

2.0 Watershed Jurisdictions, Demographics, & Transportation Network

The Pike River watershed contains portions of 2 counties and 7 municipalities (Table 7, Figure 16). The watershed is pretty well split between Kenosha County (19,745 acres/54%) and Racine County (17,126 acres/46%). The entire watershed falls within the boundaries of a municipality. The municipality of Somers occupies the largest share of the watershed (14,349 acres/39%) followed by Mount Pleasant (11,187 acres/30%). The municipalities of Kenosha (4,830/13%), Racine (3,269 acres/9%) and Sturtevant (2,572 acres/ 7%) cover smaller portions, while Pleasant Prairie and Elmwood Park combined occupy the remaining 644 acres/2% of the watershed. Of these various municipalities only Sturtevant and Elmwood Park lie completely within the watershed boundaries.

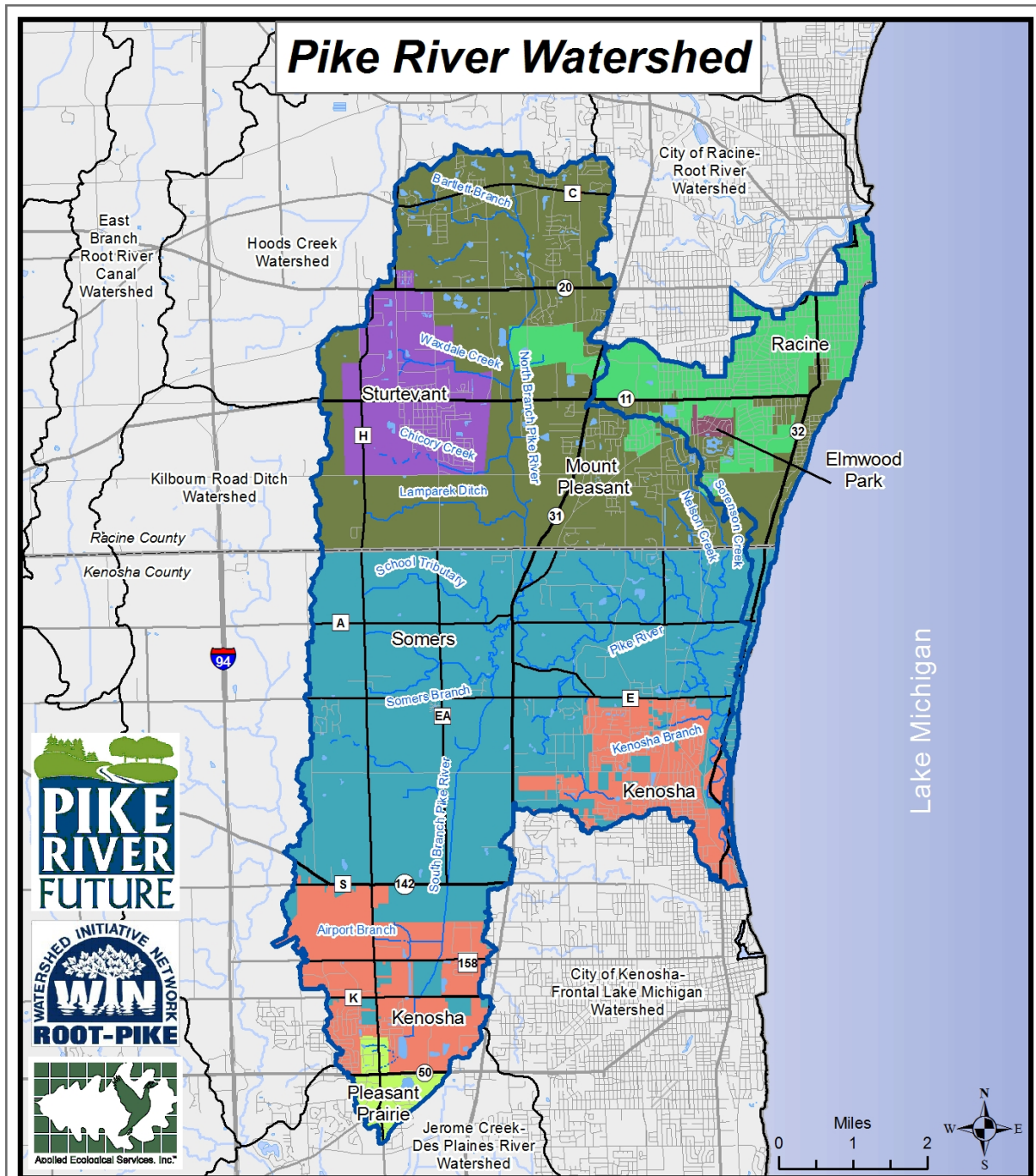


Downtown Racine

Table 7. County and municipal jurisdictions.

