villages, and 57 towns. There were 31 towns under the jurisdiction of county zoning ordinances in Kenosha, Racine, Walworth, and Waukesha Counties.

In addition, Section 62.23 of the Statutes grants cities and villages the authority to enact extraterritorial zoning in adjoining unincorporated areas. Extraterritorial zoning jurisdiction is limited to the unincorporated areas within three miles of the corporate limits of a city of the first, second, or third class and within 1.5 miles of a city of the fourth class or a village. Cities and villages must follow a procedure that involves adjoining towns before enacting a permanent extraterritorial zoning ordinance and map.

Map 2.25
General Zoning Ordinances in the Region: 2014



Floodplain Zoning

Floodplain zoning is intended to preserve the floodwater conveyance and storage capacity of floodplain areas and to avoid flood-damage-prone urban development in flood hazard areas. Cities, villages, and counties (in their unincorporated areas) are required to adopt floodplain zoning under Section 87.30 of the *Wisconsin Statutes*, provided that the hydraulic and engineering data required to create the ordinance are available. The minimum standards for floodplain zoning ordinances are set forth in Chapter NR 116 of the *Wisconsin Administrative Code*. These regulations must govern filling and development activities within the entire 100-year recurrence interval floodplain, which is the area subject to inundation during a 100-year recurrence interval flood event. Local floodplain zoning regulations must prohibit nearly all forms of development in the floodway under minimum State requirements. The floodway is the area of the floodplain required to convey the 100-year recurrence interval peak flood flow. Local regulations must also restrict filling and development in the flood fringe, which consists of the portion of the floodplain located outside the floodway that would be covered by floodwaters during a 100-year flood event.

The status of floodplain zoning in the Region in 2014 is shown on Map 2.26. Floodplain ordinances have been adopted throughout almost all of Southeastern Wisconsin. They were in effect in all six counties with unincorporated territory, as well as 83 of the 90 cities and villages in the Region.

