AGRICULTURAL, NATURAL, AND CULTURAL RESOURCES ELEMENT 5

Credit: Washington County

5.1 INTRODUCTION

The Agricultural, Natural, and Cultural Resources Element is one of the nine elements of a comprehensive plan required by Section 66.1001 of the *Wisconsin Statutes*. Section 66.1001(2)(e) of the *Statutes* requires this element to compile goals, objectives, policies, and programs for conserving and effectively managing agricultural, natural, and cultural resources including the following:

- Groundwater
- Forests
- Productive agricultural areas
- Environmentally sensitive areas
- Threatened and endangered species
- Stream corridors
- Surface water
- Floodplains
- Metallic and nonmetallic mineral resources
- Parks, open spaces, and recreational resources
- Historical and cultural resources
- Community design

The conservation and wise use of agricultural and natural resources and the preservation of cultural resources are fundamental to achieving strong and stable physical and economic development as well as maintaining community identity. The Washington County multi-jurisdictional comprehensive plan recognizes that agricultural, natural, and cultural resources are limited and very difficult or impossible to replace if damaged or destroyed. Information on the characteristics and location of agricultural, natural, and cultural resources in the County is needed to help properly locate future land uses. This information is necessary to avoid serious environmental problems and to ensure natural resources are protected.

This chapter provides inventory information on existing agricultural, natural, and cultural resources in Washington County and each town and village participating in the multi-jurisdictional comprehensive planning process. This chapter includes information regarding soil types, existing farmland, topography and geology, nonmetallic mining resources, water resources, woodland resources, natural areas and critical

species habitats, primary environmental corridors, isolated natural resource areas, park and open space sites, and cultural (historical and archaeological) resources. The planning recommendations set forth in Chapter 12 are directly related to the inventory of these resources.

5.2 INVENTORY INFORMATION

The base year for inventory data presented in this chapter ranges from 2015 to 2018. Much of the inventory data has been collected through regional land use and natural area planning activities conducted by the Southeastern Wisconsin Regional Planning Commission (SEWRPC). Additional inventory data has been collected from and by Washington County, local units of government, and State and Federal agencies including the Wisconsin Department of Natural Resources (WDNR); the Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP); the State Historical Society of Wisconsin; and the U.S. Department of Agriculture (USDA).

Soils and Agricultural Resources

Soil Survey

The USDA Soil Conservation Service, now the Natural Resources Conservation Service (NRCS), issued a soil survey for Washington County in 1971.[43] Soils were identified and mapped and organized by soil association, soil series, and soil type. The soil survey results, including the attributes of each soil type, are now available on the NRCS website as part of the Soil Survey Geographic (SSURGO) database. Unless otherwise noted, the soil information in this chapter was obtained from the SSURGO database.

The soil survey can play an important role in land use decisions. The information contained in the soil survey can help identify areas of the County that are suitable for agricultural use, areas with limitations for development due to wet soils or bedrock near the surface, and areas where marketable nonmetallic mineral deposits may be present.

Soil Associations

A soil association is a landscape that has a distinctive pattern of soils. It normally consists of one or more major soils and at least one minor soil, and is named for the major soils. Map 5.1 shows soil associations in Washington County and those portions of the Village of Newburg and City of Hartford that extend outside the County. The map provides a general idea of the soils in the County and is useful for comparing different parts of the County. Planning decisions should be based on the more detailed soils information, including soil mapping units and interpretations for various land uses, contained in the soil survey. The seven soil associations in Washington County are briefly described as follows:

Washington County consists of seven soil associations varying in suitability for agriculture and development.

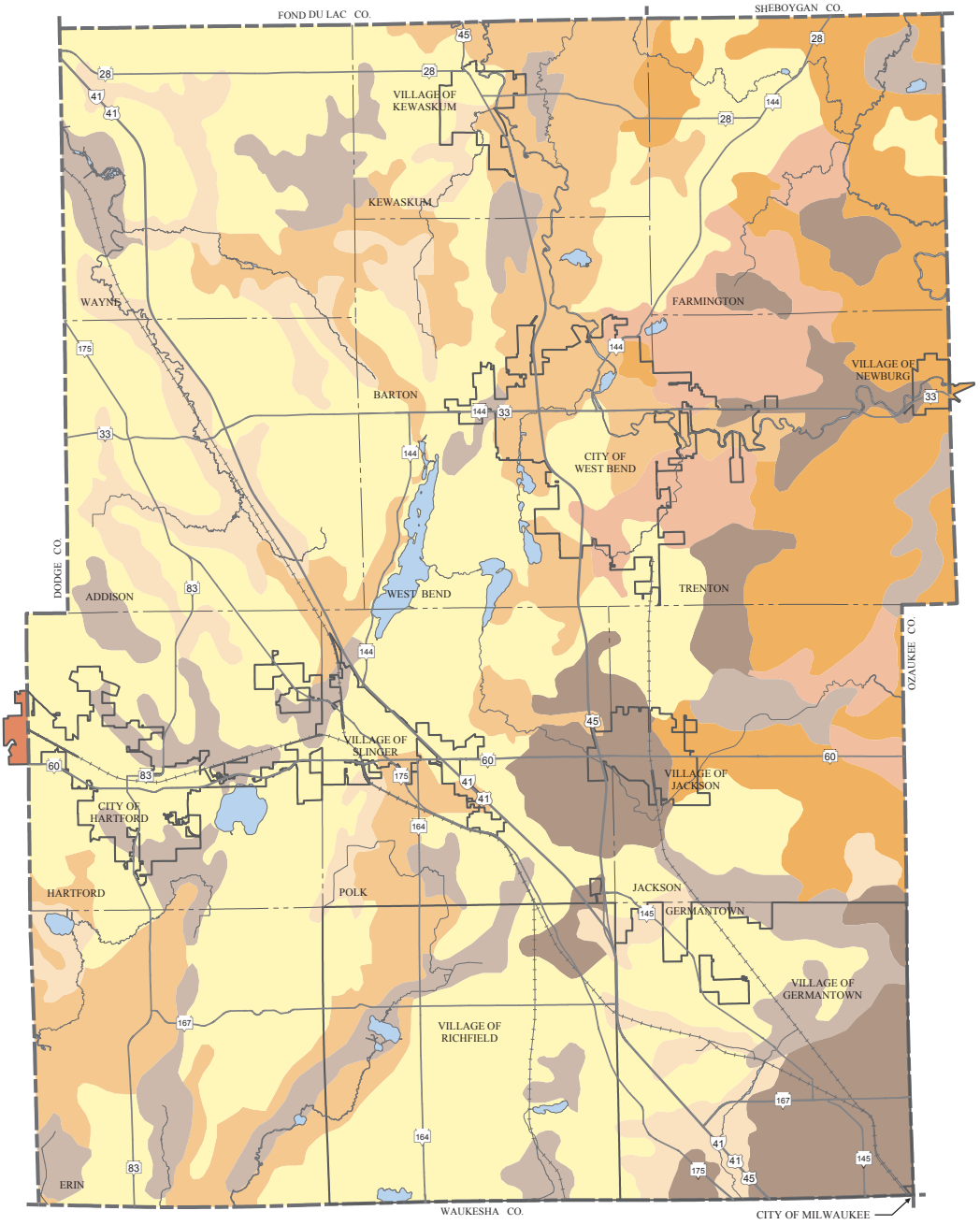
The *Brookston-Pella-Lamartine association* consists of generally poorly-drained soils that have a subsoil of clay loam or silty clay loam, formed in loess and underlying loam to sandy loam glacial till. This association encompasses about 8 percent of the County in scattered locations, generally along streams and trending diagonally across the County from northwest to southeast.

The *Casco-Fox-Rodman association* consists of well-drained soils that have a subsoil of gravelly sandy loam to clay loam, very shallow to moderately deep over gravel and sand, on outwash terraces. This association encompasses about 15 percent of the County. These locations are generally on lower elevations within the Kettle Moraine in the north-central and southwestern portions of the County.

The *Casco-Hochheim-Sisson association* contains well-drained soils that have a subsoil of loam to clay loam over lake-laid silt and fine sand in gravel and sand outwash, or in sandy loam glacial till on uplands.

[43] *Documented in the Soil Survey, Washington County, Wisconsin, USDA Soil Conservation Service, June 1971.*

Map 5.1
General Soil Associations in Washington County



- BROOKSTON-PELLA-LAMARTINE ASSOCIATION
- CASCO-FOX-RODMAN ASSOCIATION
- CASCO-HOCHHEIM-SISSON ASSOCIATION
- COLWOOD-BOYER-SISSON ASSOCIATION
- THERESA-LAMARTINE-HOCHHEIM ASSOCIATION
- HOCHHEIM-THERESA ASSOCIATION
- HOUGHTON-PALMS-ADRIAN ASSOCIATION
- OZAUKEE-MARTINTON-SAYLESVILLE ASSOCIATION
- SURFACE WATER

N

0 1 2 3 Miles

Source: USDA-Natural Resources Conservation Service and SEWRPC

This association is located in the eastern part of the County in the townships of Farmington, Trenton, and Jackson, encompassing about 10 percent of the County. The portion of the Village of Newburg in Ozaukee County, about 53 acres, is also within this soil association.

The *Colwood-Boyer-Sisson association* contains both well- and poorly-drained soils that have a subsoil of sandy loam or silty clay loam over lake-laid silt and fine sand or gravel and sand outwash on plains and dissected terraces. This association is located in the northeastern part of the County and encompasses about 5 percent of the County.

The *Hochheim-Theresa association* contains well-drained soils that have a subsoil of clay loam, formed in loess with underlying sandy loam to loam glacial till on uplands. This is the predominant soil association, encompassing about 44 percent of the County. Much of the central and western parts of the County are in this soil association.

The *Houghton-Palms-Adrian association* contains very poorly drained organic soils along drainageways, in depressions, and in old lakebeds. This association encompasses about 10 percent of the County in scattered locations.

The *Ozaukee-Martinton-Saylesville association* contains generally well-drained soils that have a subsoil of silty clay loam to clay over silty clay loam glacial till or lake-laid silt and clay on ground moraines and lacustrine basins. This association is located in the eastern half of the County and encompasses about 8 percent of the County.

That portion of the City of Hartford located in Dodge County, which totals about 300 acres, is located in the *Theresa-Lamartine-Hochheim* association. This association includes deep, generally well-drained soils with a subsoil of silt and loam.

Saturated Soils

Soils that are saturated with water or that have a water table at or near the surface, also known as hydric soils, pose significant limitations for most types of development. High water tables often cause wet basements and poorly-functioning absorption fields for private onsite wastewater treatment systems (POWTS). The excess wetness may also restrict the growth of landscaping plants and trees. Wet soils also restrict or prevent the use of land for crops, unless the land is artificially drained. Map 5.2 depicts hydric soils in Washington County identified by the NRCS and the Washington County Land and Water Conservation Division as of 2016. The number of acres of hydric soils in the County and each local government is shown in Table 5.1. Although such areas are generally unsuitable for development, they may serve as important locations for restoration of wetlands, as wildlife habitat, and for stormwater detention.

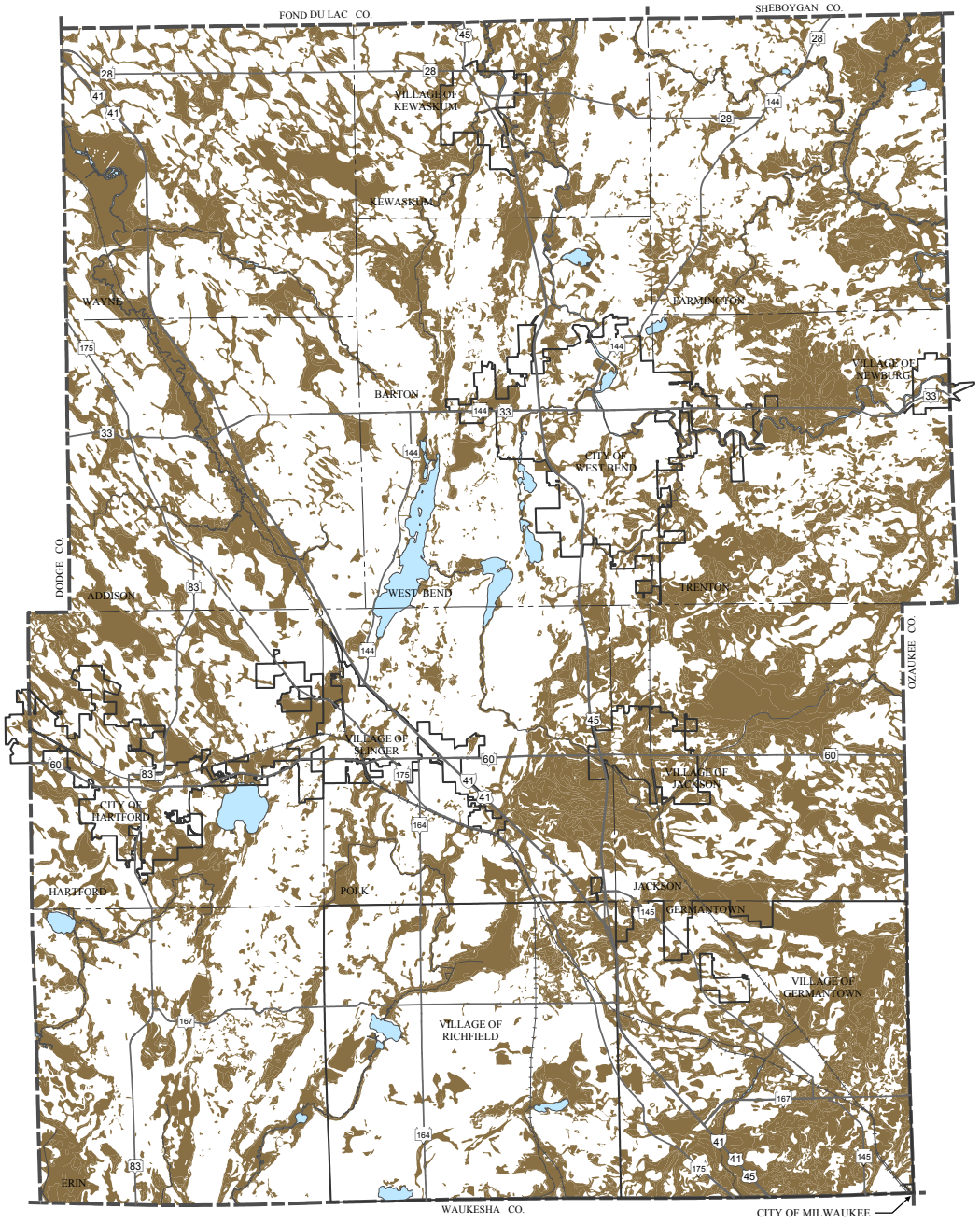
Soils that are saturated with water or that have a water table at or near the surface, also known as hydric soils, pose significant limitations for most types of development.