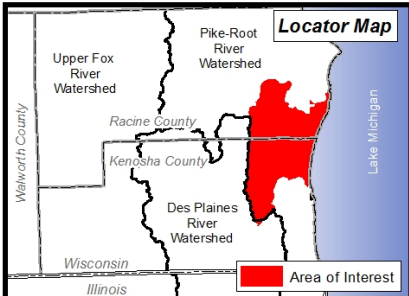
Jurisdiction	Acres	% of Watershed
County	36,871	100%
Kenosha	19,745	54%
Racine	17,126	46%
Municipalities	36,871	100%
Elmwood Park	98	0.3%
Kenosha	4,830	13.1%
Mount Pleasant	11,187	30.3%
Pleasant Prairie	566	1.5%
Racine	3,269	8.9%
Somers	14,349	38.9%
Sturtevant	2,572	7.0%

Source: Kenosha County, Racine County, SEWRPC



DATA SOURCES Kenosha County
 Racine County
 SEWRPC

Fig. 16: Watershed Jurisdictions



Legend	
County Boundary	Municipality
Watershed Boundary	Elmwood Park
Adjacent Watershed	Kenosha
Open Water	Mount Pleasant
Streams	Pleasant Prairie
Intermittent Stream	Racine
Wetland Flow	Somers
Major Road	Sturtevant
Minor Road	

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2.1 Jurisdictional Roles and Responsibilities

Many types of natural resources throughout the United States are protected to some degree under federal, state, and/or local law. At the national level, the Clean Water Act (CWA) is the strongest tool in protecting water resources. Within the state of Wisconsin, the authority to administer the provisions of the CWA has been delegated to the Wisconsin Department of Natural Resources (WDNR). The U.S. Army Corps of Engineers (USACE), with the approval of Wisconsin Department of Natural Resources (WDNR) regulates wetlands through Sections 401 and 404 of the CWA. Section 402 of the CWA establishes the National Pollution Discharge Elimination System (NPDES), while Section 319, Nonpoint Source Management Program, was created in order to further support state and local nonpoint source efforts not addressed by the NPDES permits. Section 319 permits states to receive grant money towards activities such as technical assistance, financial assistance, education, training, technology transfer, demonstration projects, and monitoring to assess the success of nonpoint source implementation projects. Section 303 (d) of the CWA requires states to catalogue impaired waters, prioritize them, and calculate Total Maximum Daily Loads (TMDLs) of pollutants a waterbody can receive and still safely meet the water quality standards set for it within their borders. Wisconsin has also utilized Section 208, or the Priority Watershed Program, to develop a nonpoint source program. WDNR identified watersheds and lakes in most need of nonpoint pollution abatement and encouraged the use of nonpoint source controls to improve water quality (Kent, 2001).

The Safe Drinking Water Act also plays a role in protecting surface and groundwater resources. In Wisconsin, the Wellhead Protection Program includes both mandatory and voluntary initiatives aimed at protecting groundwater resources.

The U.S. Fish and Wildlife Service (USFWS) and WDNR protect natural areas and threatened and endangered species. Local municipalities also have codes that address other natural resource issues. Watershed protection in Kenosha and Racine Counties is primarily the responsibility of county and municipal level government.

Additionally, Wisconsin is part of three interstate compact agreements that also have jurisdiction over Lake Michigan. The first is the Great Lakes Basin Compact which established the Great Lakes Commission and gave it the authority to research and make recommendations regarding water use and development in the Great Lakes. The Council of Great Lakes Governors established the Great Lake Protection Fund to finance projects used to protect and restore the Great Lakes. Finally, the Great Lakes Charter, signed by the Council of Great Lakes Governors, regulates water transfers out of the Great Lakes Drainage basin in excess of 100,000 gallons per day.

The Wisconsin Coastal Management Program, established under the Federal Coastal Zone Management Act, also serves to protect the Lake Michigan coast and manage this valuable resource.

Land development affecting water resources (rivers, streams, lakes, isolated wetlands, and floodplains) is regulated by the USACE when “Waters of the U.S.” are involved. These types of waters include any wetland or stream/river that is hydrologically connected to navigable waters. The USACE primarily regulates filling activities and requires buffers or wetland mitigation for developments that impact wetlands.

The balance of land development within the watershed is regulated by county and municipal ordinances. Within Kenosha County, regulating ordinances include the General Zoning and Shoreland/Floodplain Zoning Ordinance (last amended March 2, 2010); the Stormwater Management, Erosion Control, and Illicit Discharge Ordinance (effective March 5, 2010); and the Subdivision Control Ordinance (January 20, 2004). Racine County has a Subdivision Ordinance and Zoning Ordinance, but no dedicated regulating ordinances for either stormwater or erosion control.

Beyond county-level regulations, each municipality has their own applicable regulations. Municipalities in the watershed may or may not provide additional watershed protection above and beyond existing watershed ordinances under local municipal codes. Most municipal codes provide ordinances covering businesses regulations, building regulations, zoning regulations, new subdivision regulations, stormwater management, streets, utilities, landscaping/restoration, tree removal, etc. Elmwood Park has a Land Development and Zoning Ordinance. The City of Kenosha has a Division and Combinations of Land Ordinance, Land-Disturbing Erosion and Sediment Control Ordinance, Post-Construction Stormwater Management Ordinance, and an Illicit Stormwater Discharge and Connections Ordinance. Mount Pleasant's regulating ordinances include a Stormwater Management Ordinance, Subdivision Ordinance, and Zoning Ordinance. Regulations in Pleasant Prairie include a Stormwater Management and Stormwater Drainage System Facilities Ordinance, a Construction Site Maintenance and Erosion Control, Land Division and Development Control Ordinance, and their Zoning Ordinance. Within the City of Racine development is regulated under their Zoning Ordinance. Somers has an Erosion Control Ordinance, Land and Division Platting Control Ordinance, and a Construction and Effect of Ordinances. Lastly, Sturtevant has an Erosion Control Ordinance, Shoreland/Wetland Zoning Ordinance, Zoning Code Ordinances, Subdivision Code Ordinances, a Floodplain Zoning Ordinance, Stormwater Ordinance, and Construction and Effect of Ordinances. Municipal codes present opportunities for outlining and requiring some of the recommendations in this plan such as conservation and/or low density development, Special Service Area (SSA) or watershed protection fees, and use of native trees and plants in landscapes.