Shoreland Zoning

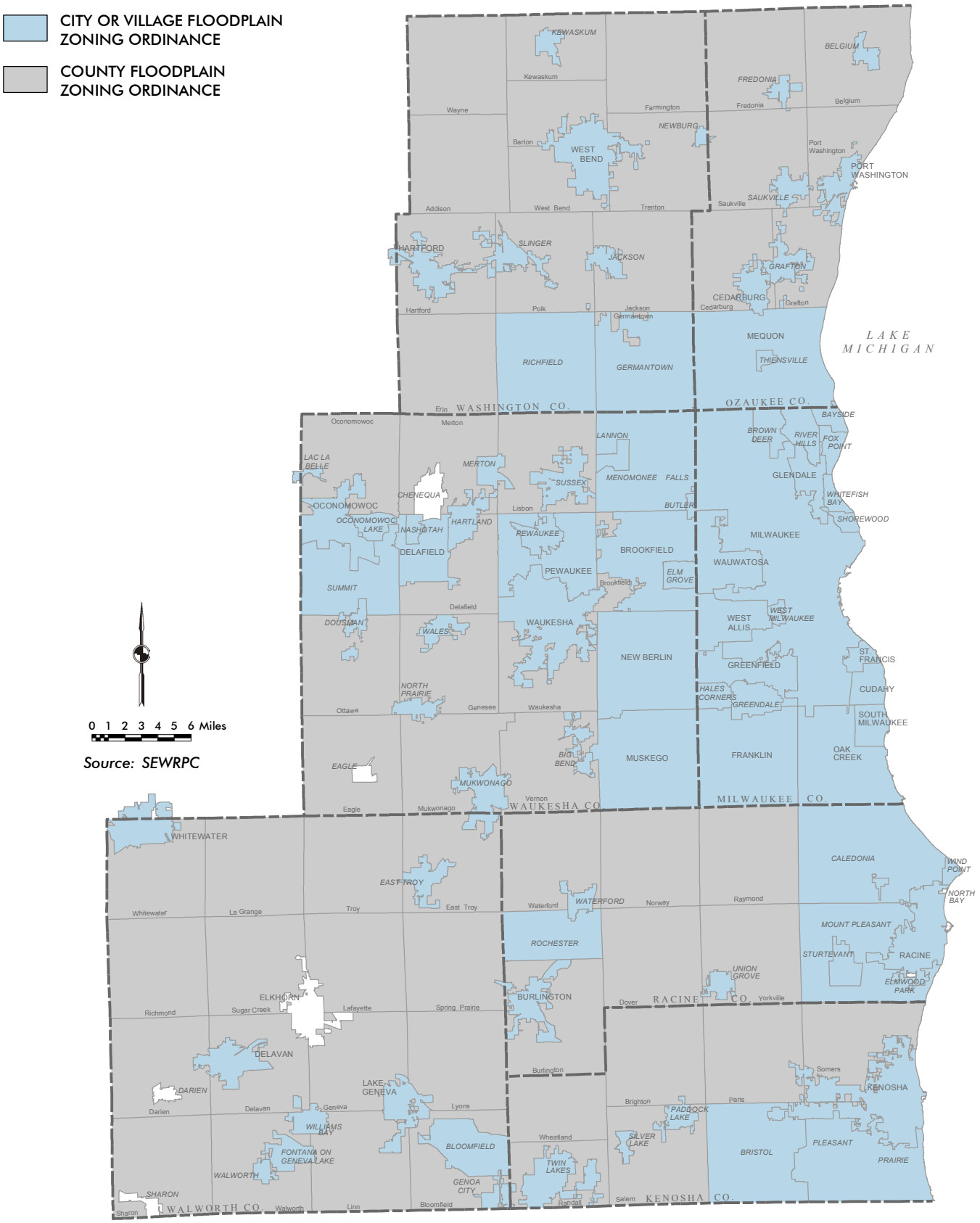
Section 59.692 of the *Wisconsin Statutes* requires counties to adopt regulations to ensure protection and proper development of shorelands in their unincorporated areas. Shoreland areas are those lands within 1,000 feet of a navigable lake, pond, or flowage, or within 300 feet of a navigable stream or to the landward side of the floodplain, whichever distance is greater. Minimum standards for county shoreland regulations are set forth in Chapter 115 of the *Wisconsin Administrative Code*. Shoreland regulations must include minimum requirements for lot sizes and building setbacks as well as restrictions on the cutting of trees and shrubbery. State regulations also require that counties place all shoreland wetlands at least five acres in size in a protective conservancy district. Under Sections 62.231 and 61.351 of the *Wisconsin Statutes*, cities and villages are also required to enact regulations that protect wetlands five acres in size lying in shoreland areas as defined above. Rules pertaining to city and village shoreland-wetland zoning are set forth in Chapter NR 117 of the *Wisconsin Administrative Code*.

The status of shoreland zoning in the Region in 2014 is shown on Map 2.27. Shoreland ordinances were in effect in each of the six counties with unincorporated areas. Shoreland-wetland zoning was in effect in 74 of the 90 cities and villages in the Region.