Depth to Bedrock

Areas where bedrock is at or near the surface pose significant limitations for most types of development. If depth to bedrock is shallow, excavation for septic tanks and drain fields needed for conventional POWTS may be difficult and expensive and the septic system may operate poorly. Bedrock at or near the surface also limits development by increasing the costs of constructing a basement.

The NRCS rates the limitations as severe if the depth to bedrock is equal to or less than three feet from the surface. The number of acres with soil depth to bedrock equal to or less than three feet in the County and each local government is shown on Map 5.3 and in Table 5.2. Areas with bedrock near the surface are

Map 5.2
Saturated Soils in Washington County: 2016



SATURATED (HYDRIC) SOILS

SURFACE WATER

Source: USDA-Natural Resources Conservation Service and SEWRPC

0 1 2 3 Miles

concentrated in the southeast and eastern portions of the County. Although high bedrock may limit or increase the cost of urban development, it may serve as important locations for the extraction of stone.

Soil Suitability for Agricultural Production

The NRCS has classified the agricultural capability of soils based on their general suitability for most kinds of farming. These groupings are based on the limitations of the soils, the risk of damage when used, and the way in which the soils respond to treatment. Generally, lands with Class I and II soils are considered "National Prime Farmlands" and lands with Class III soils are considered "Farmlands of Statewide Significance." Class I soils have few limitations, the widest range of use, and the least risk of damage when used. The soils in the other classes have progressively greater natural limitations. Class II soils have some limitations that reduce the choice of plants that can be grown, or require moderate conservation practices to reduce the risk of damage when used. Class III soils have severe limitations that reduce the choice of plants, require special conservation practices, or both, and Class IV soils have very severe limitations. Class V, VI, and VII soils are considered suitable for pasture but not for crops, and Class VIII soils are rough, shallow, or otherwise limited to the extent that they do not produce economically viable yields of crops, forage, or wood products.

The location and amount of Class I, II, and III soils, as presented on Map 5.4 and in Table 5.3, were an important consideration when farmland preservation areas were identified in the first County farmland preservation plan (adopted in 1981) and town land use and master plans prior to the adoption of town comprehensive plans. The County farmland preservation plan[44] used the following criteria to designate Primary Farmlands: farms with at least 50 percent of soils classified as Class I, II, or III, located within a farming block of at least 640 acres, and having a minimum farm size of 35 acres. Farms less than 35 acres were included if used for the production of specialty crops or livestock, provided the soil criteria and minimum farming block criteria were met.

The NRCS has developed an alternative method for identifying areas to be preserved as farmland. This method is known as the Land Evaluation and Site Assessment (LESA) system. LESA is a numeric system for rating potential farmland preservation areas by evaluating soil quality (LE or land evaluation) and

Table 5.1
Saturated Soils in Washington County Communities: 2016

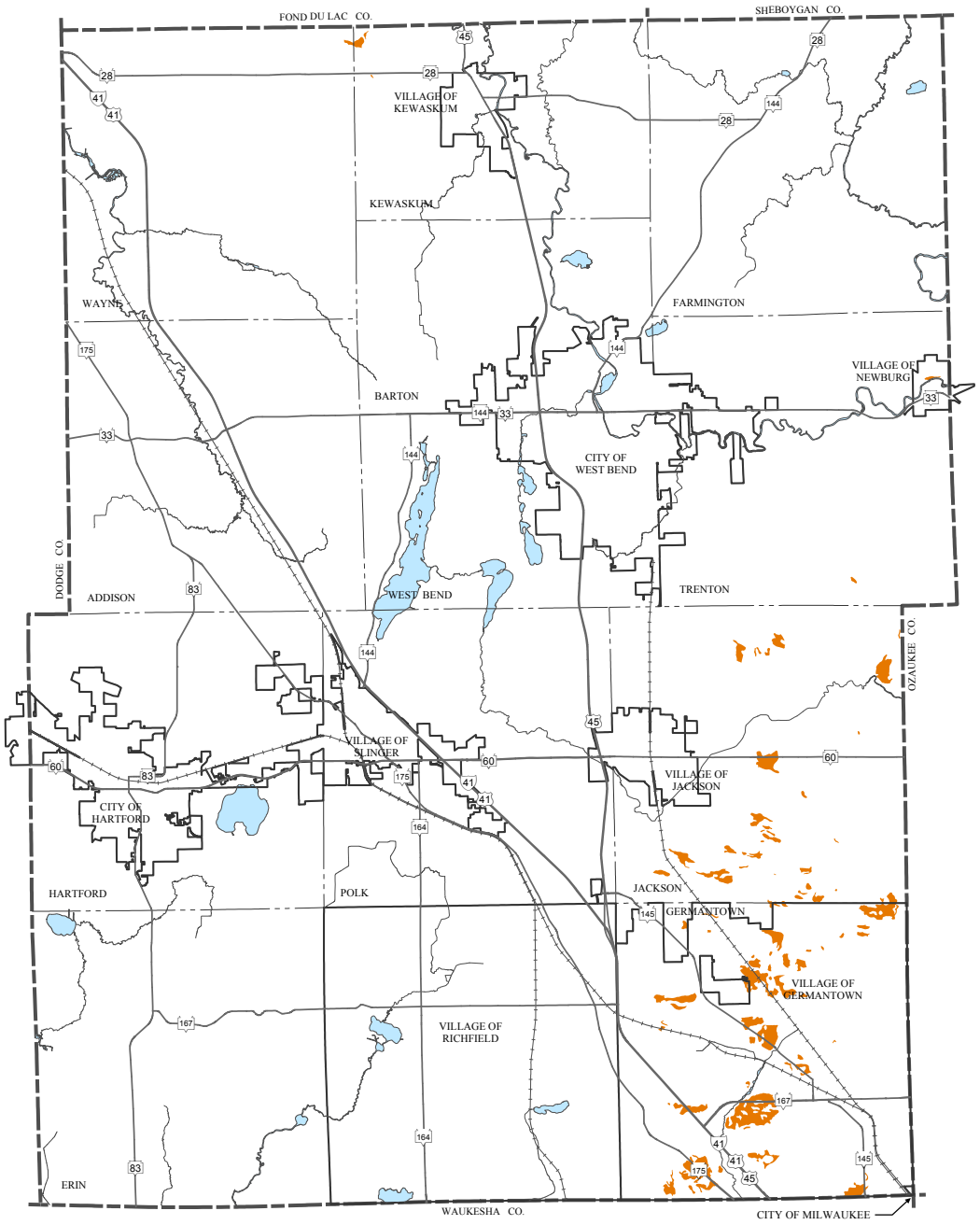
Local Government	Saturated Soils (acres)	Percent of Local Government
Partnering Governments		
Village of Jackson	822	41
Village of Kewaskum	444	30
Village of Newburg	96	18
Town of Addison	7,094	31
Town of Barton	3,525	28
Town of Erin	6,423	28
Town of Farmington	7,307	31
Town of Germantown	588	51
Town of Hartford	5,801	32
Town of Jackson	10,386	50
Town of Kewaskum	4,407	31
Town of Polk	4,880	24
Town of Trenton	7,733	37
Town of Wayne	9,460	41
Non-Partnering Governments		
City of Hartford	1,720	35
City of West Bend	2,338	24
Village of Germantown	9,236	42
Village of Richfield	4,923	21
Village of Slinger	746	22
Town of West Bend	1,593	15
Washington County	89,970	32

Source: Natural Resources Conservation Service, Washington County, and SEWRPC

Class I and II soils are considered "National Prime Farmlands." Class I soils have few limitations, the widest range of use, and the least risk of damage when used. Class II soils have some limitations.

[44] *Documented in* Farmland Preservation Plan, Washington County, Wisconsin, *August 1981, prepared by the firm of Stockham and Vandewalle under the direction of the Washington County Park and Planning Commission and the Washington County Farmland Preservation Planning Technical Advisory Committee.*

Map 5.3
Areas with Bedrock at or Near the Surface in Washington County: 2016



AREAS WITH BEDROCK AT OR WITHIN THREE FEET OF THE SURFACE

SURFACE WATER

N

0 1 2 3 Miles

Source: USDA-Natural Resources Conservation Service and SEWRPC

geographic variables (SA or site assessment). LESA conducted as part of the first comprehensive plan is shown on Map 5.5. LESA was used as one of six criteria to identify farmland preservation areas as part of the updated Washington County farmland preservation plan (see Map 2.2 in Chapter 2).[45]

Existing Farmland

Agricultural lands in 2015 were identified by SEWRPC through the regional land use inventory conducted as part of the regional planning program. The land use inventory identified croplands, pasture lands, orchards, nurseries, specialized farming, and non-residential farm buildings. Farm residences, together with a 20,000 square foot dwelling site, are classified as single-family residential land uses.[46] Based on the land use inventory, about 119,134 acres, representing almost 43 percent of the County, were in agricultural use in 2015. It should be noted that this figure includes lands actually used for agriculture—primarily cultivated lands and lands used for pasture—and excludes the wetland and woodland portions of farm fields.

Map 5.6 and Table 5.4 show farmland in 2015, categorized as follows:

- Cultivated Lands, which includes lands used for the cultivation of crops such as row crops, grain crops, vegetable crops, and hay.
- Pasture and Unused Agricultural Lands, which includes lands used as pasture and lands that were formerly cultivated or used for pasture that have not yet succeeded to a wetland or woodland plant community.
- Orchards, Nurseries, and Specialty Crops, which includes lands used for orchards, nurseries, sod farms, and specialty crops such as mint, ginseng, and berry fields. Greenhouses are not included in this category, but are shown as commercial on the existing land use map in Chapter 6.
- Farm Buildings, which includes barns, silos, and other buildings used to store farm equipment or supplies or house farm animals.

Cultivated lands were the predominant type of agricultural use in the County and in each local government, accounting for about 84 percent of agricultural land in the County in 2015.