Other governmental and private entities with watershed jurisdictional or technical advisory roles include the Federal Emergency Management Agency (FEMA), the Bureau of Land Management, the Natural Resources Conservation Service, the US Fish and Wildlife Service, the Department of Commerce, the Department of Transportation, the Land and Water Conservation Board, the Council of Great Lakes Governors, the Department of Agriculture, Trade and Consumer Protection (DATCP), Southeastern Wisconsin Regional Planning Commission (SEWRPC), Kenosha County Office of Planning and Development's Land & Water Conservation Division, and Racine County Land Conservation Division. The USFWS and WDNR play a critical role in natural resource protection, particularly for rare or high quality habitat and threatened and endangered species. They protect and manage land that often contains wetlands, lakes, ponds, and streams. County Boards oversee decisions made by respective county governments and therefore have the power to alter policies and regulations. The Land Conservation Committees provide technical resource assistance to the public and other regulatory agencies. Although the Land Conservation Committees have no regulatory authority, they influence watershed protection. The Racine County Department of Public Works – Division of Parks, the Kenosha County Department of Public Works – Division of Parks, the City of Kenosha Department of Public Works, the Somers Parks and Recreation division, the Mount Pleasant Parks and Recreation Committee, and the Elmwood Park Parks and Recreation Department all play important roles in protecting and managing parts of the Pike River watershed.

2.2 Planning, Policy and Regulation

Planning, policy, and regulation are the foundation of watershed protection, because the process sets the minimum standards for development that occurs or is proposed to occur in the vicinity of water resources. It is hoped that recommendations from this watershed plan would be referenced in future comprehensive plans and implemented in ordinances. In many cases, municipal codes also lay the foundation for the types of trees that can be removed from sites as well as what types of plant communities and species that can be replanted. County stormwater ordinances are the primary preventative measure that can be used to standardize for the respective county the requirements that proposed developments must meet. Monitoring and enforcement of implemented municipal codes and county regulations falls in the hands of local municipalities or County agencies. It is up to these enforcing bodies to communicate effectively and discuss often the problems with how ordinance language is interpreted and amendments that may help clarify certain regulations.

Planning/zoning guidance provides another level of watershed and natural resource protection. Most planning and zoning guidance is in the form of local floodplain or zoning ordinances that regulate onsite land use practices to ensure adequate floodplain, wetland, stream, lake, pond, soil, and other natural resource protection. Zoning ordinances and overlay districts, in particular, define what type of development is allowed and where it can be located relative to natural resources. Other examples of planning/zoning forms of resource protection include riparian and wetland buffers, impervious area reduction, open space/greenway dedication, conservation easements and conservation and/or low density development.

Generally speaking, to improve the impact of planning/zoning guidance on water resource protection, improved coordination and communication between county and local governments should be assured and consistent across all municipalities. Watershed development regulations should be made very clear to local enforcement officers; local planners and zoning boards should consider revisions to local ordinances that address watershed, subwatershed, and/or site-specific natural resource issues. For example, communities with less impervious development now should revise their zoning ordinances sooner rather than later in order to adequately prevent the types of development that contribute to flooding, degrade wildlife habitat, and reduce water quality. Several recommended regulatory changes are included in Section 8.1: Programmatic Action Plan.

2.3 Watershed Demographics

The Southeastern Wisconsin Regional Planning Commission (SEWRPC) published a Multi-Jurisdictional Comprehensive Plan for both Kenosha and Racine Counties that projects regional change out to 2035 and provides reliable growth forecasts. SEWRPC's 2000 to 2035 forecasts of population, households, and employment were used to project how these attributes will impact the Pike River watershed. These forecasts were created under the guidance of SEWRPC's Advisory Committee on Regional Population and Economic Forecasts and published as *Technical Report No. 10 – The Economy of Southeastern Wisconsin* and *Technical Report No. 11 – The Population of Southeastern Wisconsin*. The Committee utilized the cohort-component method to develop their population projections; used the projection of the population in households, the projection of average household size, and the application of the projected household size to the projected household population to achieve household projections; and used a disaggregate approach to the preparation of

employment projections that took into account the explicit consideration of employment in selected industry groups and the preparation of projections for those groups.

Table 8 includes SEWRPC’s population, households, and employment forecast changes between 2000 and 2035 for the Pike River watershed area. The data is generated by Township, Range, and quarter Section and is depicted on Figures 17-19. Note: AES used GIS to overlay the Pike River watershed boundary onto SEWRPC’s quarter Section data. If any part of a quarter Section fell inside the watershed boundary, the statistics for the entire quarter Section were included in the analysis.