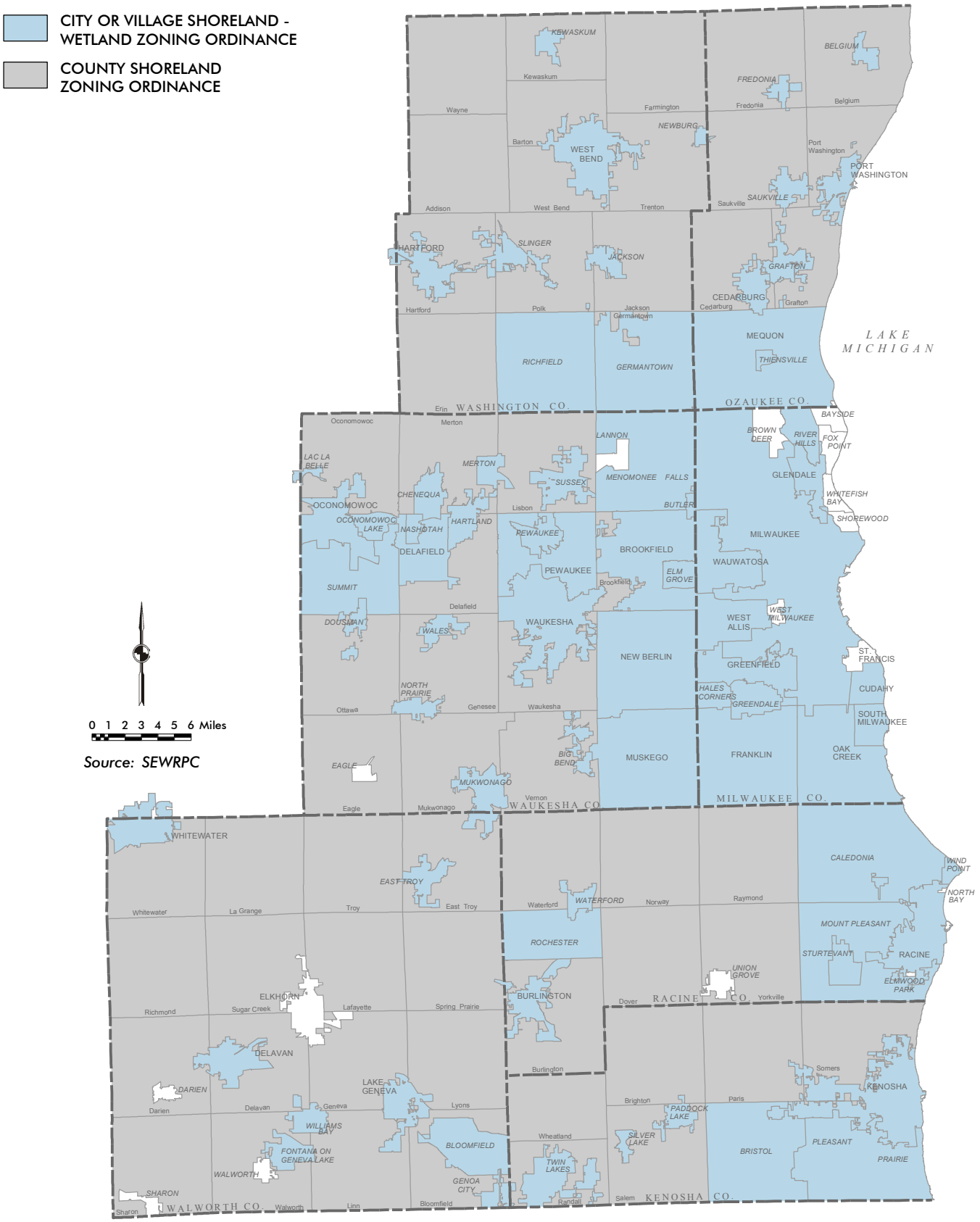
2.8 SUMMARY

A major inventory update effort was conducted in the early 2010s in support of preparing VISION 2050 and other elements of the comprehensive plan for the Region. This chapter presents a summary of the results of that inventory update pertaining to the population, economy, land use, sanitary sewer and water supply services, natural resource base, agricultural resource base, and existing planning framework within the Region. Transportation-related inventory and survey data are presented in Chapters 4 and 5 of this volume.

Map 2.26
Floodplain Zoning Ordinances in the Region: 2014



Map 2.27
Shoreland Zoning Ordinances in the Region: 2014



Demographic and Economic Base

- The population of the Region in 2010 was 2,020,000 persons, which is an increase of 4.6 percent (88,800 persons) over the 2000 population of 1,931,200 persons. The population increase in the Region between 2000 and 2010 can be largely attributed to natural increase. There was a natural increase of about 109,200 persons in the Region; however, there was a net out-migration of about 20,400 persons. All seven counties gained population, including Milwaukee County after three decades of decline. Although Milwaukee County gained population during the 2000s, its share of the regional population decreased by about 2 percent. The share of the other six counties remained about the same or increased slightly.

- The minority share of the total population has increased throughout the Region between 1980 and 2010; however, minority populations remain concentrated in the Region's largest cities.