Table 5.2
Depth to Bedrock in Washington County Communities

Local Government	Area with Depth to Bedrock at or Less Than Three Feet (acres)	Percent of Local Government
Partnering Governments		
Village of Jackson	--	--
Village of Kewaskum	--	--
Village of Newburg	8.4	1.6
Town of Addison	--	--
Town of Barton	--	--
Town of Erin	--	--
Town of Farmington	--	--
Town of Germantown	24.2	2.1
Town of Hartford	--	--
Town of Jackson	537.8	2.5
Town of Kewaskum	24.6	0.2
Town of Polk	--	--
Town of Trenton	5.4	--[a]
Town of Wayne	7.7	--[a]
Non-Partnering Governments		
City of Hartford	--	--
City of West Bend	--	--
Village of Germantown	1,332.4	6.1
Village of Richfield	--	--
Village of Slinger	--	--
Town of West Bend	--	--
Washington County	1,940.5	0.7

[a] *Less than 0.05 percent.*

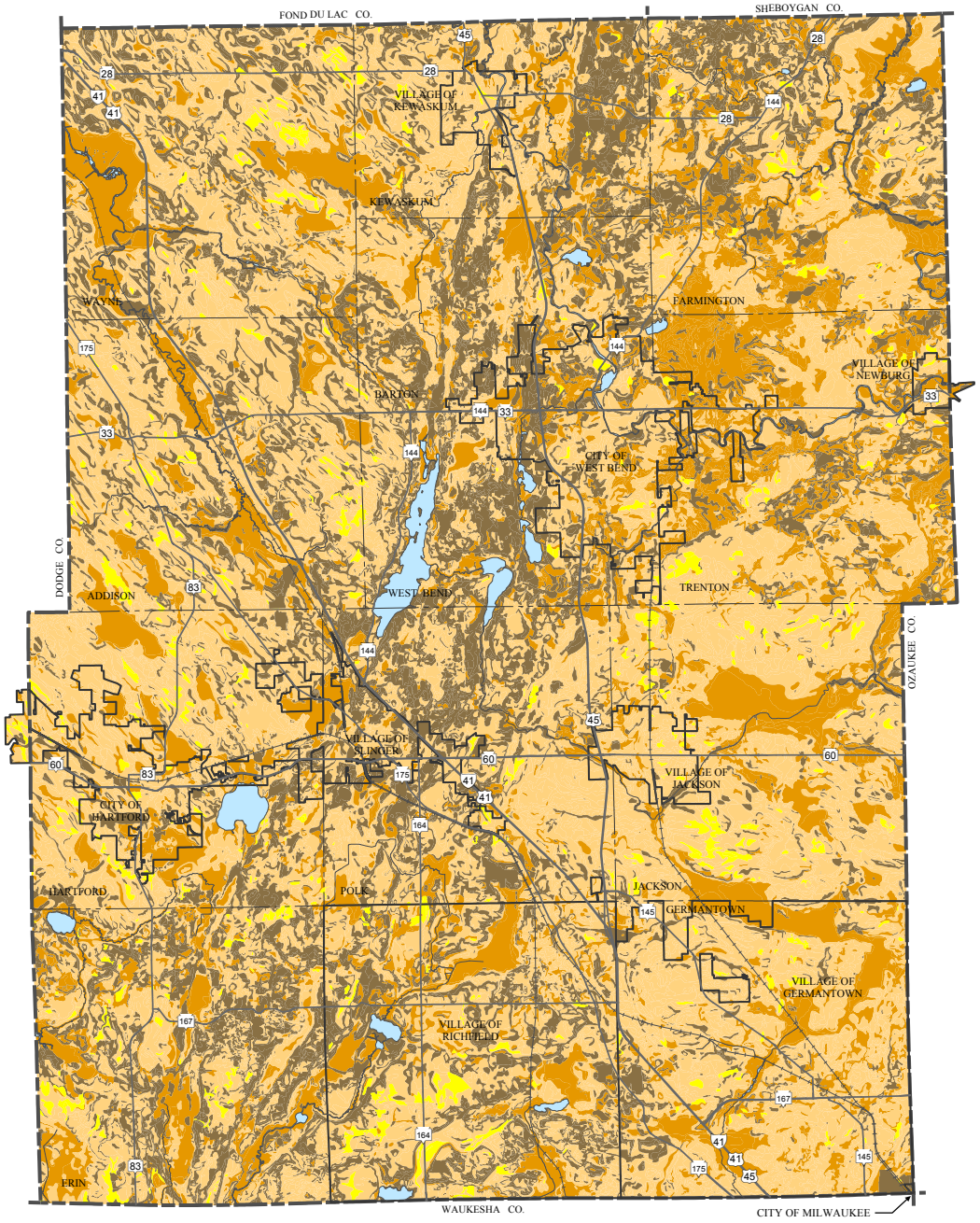
Source: Natural Resources Conservation Service, Washington County, and SEWRPC

About 119,134 acres, or almost 43 percent of the County, were in agricultural use in 2015.

[45] *Amendment No. 2–Appendix T of* A Multi-jurisdictional Comprehensive Plan for Washington County: 2035.

[46] *See Chapter 6 for more information about the SEWRPC 2015 land use inventory.*

Map 5.4
Agricultural Soil Capability in Washington County: 2016



CLASS I

CLASS II

CLASS III

CLASS IV, V, VI, VII, AND VIII SOILS AND UNCLASSIFIED AREAS

SURFACE WATER

N

0 1 2 3 Miles

Source: USDA-Natural Resources Conservation Service and SEWRPC

Table 5.3
Agricultural Soil Capability in Washington County Communities: 2016

Local Government	Class I Soils (acres)	Class II Soils (acres)	Class III Soils (acres)	Class IV, V, VI, VII, and VIII Soils and Unclassified Areas (acres)	Surface Water (acres)	Total (acres)
Partnering Governments						
Village of Jackson	51	1,581	216	135	20	2,003
Village of Kewaskum	36	1,027	96	283	23	1,465
Village of Newburg[a]	18	231	155	98	20	522
Town of Addison	700	13,317	3,589	5,419	36	23,061
Town of Barton	56	5,383	2,079	4,628	229	12,375
Town of Erin	690	9,647	4,547	7,883	365	23,132
Town of Farmington	376	10,358	6,580	5,876	352	23,542
Town of Germantown	3	742	304	112	4	1,165
Town of Hartford	548	10,884	3,065	2,938	504	17,939
Town of Jackson	933	13,831	5,266	1,496	83	21,609
Town of Kewaskum	133	6,791	2,030	5,063	99	14,116
Town of Polk	160	10,741	1,958	6,956	279	20,094
Town of Trenton	375	9,307	7,726	3,318	258	20,984
Town of Wayne	545	11,933	4,275	6,048	103	22,904
Non-Partnering Governments						
City of Hartford[b]	95	3,034	1,018	690	54	4,891
City of West Bend	164	4,160	2,490	2,792	161	9,767
Village of Germantown	331	14,440	5,078	2,026	140	22,015
Village of Richfield	909	10,937	4,126	6,933	419	23,324
Village of Slinger	42	1,502	459	1,340	2	3,367
Town of West Bend	69	3,434	1,325	4,288	1,352	10,468
Washington County[c]	6,234	143,282	56,385	68,327	4,529	278,757
Percent of Total Lands	2.3	51.4	20.2	24.5	1.6	100.0

[a] *Excludes the 53 acres of the Village of Newburg lying within Ozaukee County.*

[b] *Excludes the 338 acres of the City of Hartford lying within Dodge County.*

[c] *Includes the 14 acres of the City of Milwaukee lying in the extreme southeastern corner of Washington County.*

Source: Natural Resources Conservation Service and SEWRPC

Additional information regarding farm production and revenue, number and size of farms, and State and Federal farm preservation programs is available in the updated Washington County farmland preservation plan.

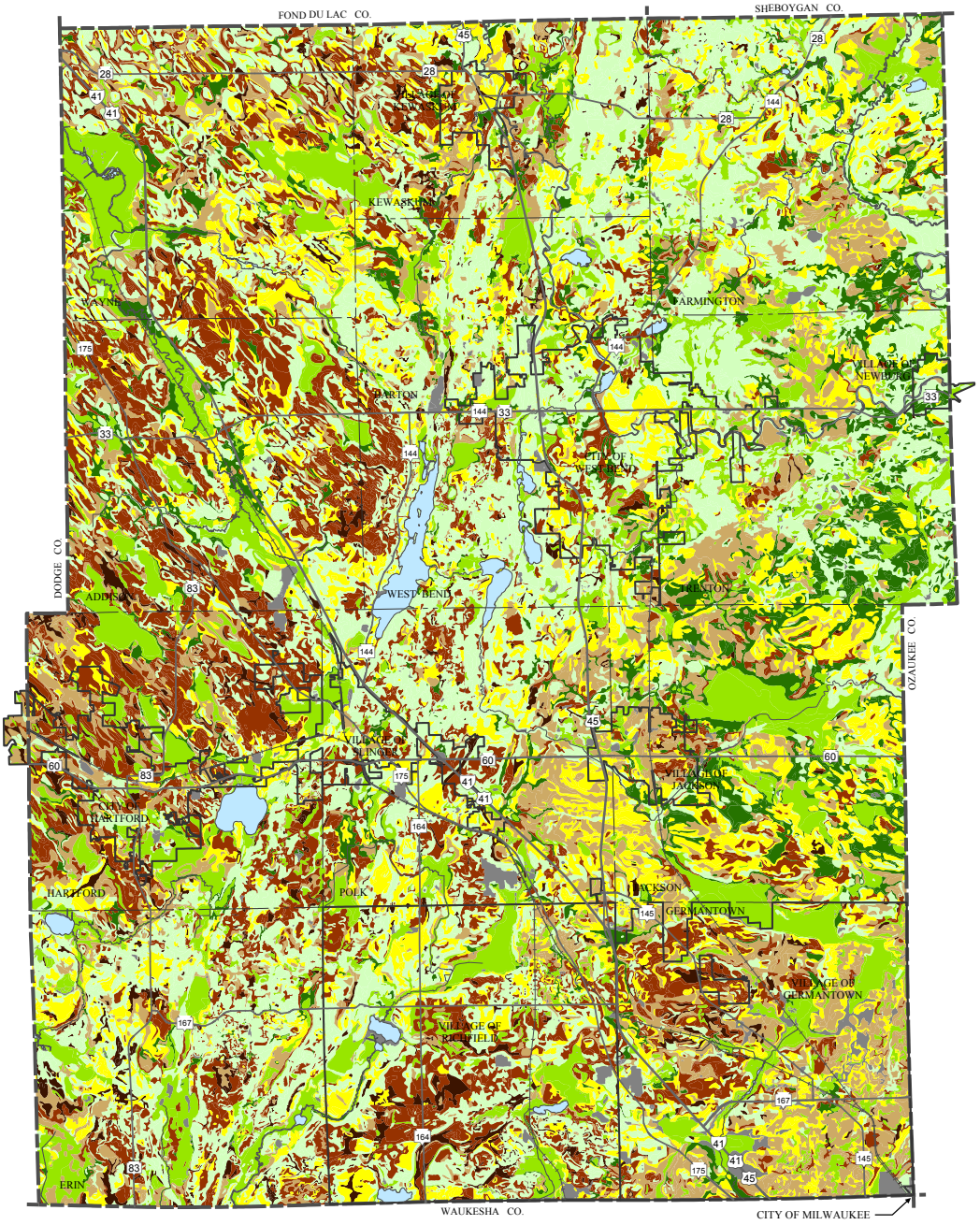
Natural Resources

Topography and Geology

The dominant landform in Washington County is the Kettle Moraine, an interlobate glacial deposit or moraine, formed between the Green Bay and Lake Michigan lobes of the continental glacier that moved across the Great Lakes area approximately 11,000 years ago. The Kettle Moraine is oriented in a general northeast-southwest direction across the County. Some of its features include kames, or conical hills; kettles, which are depressions that mark the site of buried glacial ice blocks that became separated from the ice mass and melted to form depressions; eskers, or long, narrow ridges of drift deposited in tunnels of ice; and abandoned drainageways. It forms some of the most attractive and interesting landscapes within the County.

Kames are examples of a glacial landforms found in the Kettle Moraine region.

Map 5.5
Soil Productivity for Crops in Washington County: 2016



LAND EVALUATION RATING

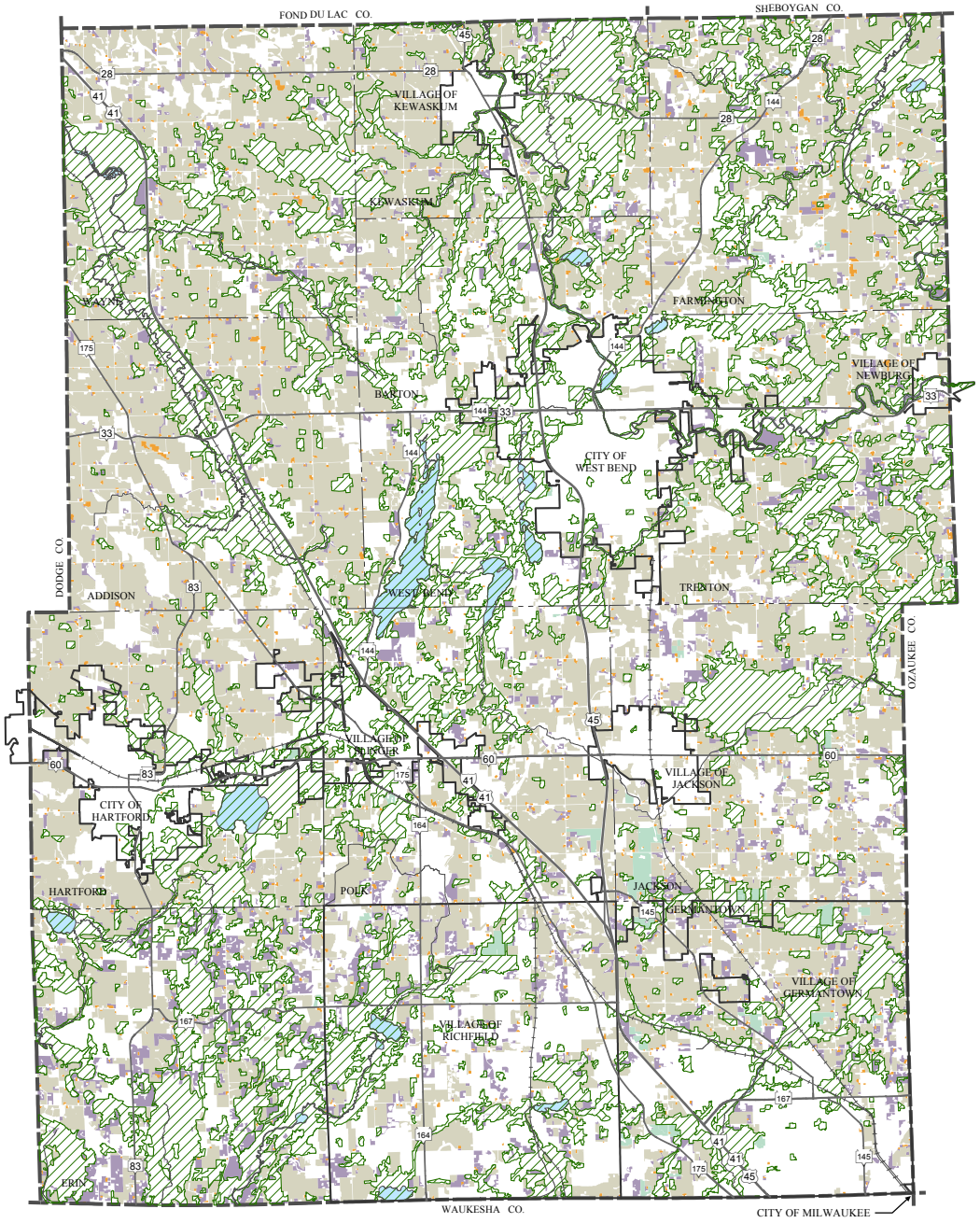
95-100	60-69.9
90-94.9	LESS THAN 60
85-89.9	NO RATING
80-84.9	SURFACE WATER
79.79.9	