The combined population of the watershed is expected to increase from 92,988 in 2000 to 123,103 by 2035, a 32% increase. The highest population increase is expected in the southern portion of the watershed within Kenosha and Somers and also in the central western portion of the watershed in the southeastern part of Sturtevant. Some growth is also forecasted in Mount Pleasant.

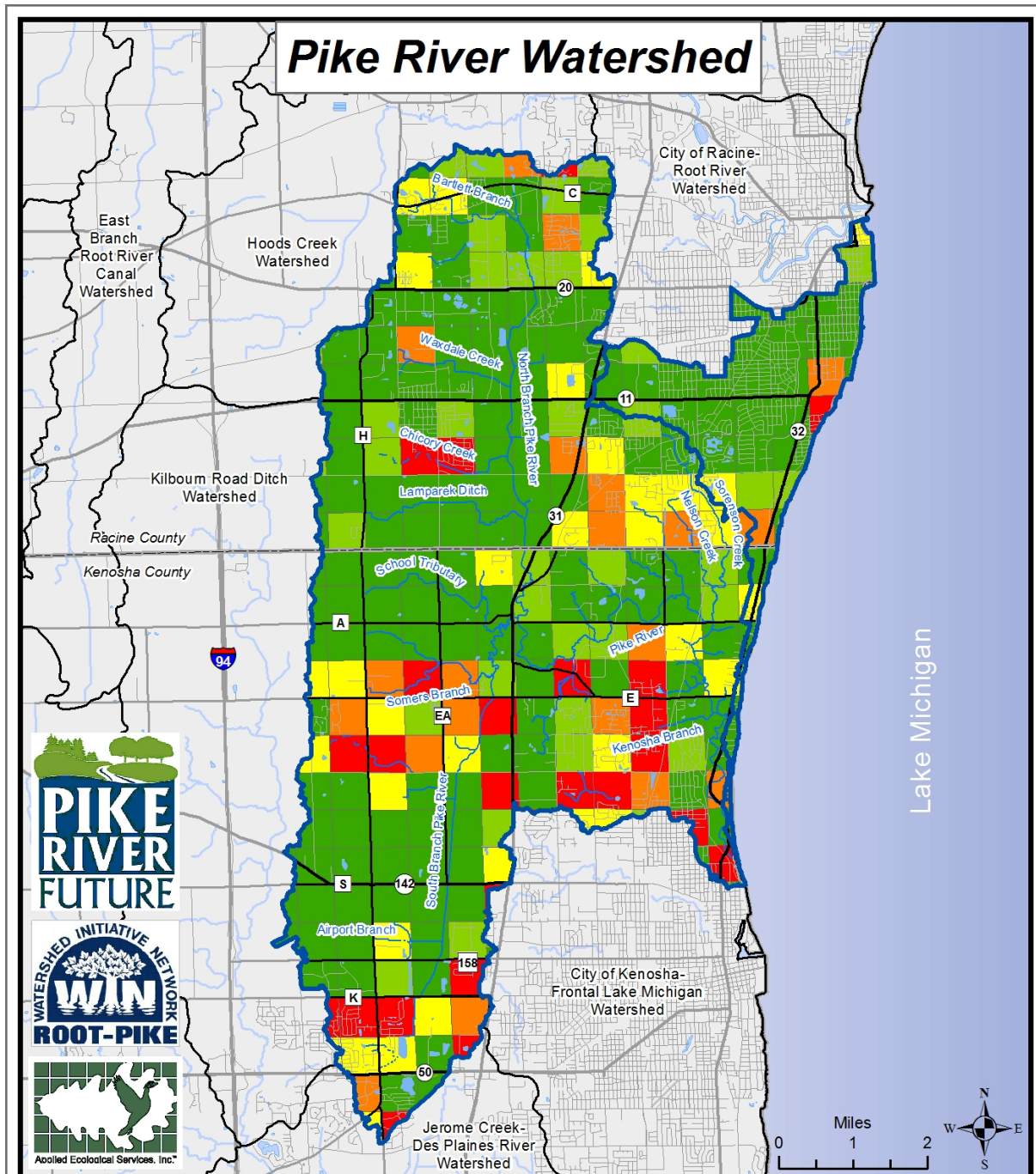
Similarly, projected household change generally follows change in population. The combined number of households in the watershed is expected to increase from 35,718 in 2000 to 49,135 by 2035, a 38% increase. Most of the housing increases occur within the municipalities of Somers and Kenosha across the center of the watershed, while some additional housing increases should occur, but to a lesser extent, within Mount Pleasant and Sturtevant.

Employment change is expected to increase from 62,824 jobs in 2000 to 68,636 by 2035, a 9% increase. The majority of employment change will take place as expansions in commercial development along highways and arterial streets in the towns of Somers, Sturtevant, and parts of Kenosha.

Table 8. SEWRPC 2000 data and 2035 forecast data.