- There were about 800,100 households in the Region in 2010. This is an increase of just over 51,000 households, or 6.8 percent, over the 2000 level of 749,000 households. The rate of growth in number of households in the Region during the 2000s exceeded the rate of population growth, which has been a continuing pattern observed since 1950. The differential growth rates in households and population over the long term have been accompanied by a decline in average household size. The average household size for the Region decreased from 2.52 persons in 2000 to 2.47 persons in 2010.

- The number of jobs in the Region, as reported by the U.S. Bureau of Economic Analysis, fluctuated somewhat between 2000 and 2010. The number of jobs decreased during the early 2000s, increased during the mid-2000s, and decreased again after 2008. This fluctuation resulted in a decrease of about 33,200 jobs, or 2.7 percent, during the 2000s, to 1,176,600 jobs in the Region in 2010. There was a long period of uninterrupted job growth between 1983 and 2000. Historically, both national and regional employment levels tend to fluctuate in the short-term, rising and falling in accordance with business cycles. The long period of uninterrupted job growth between 1983 and 2000 is unusual in this respect.

- Five of the seven counties in the Region gained jobs between 2000 and 2010. Kenosha County gained 7,000 jobs during the 2000s, which was the most of any county in the Region. There were also job increases in Washington County (3,600 jobs), Ozaukee County (2,100 jobs), Walworth County (1,500 jobs), and Waukesha County (1,000 jobs). The number of jobs decreased in both Milwaukee and Racine Counties, with much of the decrease occurring during the recession of the late 2000s.

- The shift in the regional economy from manufacturing to a service orientation continued during the 2000s. Manufacturing employment decreased by 31 percent between 2000 and 2010, and by 38 percent over the last four decades. Conversely, service-related employment increased by 10 percent during the 2000s, and by 183 percent over the last four decades. The State and the Nation have experienced a similar shift from manufacturing to service-related employment; however, both the Region and the State have a larger share of manufacturing relative to total employment than the Nation.

- The Region's per capita income was $25,900 in 2010, which is about the same as per capita income for the State and Nation. Per capita income in the Region decreased by 11.3 percent during the 2000s (measured in constant dollars). Constant dollar per capita income for Wisconsin and the Nation also decreased. The Region's median family income was $65,400 in 2010, which exceeded that of the State and Nation. Median family income (constant dollar) in the Region decreased by 11.0 percent during the 2000s, and also decreased for the State and the Nation.

Land Use

- Developed lands in the Region—consisting of lands that have been developed for residential; commercial; industrial; transportation, communication, and utility; governmental and institutional; and recreational uses—encompassed about 779 square miles, or 29.0 percent of the total area of the Region, in 2010. Residential land encompassed 401 square miles, accounting for more than half of the developed land area of the Region, followed by transportation, communication, and utilities, with 214 square miles. Commercial land and industrial land each encompassed just over 35 square miles. Governmental/institutional land and recreational land encompassed 37 square miles and 56 square miles, respectively.

- The developed land area of the Region increased by 67 square miles, or 9.4 percent, between 2000 and 2010, including the following: residential land—39.2 square miles, or 10.8 percent; commercial land—5.4 square miles, or 17.9 percent; industrial land—2.3 square miles, or 7.0 percent; transportation, communication, and utility land—11.1 square miles, or 5.5 percent; governmental and institutional land—3.3 square miles, or 9.8 percent; and recreational land—5.6 square miles, or 11.1 percent.

- Undeveloped lands encompassed about 1,911 square miles, or 71.0 percent of the total area of the Region in 2010. This includes 1,156 square miles of agricultural lands; 591 square miles of wetlands, woodlands, and surface water combined; and 165 square miles of unused land and other open land. Undeveloped lands decreased by 67 square miles, or 3.4 percent, between 2000 and 2010.

- The population density of the urban portion of the Region, based upon the Commission's urban growth analysis, decreased modestly over the past two decades from about 3,500 persons per square mile in 1990 to 3,300 in 2000 and 3,200 in 2010. This stands in marked contrast to the substantial decrease in urban population density that occurred in the Region between 1940 and 1980. The urban household density experienced an only slight decrease over the past two decades—from about 1,320 households per square mile in 1990 to 1,290 in 2000 and 1,260 in 2010.