N

0 1 2 3 Miles

Source: USDA-Natural Resources Conservation Service and SEWRPC

Map 5.6
Existing Agricultural Lands in Washington County: 2015



CULTIVATED LANDS

PASTURE AND UNUSED AGRICULTURAL LANDS

ORCHARDS, NURSERIES, AND SPECIALTY CROPS

FARM BUILDINGS

PRIMARY ENVIRONMENTAL CORRIDORS AND ISOLATED NATURAL RESOURCE AREAS

SURFACE WATER

N

0 1 2 3 Miles

Source: SEWRPC

Table 5.4
Existing Agricultural Lands in Washington County Communities: 2015

Local Government	Cultivated Lands		Pasture and Unused Agricultural Lands		Orchards, Nurseries, and Specialty Crops		Farm Buildings		Total (acres)
	Acres	Percent of Total	Acres	Percent of Total	Acres	Percent of Total	Acres	Percent of Total	
Partnering Governments									
Village of Jackson	197	95.3	3	1.4	--	--	7	3.3	207
Village of Kewaskum	93	76.3	28	23.1	--	--	1	0.6	122
Village of Newburg	83	84.3	10	10.2	--	--	6	5.5	99
Town of Addison	13,077	93.4	612	4.4	--	--	312	2.2	14,001
Town of Barton	4,657	88.1	472	9.0	28	0.5	129	2.4	5,286
Town of Erin	5,088	59.5	3,279	38.3	41	0.5	147	1.7	8,555
Town of Farmington	10,796	88.5	1,013	8.3	59	0.5	331	2.7	12,199
Town of Germantown	523	82.5	100	15.7	--	--	11	1.8	634
Town of Hartford	9,600	92.4	542	5.2	33	0.3	216	2.1	10,391
Town of Jackson	8,859	79.1	1,550	13.8	489	4.4	302	2.7	11,200
Town of Kewaskum	5,521	88.4	574	9.2	10	0.2	139	2.2	6,244
Town of Polk	7,430	84.5	1,030	11.7	124	1.4	213	2.4	8,797
Town of Trenton	8,002	83.5	1,293	13.5	49	0.5	239	2.5	9,583
Town of Wayne	11,006	90.4	905	7.4	2	--	262	2.2	12,175
Non-Partnering Governments									
City of Hartford	331	92.8	20	5.7	--	--	5	1.5	356
City of West Bend	661	86.0	101	13.1	--	--	7	0.9	769
Village of Germantown	6,103	73.4	1,495	18.0	524	6.3	189	2.3	8,311
Village of Richfield	5,290	71.3	1,858	25.0	134	1.9	136	1.8	7,418
Village of Slinger	401	83.9	66	13.9	1	0.0	10	2.2	478
Town of West Bend	1,829	79.2	416	18.0	13	0.6	51	2.2	2,309
Washington County	99,547	83.6	15,367	12.9	1,507	1.2	2,713	2.3	119,134

Source: SEWRPC

The Kettle Moraine area is the location of the highest elevation in the County and the location of the greatest local elevation differences, or relief. The remainder of the County is covered by a variety of glacial landforms and features, including rolling landscapes of material deposited beneath the glacial ice; terminal moraines, consisting of material deposited at the forward edges of the ice sheet; lacustrine basins, which are former glacial lakes; outwash plains formed by the action of flowing glacial meltwater; and drumlins, which are elongated teardrop-shaped mounds of glacial deposits that formed parallel to the flow of the glacier; and eskers. Except for a few isolated spots where dolomite bedrock is exposed at the surface, the entire County is covered with glacial deposits ranging from large boulders to fine grain clays.

Generalized landforms and topographic characteristics in about 100 foot interval contours are shown on Map 5.7. Surface elevations range from a low of about 755 feet above sea level in the southeast portion of the Village of Germantown at the Ozaukee-Washington county line to a high of 1,332 feet above sea level at Holy Hill in the Town of Erin. Powder Hill in the Town of Hartford is 1,330 feet above sea level, and is the second highest point in the County, along with another hilltop in the Holy Hill area that is also at the 1,330-foot elevation. Both Holy Hill and Powder Hill are located in the Kettle Moraine.

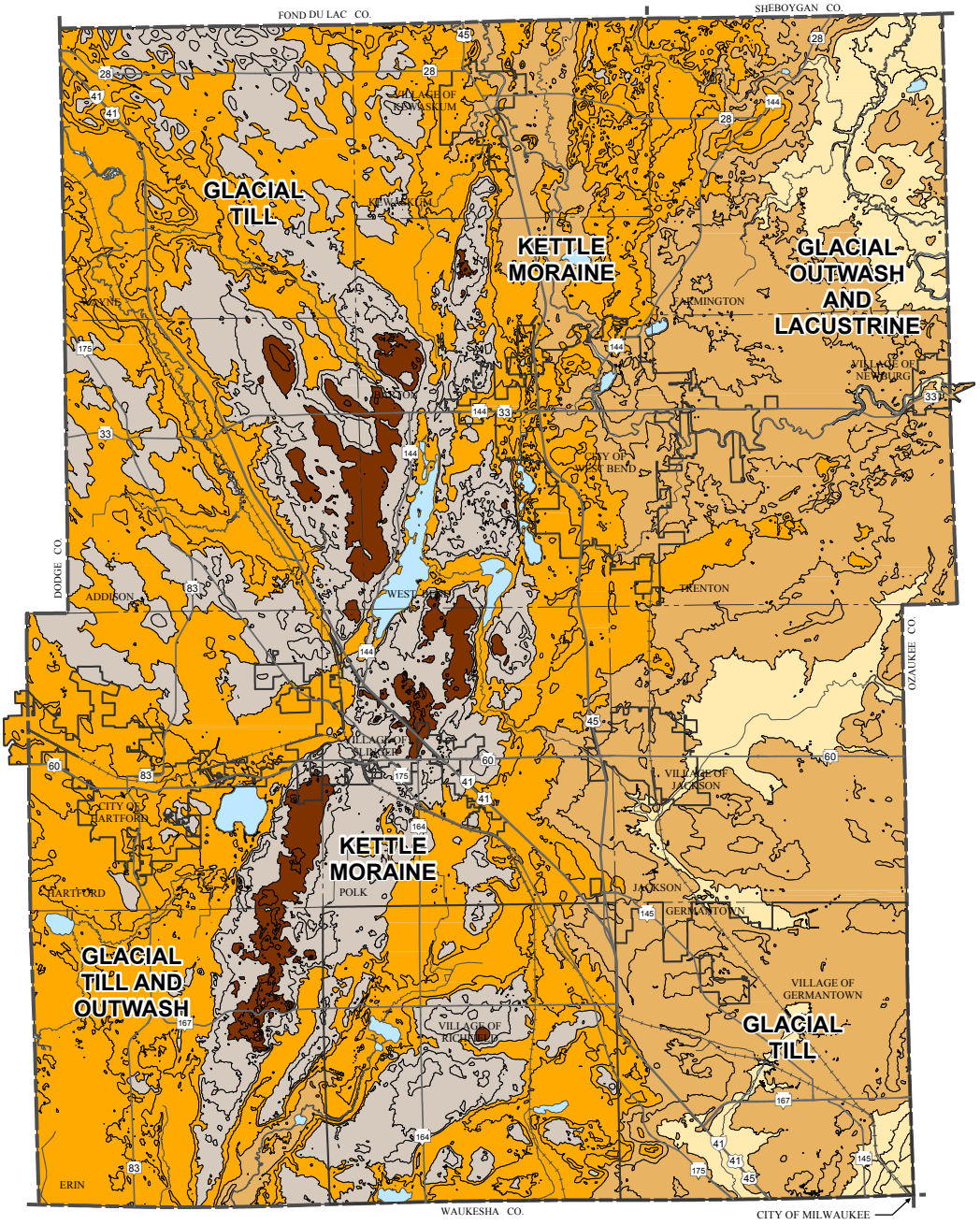
Holy Hill in the Town of Erin is the highest elevation point in Washington County at 1,322 feet above sea level.

Topographical features, particularly slopes, have a direct bearing on the potential for soil erosion and the sedimentation of surface waters. Slope steepness affects the velocity and, accordingly, the erosive potential of runoff. As a result, steep slopes place moderate to severe limitations on urban development and agricultural activities, especially in areas with highly erodible soil types such as the Kettle Moraine. Map 5.8 indicates portions of Washington County that have slopes exceeding 12 percent, with many such areas located along the Kettle Moraine and in the northeastern portion of the County. Over 15,460 acres, or about 6 percent of the County, have slopes of 20 percent or greater, while over 19,400 acres, or about 7 percent of the County, have slopes from 12 to 20 percent. Poorly planned hillside development in areas of steep slopes can lead to high costs for public infrastructure development and maintenance as well as construction and post-construction erosion problems. Steeply sloped agricultural land may make operating agricultural equipment difficult or even hazardous. Developing or cultivating steeply sloped lands is also likely to negatively impact surface water quality through related erosion and sedimentation.

The advances of glacial ice sheets, and the landforms they created, resulted in a wide range in the thickness of glacial deposits over the bedrock. This thickness, represented as depth to bedrock on Map 5.9, ranges from zero to more than 500 feet and is commonly between 50 and 150 feet. Areas where outcrops occur and where bedrock is less than 25 feet deep are located along an irregular buried bedrock ridge, a continuation of a prominent geologic feature of eastern Wisconsin called the Silurian escarpment. This ridge passes through Southeastern Wisconsin from eastern Washington County southwest into Waukesha County. Bedrock outcrops are common in the southeastern portion of the County in the Village and Town of Germantown and the Town of Jackson, as shown on Map 5.9.

A total of 12 sites of geological importance, including glacial features and bedrock geology sites, were identified in the County in 1994 and updated through 2010 as part of the regional natural areas plan. The geological sites included in the inventory were selected on the basis of scientific importance, significance in industrial history, natural aesthetics, ecological qualities, educational value, and public access potential. The 12 sites selected in Washington County include two sites of statewide significance, the Kettle Moraine and the Friess Lake Crevasse Filling; four sites of countywide or regional significance; and six sites of local significance. Together, these sites encompass almost 40,000 acres in Washington County, with the Kettle Moraine encompassing about 39,500 acres and the remaining 11 sites encompassing about 400 acres. Map 5.10 shows the locations of the sites of geological importance, which are described in Table 5.5.

Map 5.7
Physiographic Features and Generalized Topographic Characteristics in Washington County



ELEVATION IN FEET ABOVE MEAN SEA LEVEL

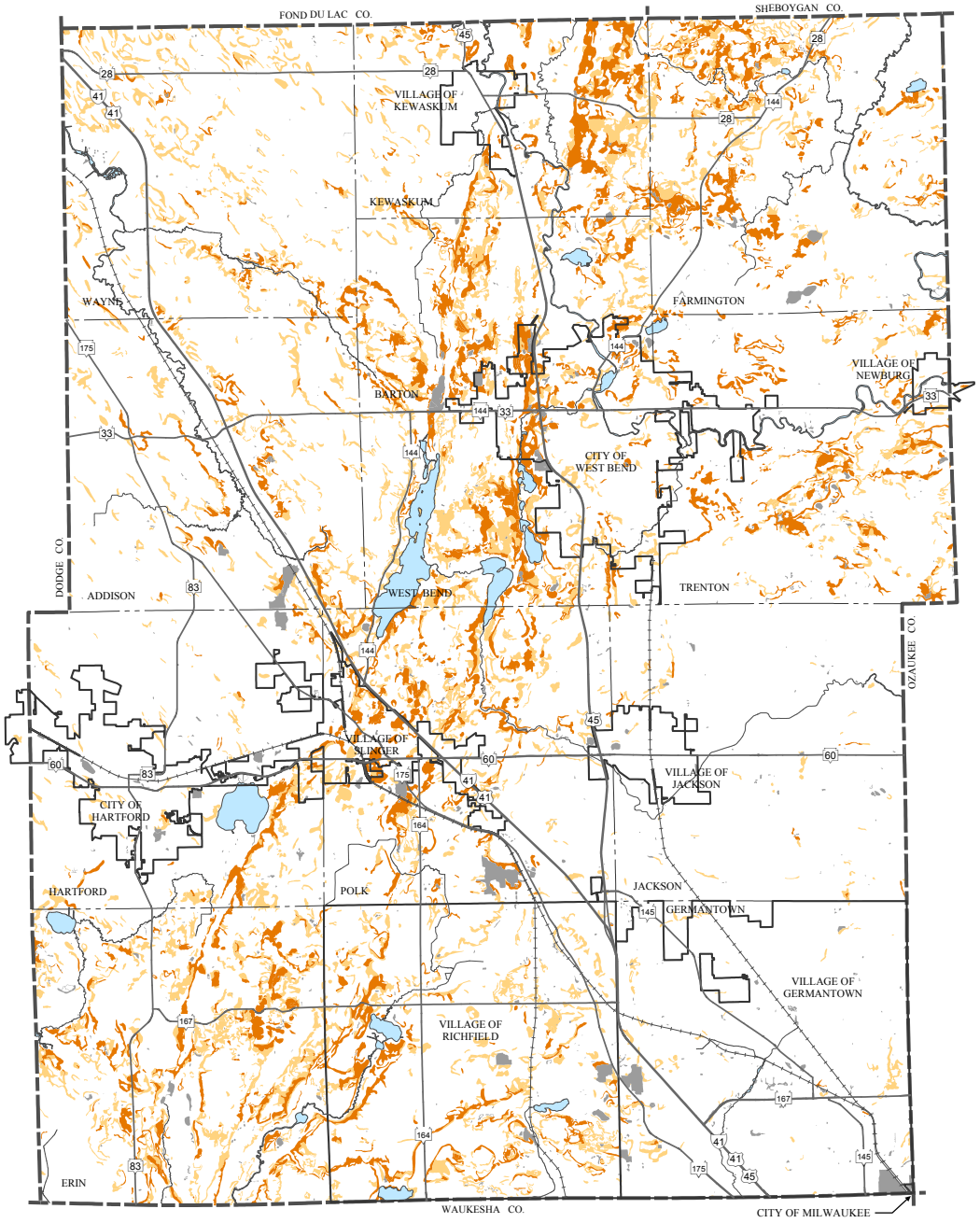
- 1,250-1,335
- 1,150-1,249
- 1,050-1,149
- 950-1,049
- 850-949
- 750-849
- SURFACE WATER