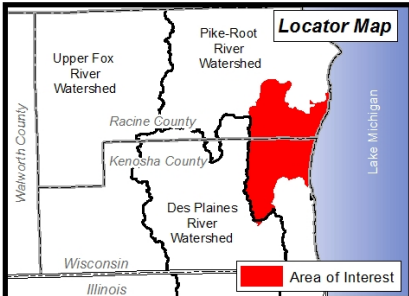
Data Category	2000	2035	Change (2000-2035)
Population	92,988	123,103	30,115
Household	35,718	49,135	13,417
Employment	62,824	68,636	5,812

Source: Southeastern Wisconsin Regional Planning Commission 2035 Forecasts



DATA SOURCES: Kenosha County
 Racine County
 SEWRPC

Fig. 17: Population Change Year 2000 - 2035



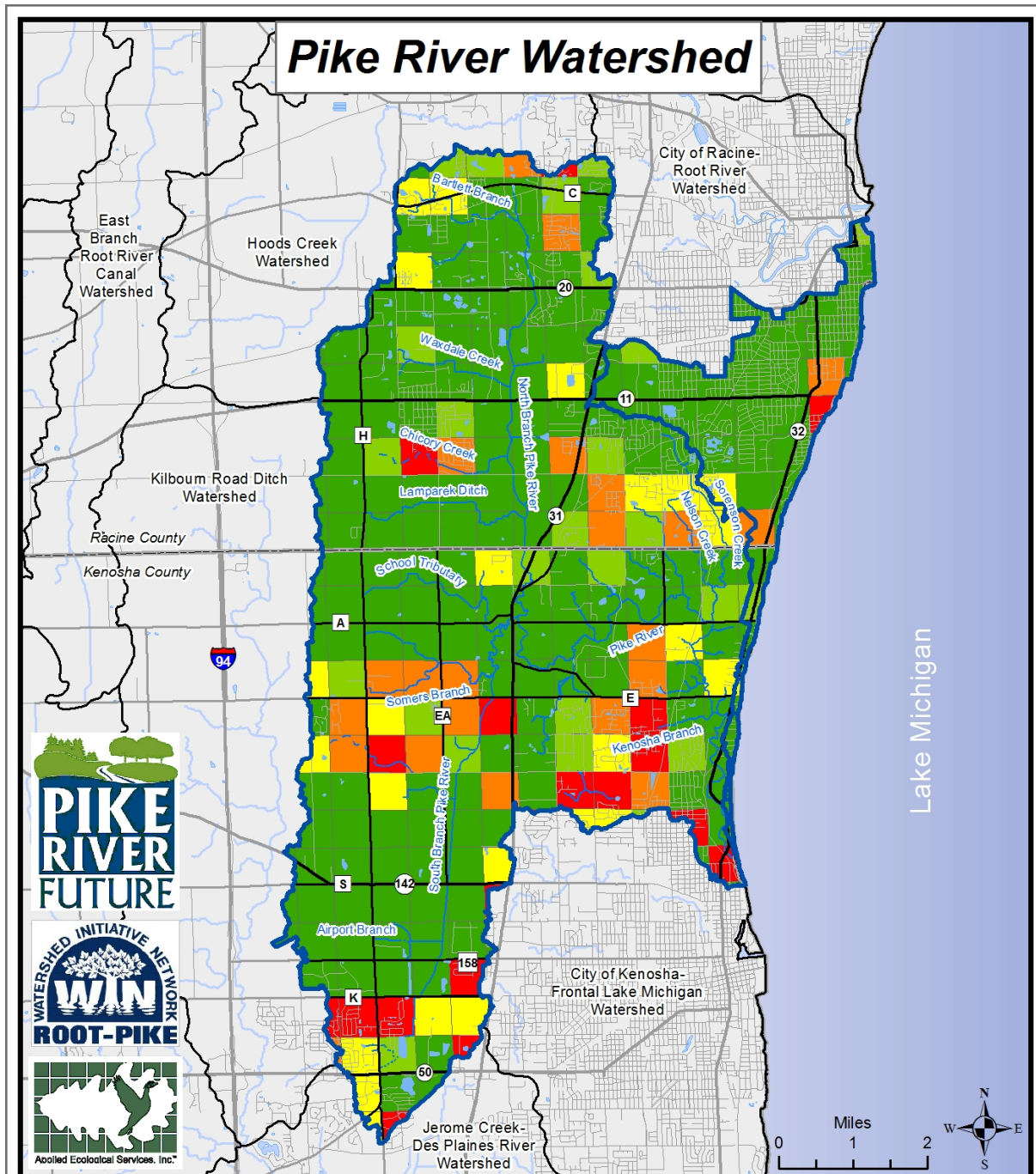
Legend

- County Boundary
- Watershed Boundary
- Adjacent Watershed
- Open Water
- Streams
- Intermittent Stream
- Wetland Flow
- Major Road
- Minor Road

Population Change 2000 - 2035 (# of people)

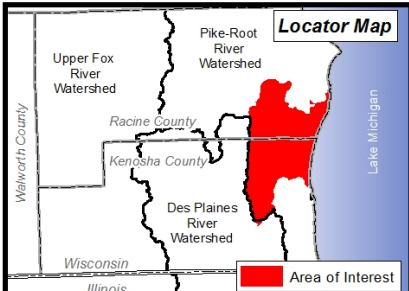
- 139 to 0
- 1 to 100
- 101 to 300
- 301 to 500
- 501 to 1076