Public Utilities

- Areas served by public sanitary sewers in 2010 encompassed about 525 square miles, or about 19.5 percent of the total area of the Region—compared to about 477 square miles, or about 17.7 percent of the Region in 2000. An estimated 1.80 million persons, or 89.0 percent of the regional population, were served by public sanitary sewers in 2010, compared to 1.71 million persons, or 88.7 percent of

the regional population, in 2000. The increase in the land area and population served primarily reflects new development designed to be served by sanitary sewers that occurred during the 2000s. Some of the increase is also the result of the retrofitting of certain developed areas—initially served by private onsite wastewater treatment systems—with public sanitary sewers.

- Areas served by public water utilities in 2010 encompassed about 444 square miles, or about 16.5 percent of the total area of the Region, compared to about 390 square miles, or about 14.5 percent of the Region in 2000. An estimated 1.68 million persons, or 83.2 percent of the regional population, were served by public water utilities in 2010, compared to 1.58 million persons, representing 81.9 percent of the regional population, in 2000. The increase in the land area and population served primarily reflects new urban development designed to be served by public water supply during the 2000s, and, to a lesser extent, the retrofitting of certain already developed areas—initially served by private wells—with public water supply service.

Natural Resource Base

- Surface and groundwater resources comprise an extremely important component of the natural resource base of the Region. The Region encompasses 101 major lakes (lakes of at least 50 acres in area) and 1,150 miles of perennial streams. In addition, the Region encompasses numerous lakes and ponds less than 50 acres in area and an extensive network of smaller, intermittent streams. Groundwater sustains lake levels and provides the base flows of streams in the Region. Groundwater also comprises a major source of water supply for domestic, municipal, industrial, and agricultural water users.

- A major subcontinental drainage divide, oriented in a generally northwesterly-southeasterly direction, bisects the Region. About 1,680 square miles, or 62 percent of the Region, are located west of the divide and drain to the Upper Mississippi River system; the remaining 1,009 square miles, or 38 percent, drain to the Great Lakes-St. Lawrence River system. The subcontinental divide is a major feature of the overall drainage pattern of the Region, having important implications for the use of Lake Michigan as a source of water supply. The Great Lakes Compact, implemented in Chapter 281 of the *Wisconsin Statutes*, prohibits the diversion of water from the Great Lakes Basin, with very limited exceptions.

- Upland woodlands encompassed about 191 square miles, or 7 percent of the total area of the Region, in 2010. Wetlands encompassed about 315 square miles, or 12 percent of the Region. Prairies, which once covered extensive areas of Southeastern Wisconsin, have been reduced to scattered remnants, primarily in the southern and western portions of the Region.

- A comprehensive inventory of "natural areas" and "critical species habitat sites" in the Region was completed by the Regional Planning Commission in 1994 and updated in 2009. Natural areas are tracts of land or water so little modified by human activity, or sufficiently recovered from the effects of such activity, that they contain intact native plant and animal communities believed to be representative of the landscape before European settlement. A total of 494 natural areas, encompassing a total of 101 square miles, have been identified

in the Region. Critical species habitat sites consist of areas that are important for their ability to support endangered, threatened, or rare plant or animal species. A total of 271 critical species habitat sites encompassing a total of 31 square miles have been identified. Most of the critical species habitat sites in the Region are located within the Commission-identified environmental corridors and isolated natural resource areas.

- The most important elements of the natural resource base and features closely related to that base—including wetlands; woodlands; prairies; wildlife habitat; major lakes and streams and associated shorelands and floodlands; and historic, scenic, and recreational sites—when combined result in essentially elongated patterns referred to by the Commission as "environmental corridors." "Primary" environmental corridors, which are the longest and widest type of environmental corridor, are generally located along major stream valleys, around major lakes, and along the Kettle Moraine; they encompassed 484 square miles, or 18 percent of the total area of the Region, in 2010. "Secondary" environmental corridors are generally located along small perennial and intermittent streams; they encompassed 79 square miles, or 3 percent of the Region, in 2010. In addition to the environmental corridors, "isolated natural resource areas," consisting of small pockets of natural resource base elements separated physically from the environmental corridor network, have been identified. Widely scattered throughout the Region, isolated natural resource areas encompassed about 70 square miles, or just under 3 percent of the Region, in 2010.