N

0 1 2 3 Miles

Source: U.S. Geological Survey, USDA-Natural Resources Conservation Service, and SEWRPC

Map 5.8
Slope Analysis for Washington County: 2016



SLOPES RANGING FROM 0 TO 12 PERCENT

SLOPES RANGING FROM 12 TO 20 PERCENT

SLOPES 20 PERCENT OR GREATER

AREAS FOR WHICH SLOPE DATA ARE NOT AVAILABLE FROM SOIL SURVEY

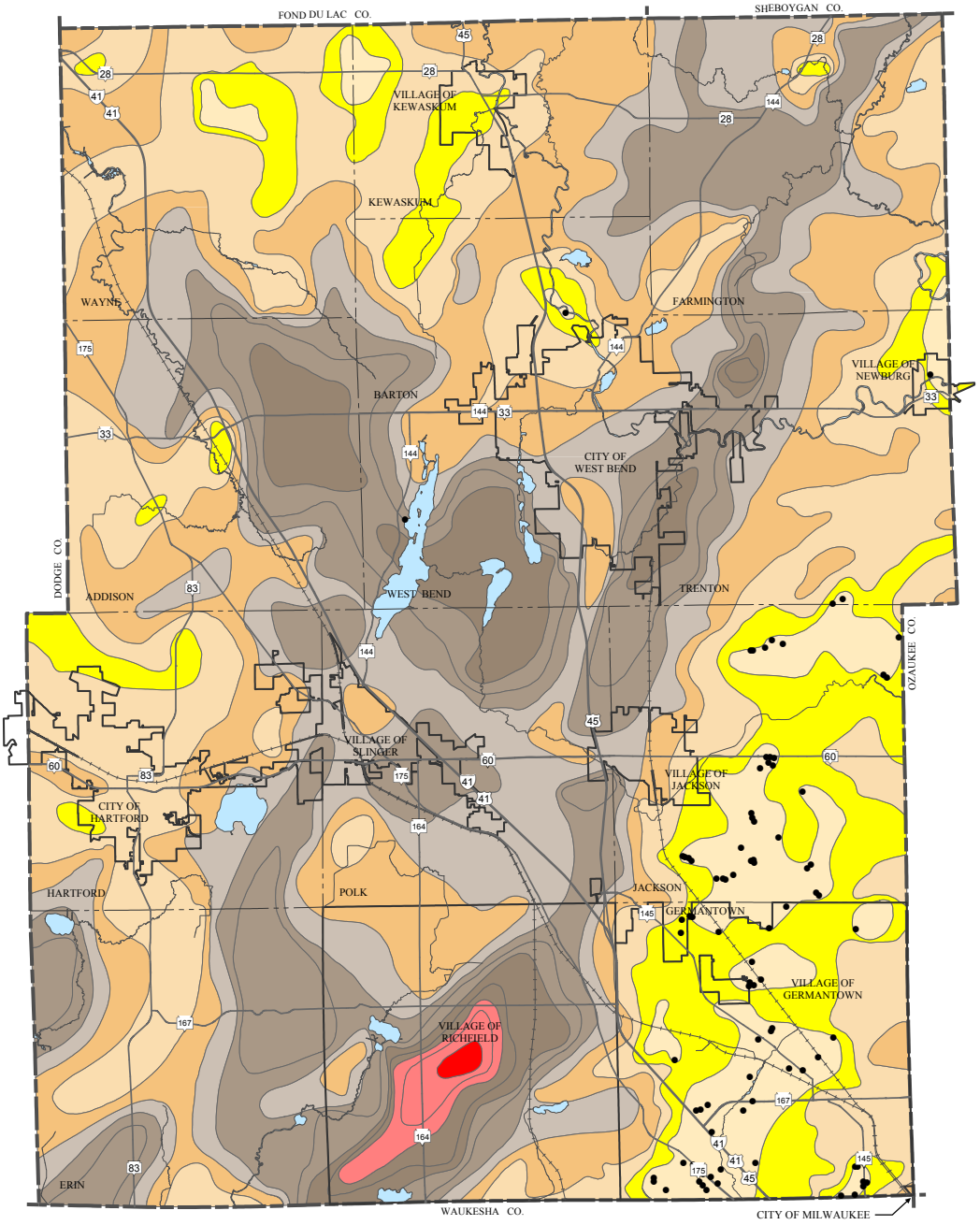
SURFACE WATER

N

0 1 2 3 Miles

Source: USDA-Natural Resources Conservation Service and SEWRPC

Map 5.9
Generalized Depth to Bedrock in Washington County



FEET BELOW LAND SURFACE

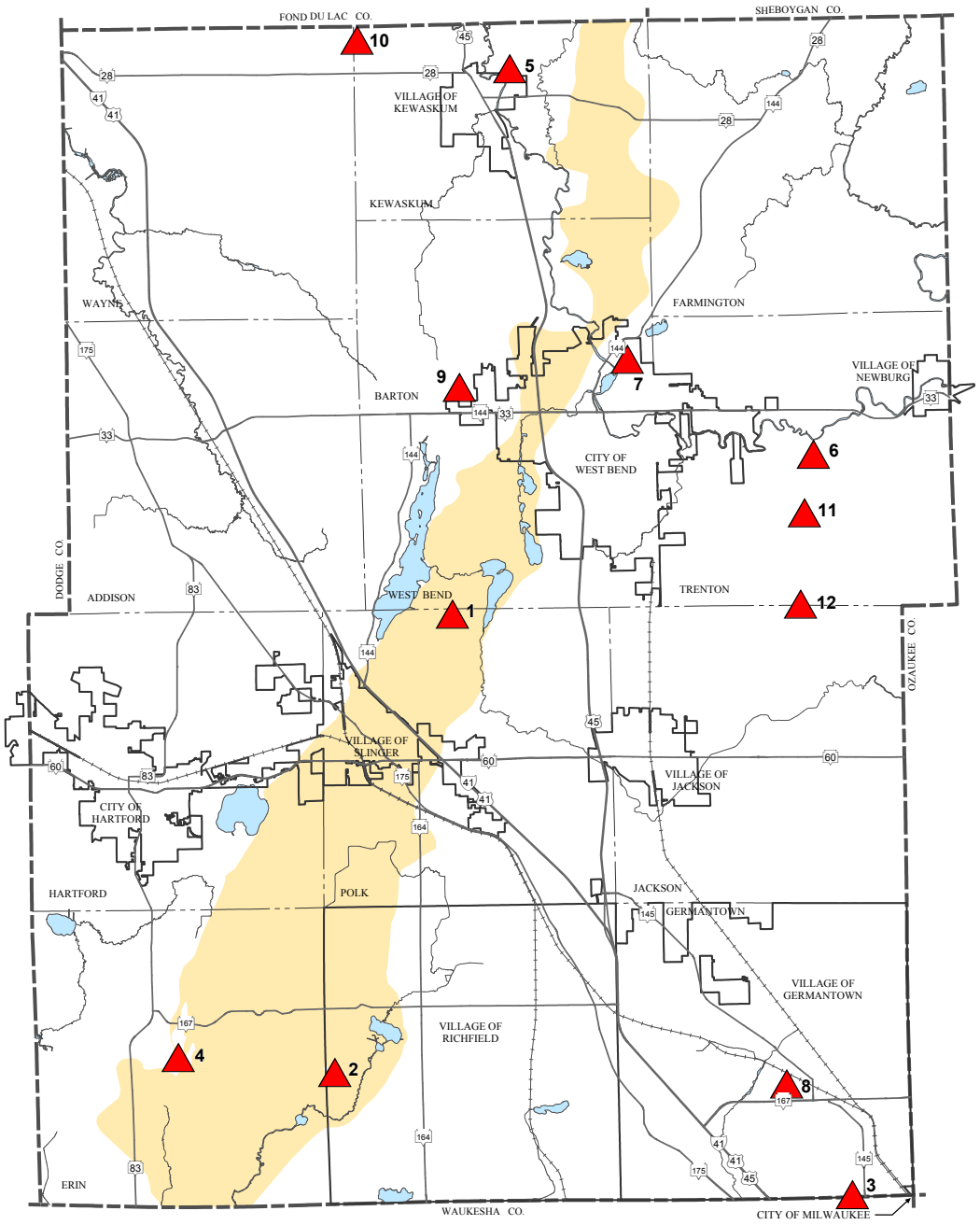
0-25	200-300	REPORTED OUTCROPS
25-50	300-400	
50-100	400-500	
100-150	OVER 500	
150-200	SURFACE WATER	

Source: University of Wisconsin-Extension, Wisconsin Geological and Natural History Survey, and SEWRPC

N

0 1 2 3 Miles

Map 5.10
Significant Geological Sites in Washington County



GEOLOGICAL AREA SITE

8 REFERENCE NUMBER (SEE TABLE 5.5)

KETTLE MORAINE INTERLOBATE MORAINE

SURFACE WATER

N

0 1 2 3 Miles

Source: SEWRPC

Table 5.5
Significant Geological Sites in Washington County: 2016[a]

Site Type[b]	Number on Map 5.10	Site Name	Size (Acres)	Location	Ownership	Description
GA-1	1	Kettle Moraine Interlobate Moraine	39,471[c]	Central portion of County	Wisconsin Department of Natural Resources, Washington County, City of West Bend, Village of Slinger, Town of West Bend, Town of Barton, Cedar Lakes Conservation Foundation, Daniel Boone Conservation League, Holy Hill, Ice Age Trail Foundation, Ozaukee Washington Land Trust, and private	Interlobate moraine consisting of a complex system of irregular, knobby ridges, trending northeast-southwest across the County
	2	Friess Lake (Hogsback) Crevasse Filling	21	Village of Richfield	Private	Excellent example of a crevasse filling
GA-2	3	Little Menomonee River Reef District	7	Village of Germantown	Private	Silurian Racine Dolomite reef rock exposures. Considerable importance in scientific research. Contains a wide variety of reef features
	4	Erin Esker	200	Town of Erin	Ozaukee Washington Land Trust and private	A good example of an esker, easily demonstrated on an agricultural landscape. Some development impacts
	5	Kewaskum Kame	43	Town of Kewaskum	Private	A well-developed, isolated conical kame which serves as the gateway to the Northern Unit of the Kettle Moraine Forest
	6	Myra Esker	18	Town of Trenton	Private	A well-developed, little-disturbed east-west trending esker covered by natural vegetation
GA-3	7	Lac Lawrann Kame and Esker	9	City of West Bend	City of West Bend	Good example of kame and esker formation
	8	Germantown Roadcut	3	Village of Germantown	Wisconsin Department of Transportation	Roadcut providing excellent cross-section through Racine Dolomite, revealing fossils and rock types
	9	West Bend Kames	47	Town of Barton	Private	Good example of kame formation
	10	Kewaskum Quarry and Lime Kiln	3	Town of Kewaskum	Private	Old quarry and lime kiln expose dolomite containing abundant brachiopod fossils. Relatively undisturbed by lime-burning operation
	11	Camp Wowitan Esker	54	Town of Trenton	Private	Well-developed northeast-southwest trending esker
	12	Trenton Quarry and Lime Kiln	3	Town of Trenton	Private	Small quarry exposing massive Silurian dolomite. Primitive, relatively undisturbed kilns
		Total – 12 Sites	39,879	--	--	--

[a] *Inventory conducted in 1994, amendment adopted in 2010, and ownership information updated in 2016.*

[b] *GA-1 identifies Geological Area sites of statewide or greater significance; GA-2 identifies Geological Area sites of countywide or regional significance; and GA-3 identifies Geological Area sites of local significance.*

[c] *Includes the area within Washington County only.*

Source: Wisconsin Department of Natural Resources, Wisconsin Geological and Natural History Survey, and SEWRPC. Sites were identified as part of the regional natural areas plan, documented in SEWRPC Planning Report No. 42, A Regional Natural Areas and Critical Species Habitat Protection and Management Plan for Southeastern Wisconsin, *September 1997 and Amendment to SEWRPC Planning Report No. 42,* Amendment to the Natural Areas and Critical Species Habitat Protection and Management Plan for Southeastern Wisconsin, *December 2010.*

Nonmetallic Mineral Resources[47]

Nonmetallic minerals include sand, gravel, crushed stone, building or dimension stone, peat, and clay. Nonmetallic mines (extractive sites and pits) in Southeastern Wisconsin provide sand, gravel, and crushed limestone or dolomite for structural concrete and road building; peat for gardening and horticulture; and dimension stone for use in buildings, landscaping, and monuments. Nonmetallic mineral resources are important economic resources that should be taken into careful consideration whenever land is being considered for development. Mineral resources, like other natural resources, occur where nature put them, which is not always convenient or desirable. Wise management of nonmetallic mineral resources is important to ensure an adequate supply of aggregate at a reasonable cost for new construction and for maintaining existing infrastructure in the future.