Aug 01, 2013



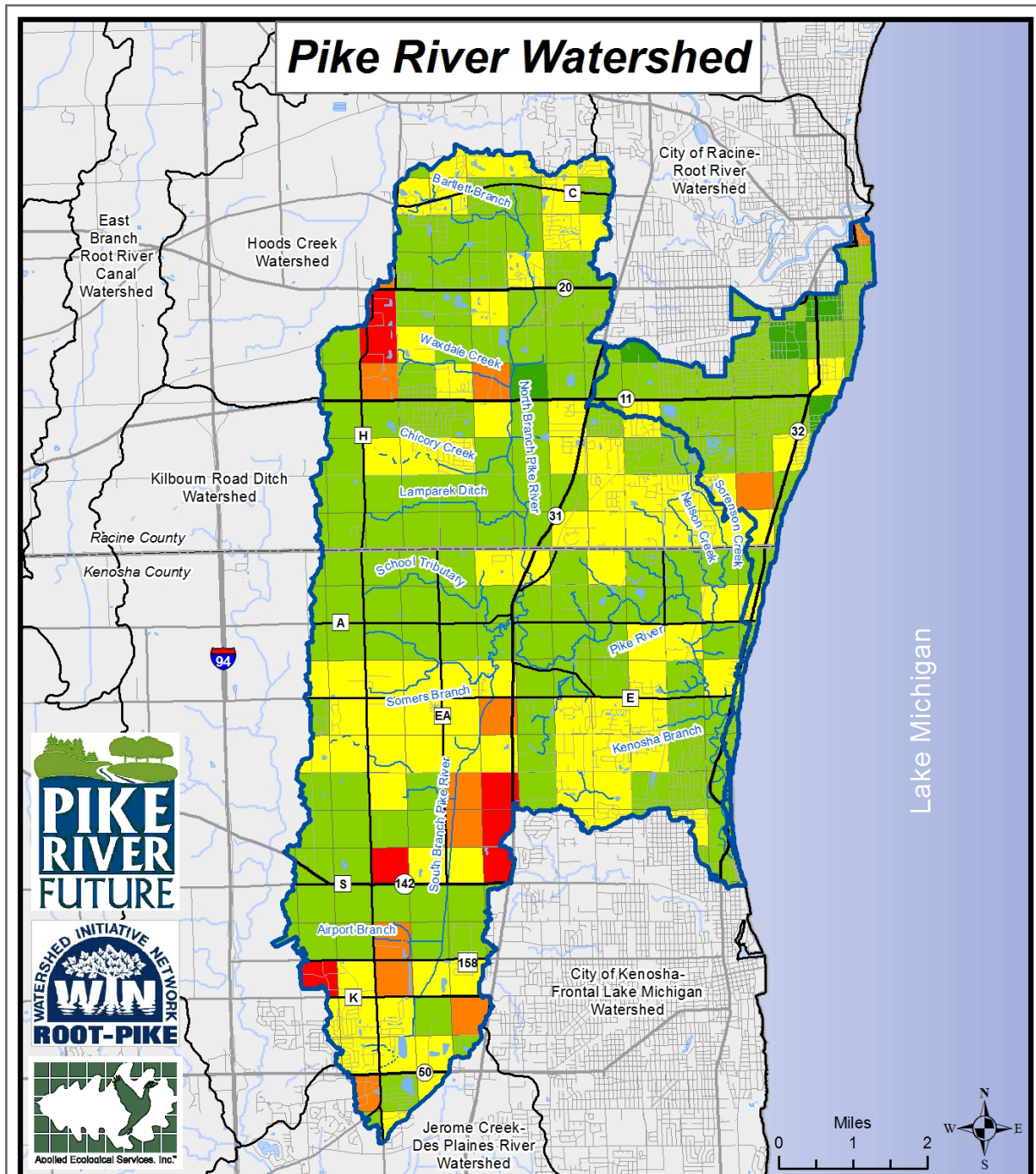
DATA SOURCES Kenosha County
Racine County
SEWRPC

Fig. 18: Household Change Year 2000 - 2035



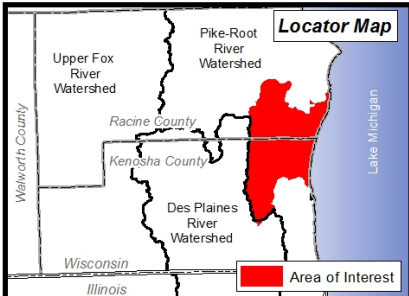
Legend	
	County Boundary
	Watershed Boundary
	Adjacent Watershed
	Open Water
	Streams
	Intermittent Stream
	Wetland Flow
	Major Road
	Minor Road
Household Change 2000 - 2035 (# of people)	
	0 to 20
	21 to 70
	71 to 130
	131 to 230
	231 to 449

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DATA SOURCES: Kenosha County, Racine County, SEWRPC

Fig. 19: Employment Change Year 2000 - 2035



Legend	
County Boundary	Employment Change 2000 - 2035 (# of people)
Watershed Boundary	
Adjacent Watershed	
Open Water	
Streams	
Intermittent Stream	-758 to -350
Wetland Flow	-349 to 0
Major Road	1 to 250
Minor Road	251 to 500
	501 to 1,112