- Over the past decade, the combination of local controls and offsets implemented within and external to the Region, along with national vehicle emissions control requirements have resulted in a significant improvement in ambient air quality within the Region as well as nationally. The Region currently meets all national ambient air quality standards except for ozone. The EPA has designated Kenosha County east of IH 94 as a part of the Tri-State Chicago-Naperville, IL-IN-WI Marginal Nonattainment Area for the 2008 8-hour ozone standard. Ozone is formed when precursor pollutants, such as volatile organic compounds and nitrogen oxides, react in the presence of sunlight. The ozone air quality problem within the Region is a complex problem because ozone is meteorologically dependent. In addition, the ozone problem in the Region is believed to be attributable in large part to precursor emissions that are generated in the large urban areas located to the south and southeast and carried by prevailing winds into the Region. The ozone problem thus remains largely beyond the control of the Region and State and can be effectively addressed only through a multi-state abatement effort.

Agricultural Resource Base

- About 1,156 square miles, or 43 percent of the total area of the Region, were in agricultural use in 2010. This figure includes lands actually used for agriculture—primarily cultivated lands and lands used for pasture. Large, essentially uninterrupted blocks of agricultural land remain in the Region, particularly in outlying areas. In other areas, farmland is more fragmented, being intermixed with nonagricultural uses.

- Much of the existing agricultural land in the Region is covered by highly productive soils—comprised of soils in agricultural capability

Class I and Class II, as classified by the U.S. Natural Resources Conservation Service. Agricultural lands covered by Class I and Class II soils encompassed about 887 square miles, or 77 percent of all agricultural land in the Region, in 2010. The 2035 regional land use plan recommends the preservation of Class I and Class II soils insofar as practicable.

Existing Plans and Zoning

- The Regional Planning Commission has prepared and adopted a number of regional plans that together provide a comprehensive plan for the Region. The regional land use and transportation system plans are the most basic regional plan elements. Additional plan elements include water quality management, water supply, parks and open space, natural areas, and housing. Together, these plans set forth the fundamental concepts that are recommended to guide the development of Southeastern Wisconsin. Regional plan recommendations can be implemented, in part, by integrating them into county and local government comprehensive plans.

- The Wisconsin Legislature enacted legislation that expanded the scope and significance of comprehensive planning in the State in 1999. The legislation, sometimes referred to as the State's "Smart Growth" law, provides a framework for the development, adoption, implementation, and amendment of comprehensive plans by county, city, village, and town units of government. The law effectively requires the adoption of a comprehensive plan by cities, villages, towns, and counties that administer a general zoning ordinance, a shoreland zoning ordinance, a land subdivision ordinance, or an official mapping ordinance. The law requires consistency between comprehensive plans and such ordinances enacted or amended on or after January 1, 2010.

- Almost every city, village, and town in the Region has adopted a comprehensive plan per State legislation. Community comprehensive plans should be considered in the regional planning process. An important step in this process is to understand the amount of development that could be potentially accommodated by community comprehensive plans. It is estimated that local comprehensive plans for sewered communities in the Region could potentially accommodate a total of about 1,052,000 housing units and 2,091,000 jobs under full development—or "buildout"—conditions. In comparison, the 2035 regional land use plan, which is based upon an intermediate-growth scenario, indicates that sewered communities in the Region may be expected to accommodate a total of 864,000 housing units and 1,327,000 jobs by the year 2035.

- A zoning ordinance is a public law that regulates the use of property in the public interest. It is one of the most important measures available to a community to implement its comprehensive plan. Local zoning regulations include general zoning regulations and special-purpose regulations governing floodland and shoreland areas. General zoning was in effect in each of the 29 cities, 61 villages, and 57 towns in the Region in 2014. Floodplain zoning was in effect in all six counties with unincorporated territory, as well as 83 of the 90 cities and villages in the Region. Shoreland ordinances were in effect in each of the six counties with unincorporated areas. Shoreland-wetland zoning was in effect in 74 of the 90 cities and villages in the Region.