Dimension stone is used in the construction of buildings, landscaping, and monuments.

According to the U.S. Geological Survey, each person in the United States uses an average of 9.5 tons of construction aggregate per year (construction aggregate includes sand, gravel, crushed stone, and recycled crushed concrete). Construction of one lane-mile of Interstate Highway uses 20,000 tons of aggregate. Aggregate is heavy and bulky, and is therefore expensive to transport. Having sources of aggregate relatively close (within 25 miles) of a construction project lessens the overall cost of construction. The cost of a ton of aggregate can more than double when it has to be hauled 25 miles or more.

Having sources of aggregate relatively close (within 25 miles) of a construction project lessens the overall cost of construction due to the cost of transporting heavy materials.

Potential Sources of Sand, Gravel, Clay, and Peat

Map 5.11[48] shows the location and Table 5.6 sets forth the acres of potential commercially workable sources of sand, gravel, clay, and peat outside of existing urban development in Washington County in 2015. The Wisconsin Geological and Natural History Survey (WGNHS) identified these resources using a variety of sources, including geologic studies,[49] data from Road Material Survey records collected by WGNHS for the Wisconsin Department of Transportation (WisDOT), information on existing extractive sites, and information on closed extractive sites that were recently active. The sand and gravel potential is categorized as high, medium, and low by the WGNHS based on the glacial geology (Mickelson and Syverson, 1997)[50]. The areas categorized as outwash deposits have the highest potential for significant deposits of sand and gravel, and account for 62,672 acres, or 22 percent of the County. These areas generally coincide with the Kettle Moraine. Areas categorized as glacial till have medium to low potential for yielding commercial workable sources of sand and gravel, and encompass 71,042 acres, or 25 percent of the County. All of the existing extractive sites in the County are located within areas in these two categories. The areas categorized as glacial lake deposits contain clay deposits useful for construction, and account for 28,431 acres, or 10 percent of the County.

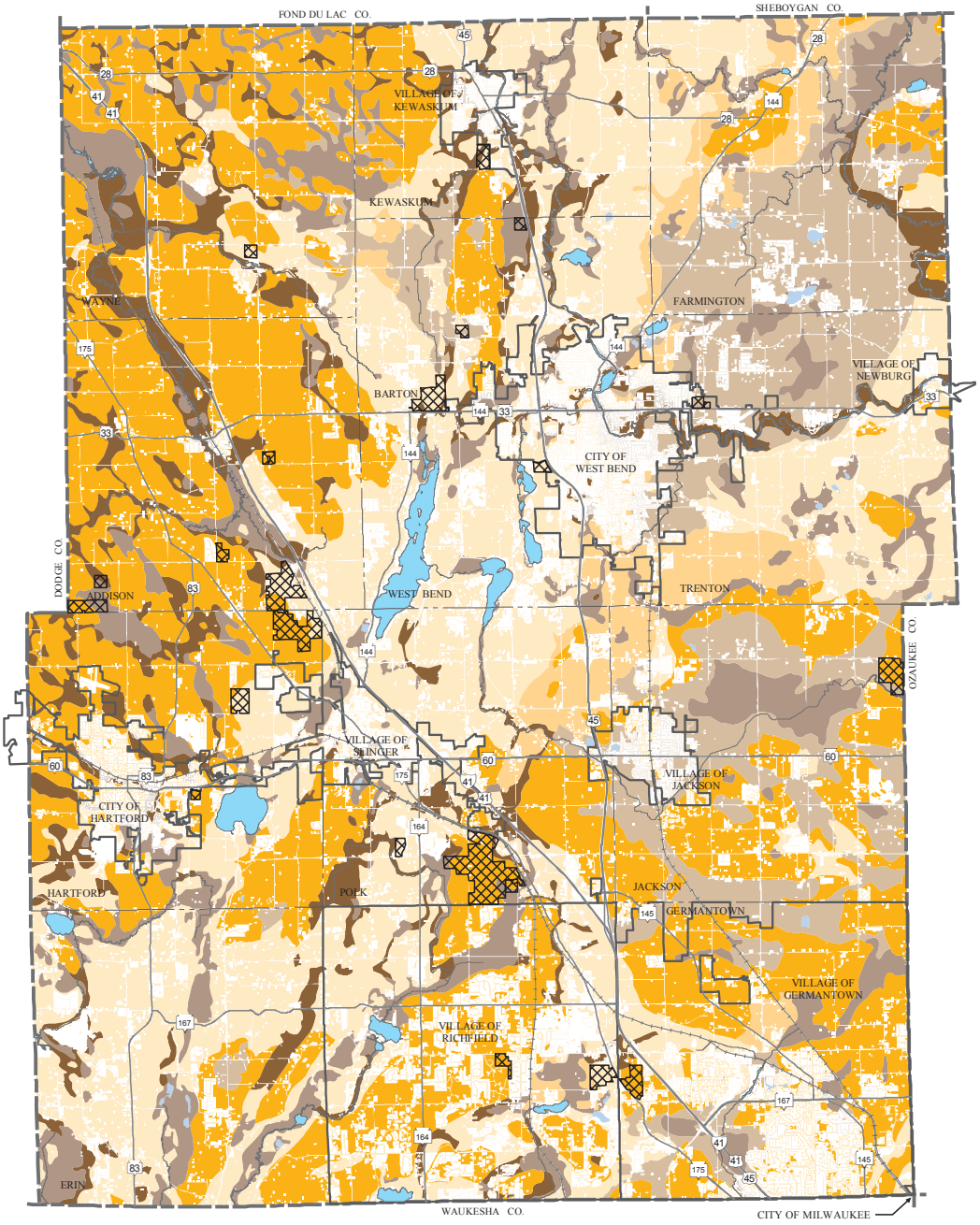
[47] *There are no marketable metallic mining resources in Washington County*

[48] *Compilation and resource potential interpretation by Bruce A. Brown, P.G., data compilation by Michael L. Czechanski, 2006*

[49] *Bedrock geology from Preliminary Bedrock Maps of Washington County (WOFR 2004-17) by T. Evans, K. Massie-Ferch, and R. Peters, WGNHS.*

[50] *Mickelson D. M. and K. M. Syverson, Quaternary Geology of Ozaukee and Washington Counties, Wisconsin, WGNHS Bulletin 91, 1997.*

Map 5.11
Potential Sources of Sand, Gravel, Clay, and Peat in Washington County



OUTWASH DEPOSITS
HIGHEST POTENTIAL FOR SIGNIFICANT DEPOSITS OF GRAVEL AND COARSE TO MEDIUM SAND

SANDY GLACIAL LAKE SEDIMENTS
POTENTIAL SOURCE OF FINE SAND BUT LOW POTENTIAL FOR GRAVEL

GLACIAL TILL
MAY CONTAIN LOCAL ECONOMIC DEPOSITS OF SAND AND GRAVEL. RESOURCE POTENTIAL MEDIUM TO LOW

GLACIAL LAKE DEPOSITS
NOT A POTENTIAL SOURCE FOR SAND AND GRAVEL, BUT MAY CONTAIN CLAY DEPOSITS USEFUL FOR CONSTRUCTION

PEAT AND ORGANIC SEDIMENT
NOT A POTENTIAL SOURCE FOR SAND AND GRAVEL, BUT MAY CONTAIN ECONOMIC DEPOSITS OF PEAT

MODERN STREAM SEDIMENT
MAY CONTAIN LOCAL CONCENTRATIONS OF SAND AND GRAVEL, BUT ENVIRONMENTAL ISSUES MAKE DEVELOPENT IMPRACTICAL. NOT CONSIDERED A SIGNIFICANT FUTURE RESOURCE

EXISTING EXTRACTIVE SITE (2018)

SURFACE WATER

Note: Lands with urban development, including streets and highways, are omitted from areas that are potential sources of sand, gravel, clay, and peat.

Source: Wisconsin Geological and Natural History Survey (Compilation and Resource Potential Interpretation by Bruce A. Brown, P.G., Data Compilation by Michael L. Czechanski, 2006) and SEWRPC

N

0 1 2 3 Miles

Table 5.6
Potential Sources of Sand, Gravel, Clay, and Peat in Washington County Communities[a]

Local Government	Outwash Deposits (acres)	Sandy Glacial Lake Sediments (acres)	Glacial Till (acres)	Glacial Lake Deposits (acres)	Peat and Organic Sediment (acres)	Modern Stream Sediment (acres)
Partnering Governments						
Village of Jackson	--	15	174	386	--	--
Village of Kewaskum	325	--	--	--	16	202
Village of Newburg	133	--	35	--	--	43
Town of Addison	2,447	--	13,583	--	1,494	2,980
Town of Barton	5,282	604	1,398	1,653	673	674
Town of Erin	10,702	--	3,557	344	3,443	1,349
Town of Farmington	3,189	3,076	1,826	8,526	2,545	1,078
Town of Germantown	--	--	571	355	18	--
Town of Hartford	3,109	--	8,060	14	1,819	2,189
Town of Jackson	778	670	7,237	7,584	2,299	--
Town of Kewaskum	6,654	61	2,734	290	1,422	1,679
Town of Polk	7,062	1,749	4,175	263	939	1,750
Town of Trenton	6,870	2,315	925	5,098	2,413	475
Town of Wayne	1,946	7	11,535	523	3,496	3,209
Non-Partnering Governments						
City of Hartford	297	--	940	--	289	404
City of West Bend	1,177	466	52	747	374	614
Village of Germantown	1,708	461	8,024	2,597	1,621	104
Village of Richfield	5,431	311	5,577	51	2,257	1,174
Village of Slinger	1,073	--	235	--	200	149
Town of West Bend	4,489	539	404	--	886	152
Washington County	62,672	10,274	71,042	28,431	26,204	18,225

[a] *Outside of existing urban development based on the 2015 land use inventory.*

Source: Wisconsin Geological and Natural History Survey and SEWRPC

The majority of such areas are located in the eastern portion of the County. Areas categorized as peat and organic sediment may contain economic deposits of peat, and account for 26,204 acres, or 9 percent of the County. Peat and organic sediment areas are scattered throughout the County, generally in association with wetlands, which limits access to the peat due to regulatory constraints. Constraints to sand and gravel extraction in the County are shown on Map 5.12.