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2.4 Transportation Network

Roads

Major roads that are present in the Pike River watershed include State Highways 11, 20, 31, 32, 50, 142, and 158 (Figure 20). State Trunk Highway 11 runs east-west and connects Racine with points as far west as Dubuque, Iowa. State Trunk Highway 20 also runs east-west along the northern end of the watershed, connecting Racine with Whitewater, Wisconsin. State Trunk Highway 31 runs north-south through the center of the watershed. It passes through Racine, Mount Pleasant, Somers, and Kenosha connecting up to Greenbay Road north of the watershed. State Trunk Highway 32 is another north-south road that runs along the Lake Michigan coast from Illinois to Michigan and travels through Kenosha, Somers, Mount Pleasant, and Racine. State Trunk Highway 50 runs east-west and passes through the south-most portion of the watershed, connecting Delavan to Highway 32. State Trunk Highway 142 runs east-west as a connection between Kenosha and Burlington. State Trunk Highway 158 runs east-west and connects downtown Kenosha to US Interstate 94 which lies just to the west of the watershed. Additionally, County Trunk Highways A, C, E, EA, H, K, KR and S also serve as thoroughfares throughout the watershed.

Railroads

Three major rail lines fall within the Pike River watershed: Metra's Union Pacific North line, a Union Pacific freight line, and the Canadian Pacific Railway lines. The eastern Union Pacific North line was bought by the Union Pacific Railroad (UP) in 1995 and they operate part of the Metra passenger service between Chicago and Kenosha, with intermediate stops in Waukegan and many of the northeastern Chicago suburbs. The line runs close to Lake Michigan within the watershed. This railroad was built in 1854 by the Chicago and Milwaukee Railway and, later in 1863, merged with the Green Bay, Milwaukee and Chicago Railroad. A Union Pacific freight line runs through the center of the watershed along South Branch. Studies have been conducted on the feasibility of extending rail service from Kenosha north to Milwaukee along this route, but the project has been put on hold indefinitely as of August 2011.



Freight traffic on the Union Pacific North line near Racine.

The Canadian Pacific Railway line runs along the western length of the Pike River watershed. This line began operation in 1847 as the Milwaukee Road, merged into the Soo Line Railroad in 1986, but is currently known as the Chicago, Milwaukee, St. Paul and Pacific Railroad. The line runs from Chicago to Seattle, with stops in Milwaukee and Minneapolis-St. Paul. Amtrak currently runs two passenger service routes on these tracks – the Hiawatha, running between Chicago and Milwaukee, and the Empire Builder, which runs from Chicago to Seattle as a long-distance service only.

Airports

The southwestern edge of the Pike River watershed is also home to the Kenosha Regional Airport (ENW), a publically owned airport built in 1958. Today it has three paved runways and is owned and managed by the City of Kenosha. It has an air traffic control tower and a terminal and is used predominantly for the transportation of goods and supplies to and from local businesses. It operates under an Airport Overlay District written into the Kenosha County General Zoning and Shoreland/Floodplain Zoning Ordinance and serves larger corporate aircraft, air cargo traffic, and smaller general aviation aircraft.

Harbors

None of the areas harbors fall within the Pike River watershed boundaries.

Bike Paths and Trails

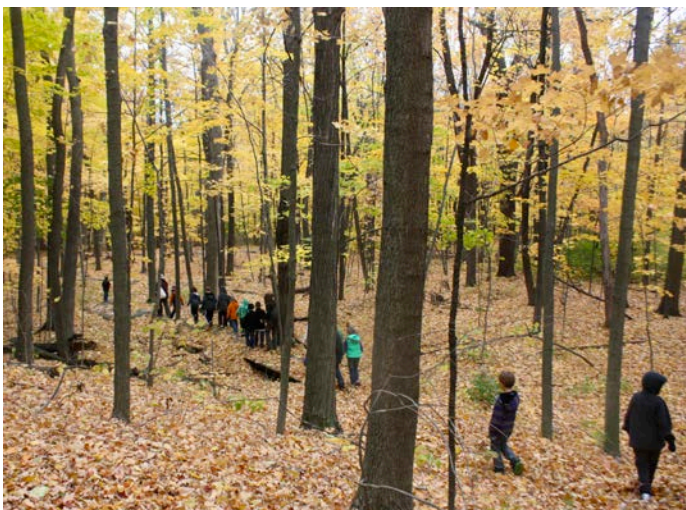
The Pike River watershed contains approximately 36 miles of bike paths and trails combined. This includes designated bike lanes, shared roadways, bike routes, and hiking trails all at a county-wide level. The North Shore Trail runs along the northeastern edge of the watershed, connecting north up to the Milwaukee-Racine-Kenosha (MRK) Trail and the Oak Leaf Trail system in Milwaukee both via the Lake Michigan Bike Path (a connector that runs through downtown Racine) and connecting to the Kenosha County Bike Trail to the south. The North Shore Trail is covered with crushed stone and is an old railroad bed converted to a bike trail. The Racine-Sturtevant Trail is a paved east-west trail that starts at the northern end of the North Shore Trail and extends toward Sturtevant. There are plans to extend this trail further in the future. The Kenosha County Bike Trail, also known as the Pike Bike Trail within the city of Kenosha, is also mostly a rails-to-trails path and extends all the way to the Illinois border along dedicated paths and shared roadways.



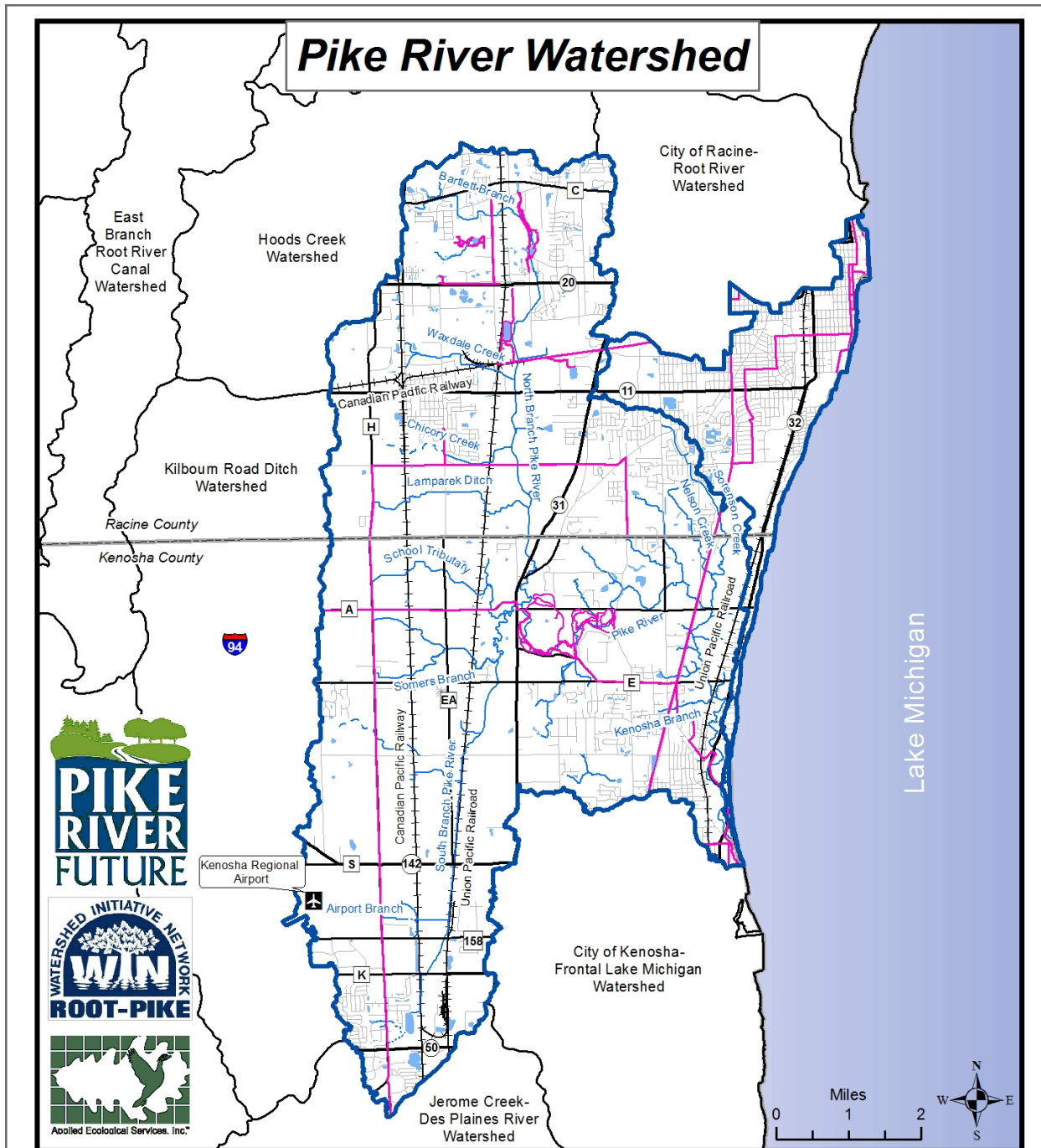
Kenosha County Bike Trail, Source: Chuck's Adventures

In addition to the county-wide bike and trail network, there are many additional municipal and park district bike paths and trails throughout the watershed.

In its 2035 Comprehensive Plans for both Racine and Kenosha Counties, SEWRPC also has identified almost 4 miles of proposed bike and trail expansions and connections throughout the watershed as well as 106 miles of arterial roads that can be upgraded in the future to accommodate bike lanes, shared roadways, bike routes, or bike trails.

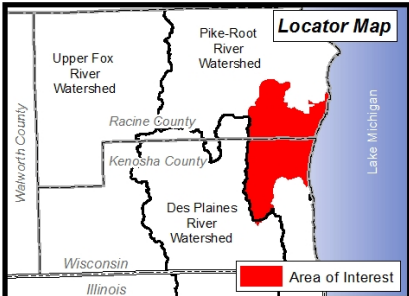


Hiking trails at Hawthorn Hollow. Source: Lori Artiomov.



DATA SOURCES Kenosha County Crispell-Snyder
 Racine County Village of Mt. Pleasant
 SEWRPC City of Racine

Fig. 20: Transportation Network



Legend

County Boundary	Airport
Watershed Boundary	Railroad
Adjacent Watershed	Existing Trails/Bike Paths
Open Water	
Streams, Rivers	
Intermittent Stream	
Wetland Flow	
Major Road	
Minor Road	

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