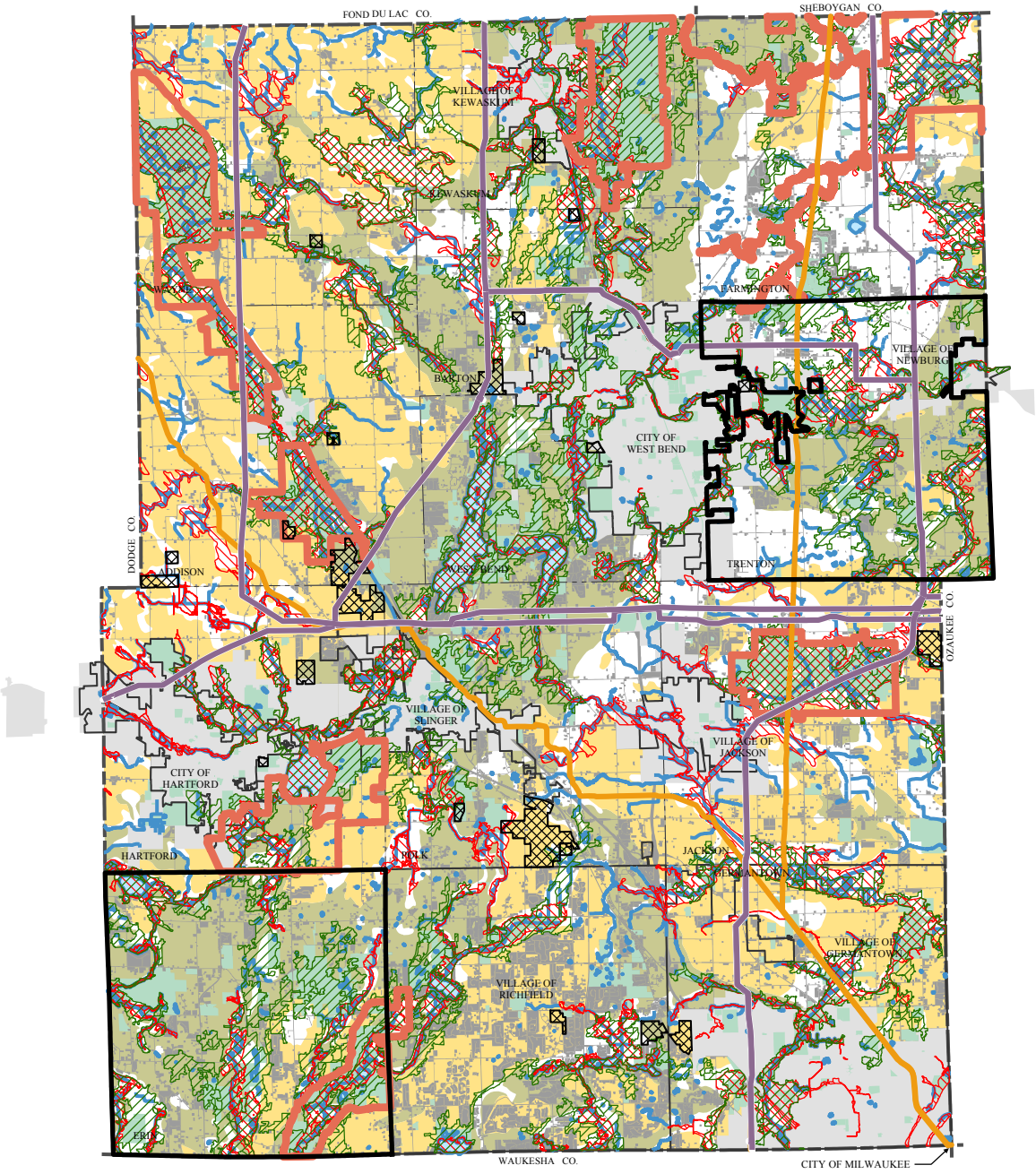
Potential Sources of Crushed and Building Stone

The location of potential commercially workable sources of stone suitable for crushed or building stone in Washington County is shown on Map 5.13. These areas were identified by the WGNHS based principally upon locating and mapping areas underlain by Silurian dolomite within 50 feet of the land surface. Approximately 33,461 acres, or about 12 percent of the County, have been identified as having potential for developing commercially viable sources of crushed stone or building stone. The majority of such areas are located in the southeastern part of the County, and are a northeasterly extension of the ridge of shallow bedrock that is an important stone-producing area around Sussex and Lannon in Waukesha County. Constraints to crushed or building stone extraction in the County are shown on Map 5.14.

Existing Nonmetallic Mining Sites

Map 5.15 shows nonmetallic mining sites, also referred to as extractive sites, in Washington County in 2018. Table 5.7 lists the operational, reclaimed, inactive, and remaining acreage for each mining site. Most of the mining sites located in the County are used for sand and/or gravel extraction. Mining sites not used for sand and/or gravel extraction are used for peat or soil extraction. Approximately 1,627 acres in Washington County were located within operational or planned nonmetallic mining sites in 2018 including 996 operational acres and 631 remaining acres within areas planned to be mined in the future. As shown on Map 5.15, all of the planned mining sites in the County are adjacent to existing mines. Of the local governments, the Town of Polk has the most acreage within operational or planned nonmetallic

Map 5.12
Constraints to Sand and Gravel Extraction in Washington County: 2015



OUTWASH DEPOSITS
HIGHEST POTENTIAL FOR SIGNIFICANT DEPOSITS OF GRAVEL AND COARSE TO MEDIUM SAND

GLACIAL TILL
MAY CONTAIN LOCAL ECONOMIC DEPOSITS OF SAND AND GRAVEL. RESOURCE POTENTIAL MEDIUM TO LOW

AREAS OF EXISTING DEVELOPMENT OUTSIDE PLANNED SEWER SEVICE AREAS

EXISTING PARK AND OPEN SPACE SITE

EXISTING EXTRACTIVE SITE (2018)

PLANNED SEWER SERVICE AREA (JUNE 2015)

SURFACE WATER

ONE-PERCENT-ANNUAL-PROBABILITY (100-YEAR RECURRENCE INTERVAL) FLOODPLAINS (FEMA FIS, OCTOBER 2015)

PRIMARY ENVIRONMENTAL CORRIDOR

TOWN ZONING ORDINANCE DOES NOT ALLOW QUARRIES (TOWN OF ERIN AND TOWN OF TRENTON)

WISCONSIN DEPARTMENT OF NATURAL RESOURCES PROJECT BOUNDARY

ELECTRIC TRANSMISSION LINE

NATURAL GAS OR OIL PIPELINE

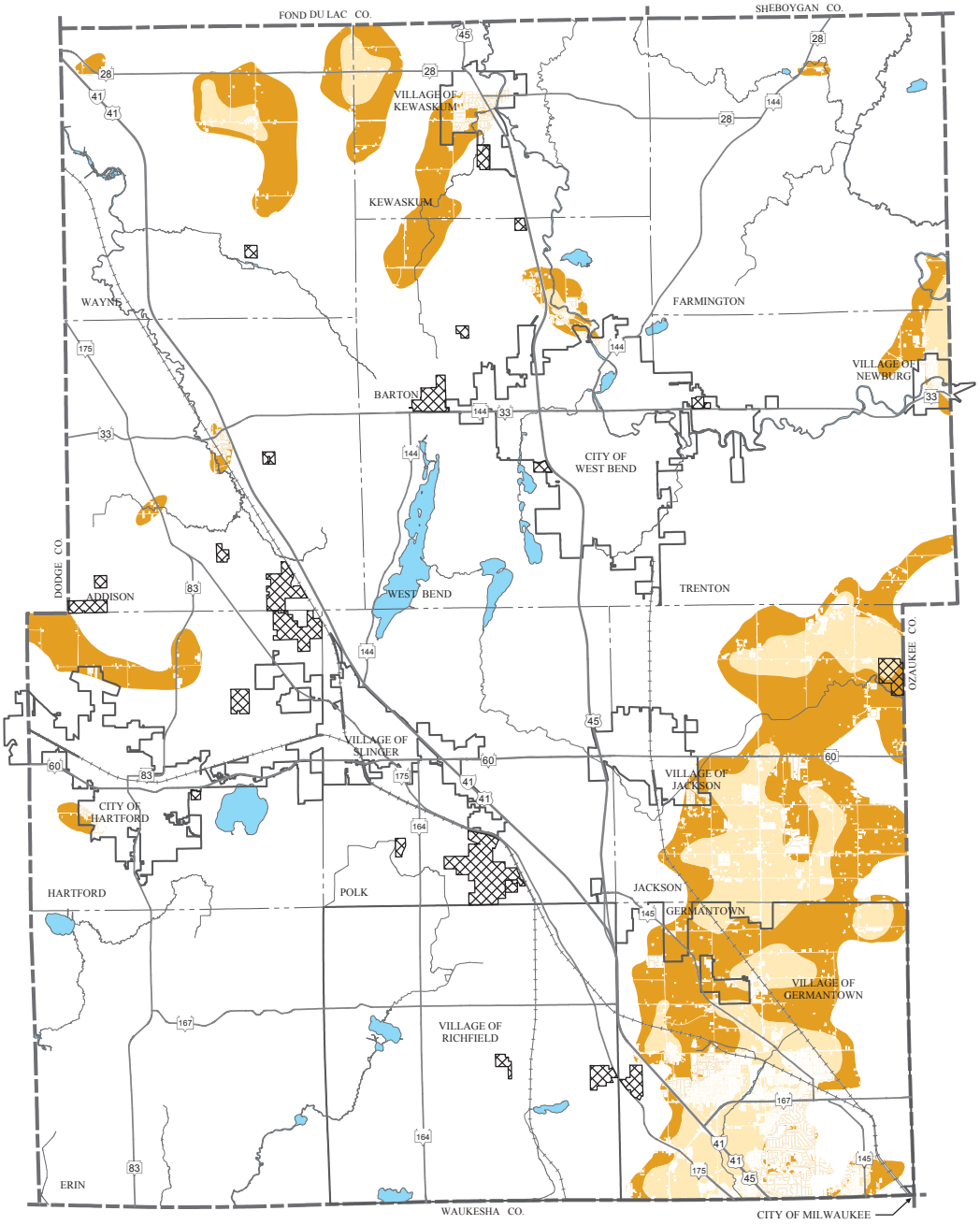
NAVIGABLE WATER BODY (LAKE, POND, RIRVER, OR STREAM)

N

0 1 2 3 Miles

Source: Public Service Commission of Wisconsin, Wisconsin Department of Natural Resources, Wisconsin Geological and Natural History Survey, Washginton County, and SEWRPC

Map 5.13
Potential Sources of Crushed or Building Stone in Washington County



AREA UNDERLAIN BY SILURIAN DOLOMITE/LIMESTONE WITHIN 25 FEET. HIGH-QUALITY MATERIAL FOR CRUSHED OR BUILDING STONE

AREA UNDERLAIN BY SILURIAN DOLOMITE/LIMESTONE BETWEEN 25 AND 50 FEET. HIGH-QUALITY MATERIAL FOR CRUSHED OR BUILDING STONE

EXISTING EXTRACTIVE SITE (2018)

SURFACE WATER

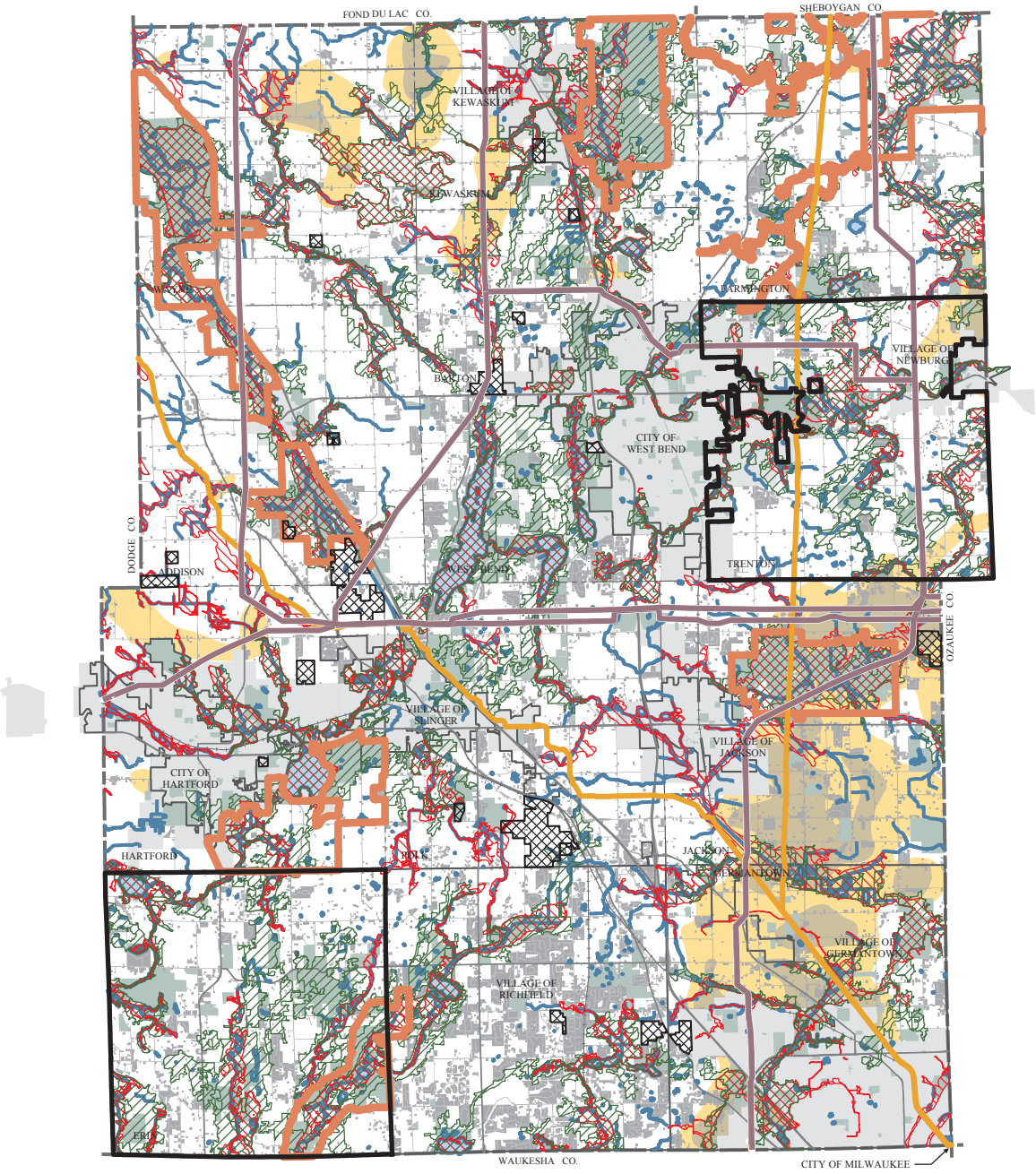
Note: Lands with urban development, including streets and highways, are omitted from areas that are potential sources of sand, gravel, clay, and peat.

Source: Wisconsin Geological and Natural History Survey (Compilation and Resource Potential Interpretation by Bruce A. Brown, P.G., Data Compilation by Michael L. Czechanski, 2006) and SEWRPC

N

0 1 2 3 Miles

Map 5.14
Constraints to Extraction of Crushed or Building Stone in Washington County: 2015



AREA UNDERLAIN BY SILURIAN DOLOMITE (LIMESTONE) WITHIN 25 FEET. HIGH-QUALITY MATERIAL FOR CRUSHED OR BUILDING STONE

AREA UNDERLAIN BY SILURIAN DOLOMITE (LIMESTONE) BETWEEN 25 AND 50 FEET. HIGH-QUALITY MATERIAL FOR CRUSHED OR BUILDING STONE, BUT EXTRACTION IS MORE COSTLY

AREAS OF EXISTING DEVELOPMENT OUTSIDE PLANNED SEWER SEVICE AREAS

EXISTING PARK AND OPEN SPACE SITE

EXISTING EXTRACTIVE SITE (2018)

PLANNED SEWER SERVICE AREA (JUNE 2015)

SURFACE WATER

ONE-PERCENT-ANNUAL-PROBABILITY (100-YEAR RECURRENCE INTERVAL) FLOODPLAINS (FEMA FIS, OCTOBER 2015)

PRIMARY ENVIRONMENTAL CORRIDOR

TOWN ZONING ORDINANCE DOES NOT ALLOW QUARRIES (TOWN OF ERIN AND TOWN OF TRENTON)

WISCONSIN DEPARTMENT OF NATURAL RESOURCES PROJECT BOUNDARY

ELECTRIC TRANSMISSION LINE

NATURAL GAS OR OIL PIPELINE

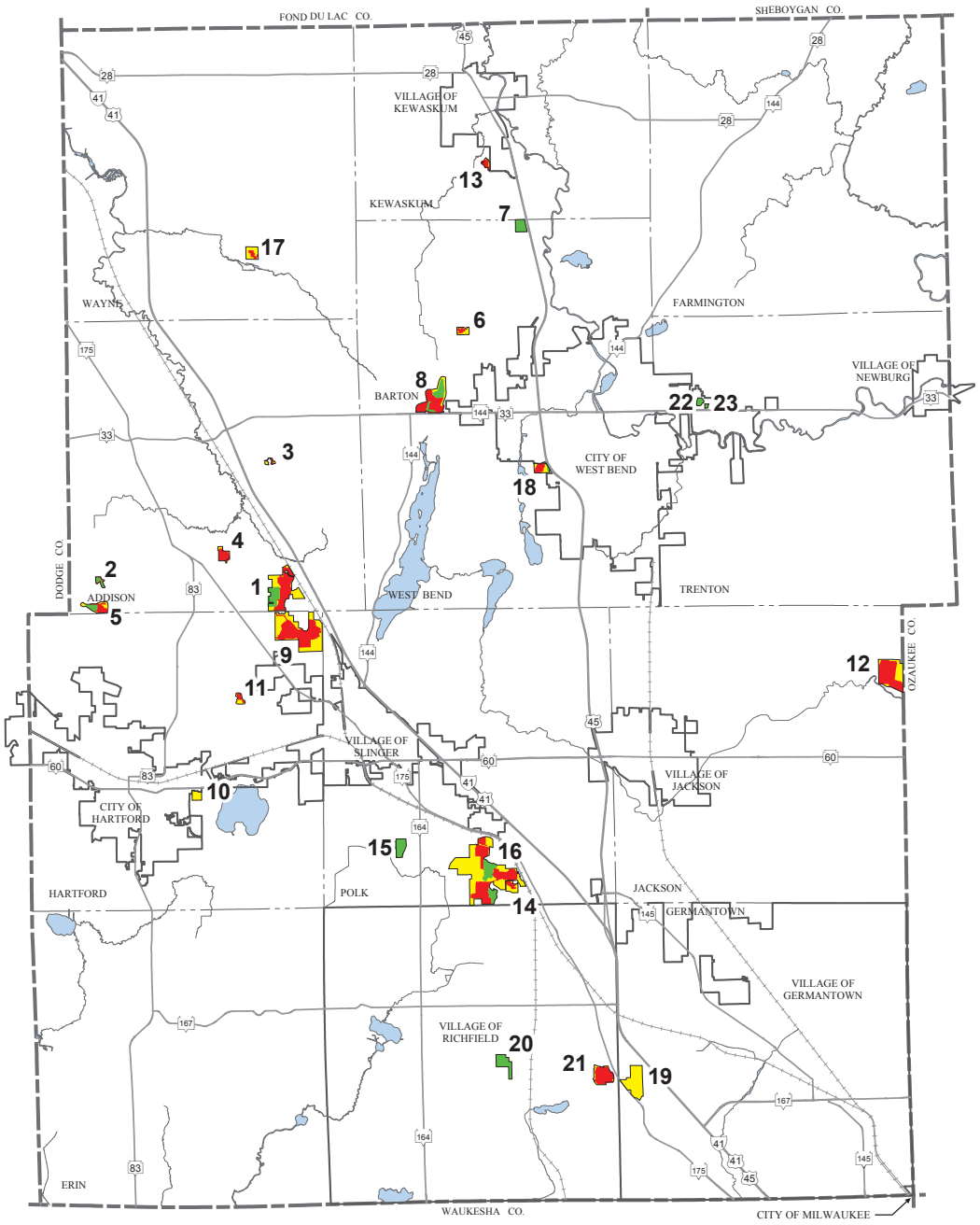
NAVIGABLE WATER BODY (LAKE, POND, RIRVER, OR STREAM)

N

0 1 2 3 Miles

Source: Public Service Commission of Wisconsin, Wisconsin Department of Natural Resources, Wisconsin Geological and Natural History Survey, Washginton County, and SEWRPC

Map 5.15
Nonmetallic Mining Sites in Washington County: 2018



OPERATIONAL MINING SITE

PLANNED MINING SITE

RECLAIMED MINING SITE

12 MINING SITE REFERENCE NUMBER (SEE TABLE 5.7)

0 1 2 3 Miles

Source: Washington County and SEWRPC

Table 5.7
Nonmetallic Mining Sites in Washington County Communities: 2018

Number on Map 5.15	Site Location and Owner/Operator	Operational (acres)	Reclaimed (acres)	Inactive (acres)	Remaining (acres)	Total (acres)
	Town of Addison					
1	Cedar Lake Sand & Gravel Co.	118	57	--	57	232
2	Kurt Langenacker – Peat Mine	4	11	--	--	15
3	Marjac, Inc. (Merget Pit)	3	--	--	5	8
4	Michels Materials	30	--	--	4	34
5	Sterman Services	30	15	--	10	55
	Town of Barton					
6	Belongia & Sons Trucking	9	1	--	14	24
7	D & G Sod, LLC	--	14	--	--	--
8	West Bend Sand & Stone	104	49	--	10	163
	Town of Hartford					
9	Cedar Lake Sand & Gravel Co.	185	--	--	155	340
10	Floyd Berggren LTD	--	--	23	--	23
11	Heartland Construction	9	--	--	10	19
	Town of Jackson					
12	Lannon Stone/Dawson	138	--	--	43	181
	Town of Kewaskum					
13	Michels Materials	15	1	--	--	16
	Town of Polk					
14	Payne & Dolan, Inc.	13	--	--	20	33
15	Washington County (Heritage Trails)	--	32	--	--	--
16	Wissota Sand & Gravel	216	80	--	273	569
	Town of Wayne					
17	Keith Bartelt	21	--	--	14	35
	Town of West Bend					
18	Johann Sand & Gravel	25	3	--	7	35
	Village of Germantown					
19	Moraine Development, LLC.	--	--	127	--	127
	Village of Richfield					
20	American Asphalt	--	54	--	--	--
21	Moraine Development, LLC.	76	--	--	9	85
	City of West Bend					
22	Liesener Soils Inc.	--	12	--	--	12
23	Roger Hardegen	--	4	--	--	4
	Total – 23 Sites	996	321	150	631	1,871

Note: Nonmetallic mine operators in Washington County have estimated that the currently permitted sources of gravel in Washington County are expected to be depleted by the year 2026.

Source: Washington County, Nonmetallic Mining Representative to the Washington County Multi-Jurisdictional Comprehensive Plan Advisory Committee, and SEWRPC

mining sites, approximately 522 acres, followed by the Town of Hartford with 359 acres and the Town of Addison with 261 acres.

Nonmetallic mining sites in the County also contain approximately 321 reclaimed acres. No reclamation plan is required of the County's two inactive mining sites, which amount to 150 acres. It should be noted that new technologies or changes in the supply of or demand for nonmetallic mineral resources may make it economically feasible for operators to extract resources from previously inactive or unviable sites or portions of sites.

Approximately 1,627 acres in Washington County are located within operational or planned nonmetallic mining sites.

Registered Nonmetallic Mining Sites

Chapter NR 135 of the *Wisconsin Administrative Code* establishes a procedure for landowners to register marketable nonmetallic mineral deposits in order to preserve these resources. The Lannon Stone/Dawson site in the Town of Jackson was registered in 2001, and was the only registered site as of April 2008.[51]

NR 135 defines a marketable nonmetallic mineral deposit as one that can be or is reasonably anticipated to be commercially feasible to mine and that has significant economic or strategic value. The significant economic or strategic value must be demonstrable using geologic, mineralogical, or other scientific data, due to the deposit's quality, scarcity, location, quantity, or proximity to a known user. Only the owner of the land (as opposed to the owner of the mineral rights or other partial rights) can register a marketable nonmetallic mineral deposit. The registration must include a legal description of the land and certification and delineation by a registered professional geologist or a registered professional engineer. In making this certification, the geologist or engineer must describe the type and quality of the nonmetallic mineral deposit, the areal extent and depth of the deposit, how the deposit's quality, extent, location, and accessibility contribute to its marketability, and the quality of the deposit in relation to current and anticipated standards and specifications for the type of material concerned.

A person wishing to register land pursuant to NR 135 must provide evidence that nonmetallic mining is a permitted or conditional use of the land under zoning in effect on the day notice is provided by the owner to government authorities. A copy of the proposed registration and supporting information must be provided to each applicable zoning authority (city, village, or town), the county, and the WDNR at least 120 days prior to filing the registration. The registration must include a certification by the landowner, which is binding on the landowner and his or her successors in interest, that the landowner will not undertake any action that would permanently interfere with present or future extraction of nonmetallic materials for the duration of the registration.

Notification Requirements

Section 66.1001(4) of the *Statutes* requires any unit of government that prepares and adopts a comprehensive plan to prepare and adopt written procedures to foster public participation. These written procedures must describe the methods the local government will use to distribute proposed elements of a comprehensive plan to owners or people with a leasehold interest in property to extract nonmetallic mineral resources in or on property in which the allowable use or intensity of use of the property is proposed to be changed by the comprehensive plan. All such parties were provided with copies of the proposed Agricultural, Natural, and Cultural Resources and Land Use Elements of the comprehensive plan and offered an opportunity to submit comments, which were carefully considered by the Advisory Committee, and the Land Use and Planning Committee of the County Board as this plan was developed.

Water Resources

Surface water resources, consisting of lakes and streams and their associated wetlands, floodplains, and shorelands, form important elements of the natural resource base of the County and participating local governments. Their contribution to economic development, recreational activity, and scenic beauty is immeasurable. The acreage of surface waters, wetlands, and floodplains in the County and each local government is listed in Table 5.8.

Both surface water and groundwater are interrelated components of a single hydrologic system. The groundwater resources are hydraulically connected to the surface water resources because groundwater provides the base flow of streams and contribute to inland lake levels. The groundwater resources constitute the major source of supply for domestic, municipal, and industrial water users in Washington County.

Surface water resources, consisting of lakes and streams and their associated wetlands, floodplains, and shorelands, form important elements of the natural resource base of the County.

[51] *Reflects most up-to-date data available from the County.*

Table 5.8
Surface Water, Wetlands, and Floodplains in Washington County Communities[a]

Local Government	Surface Water (acres)	Floodplains (acres)[b]	Wetlands (acres)
Partnering Governments			
Village of Jackson	33	207	135
Village of Kewaskum	38	286	152
Village of Newburg	18	70	42
Town of Addison	53	3,316	3,794
Town of Barton	268	1,543	1,736
Town of Erin	377	2,560	4,360
Town of Farmington	402	4,115	3,914
Town of Germantown	7	369	237
Town of Hartford	521	2,386	2,875
Town of Jackson	119	4,882	4,903
Town of Kewaskum	104	2,883	2,652
Town of Polk	286	1,988	1,960
Town of Trenton	347	3,016	4,155
Town of Wayne	142	5,579	6,027
Non-Partnering Governments			
City of Hartford	74	525	769
City of West Bend	193	922	913
Village of Germantown	295	3,505	3,821
Village of Richfield	464	2,327	2,644
Village of Slinger	34	321	436
Town of West Bend	1,379	2,017	1,115
Washington County[c]	5,158	42,817	46,640

[a] *The area within surface water and wetlands is based on the 2015 SEWRPC land use inventory and city and village limits as of January 1, 2017.*

[b] *The area within floodplains is based on the Washington County Flood Insurance Study.*

[c] *Includes four acres of the City of Milwaukee lying in the extreme southeastern corner of Washington County.*

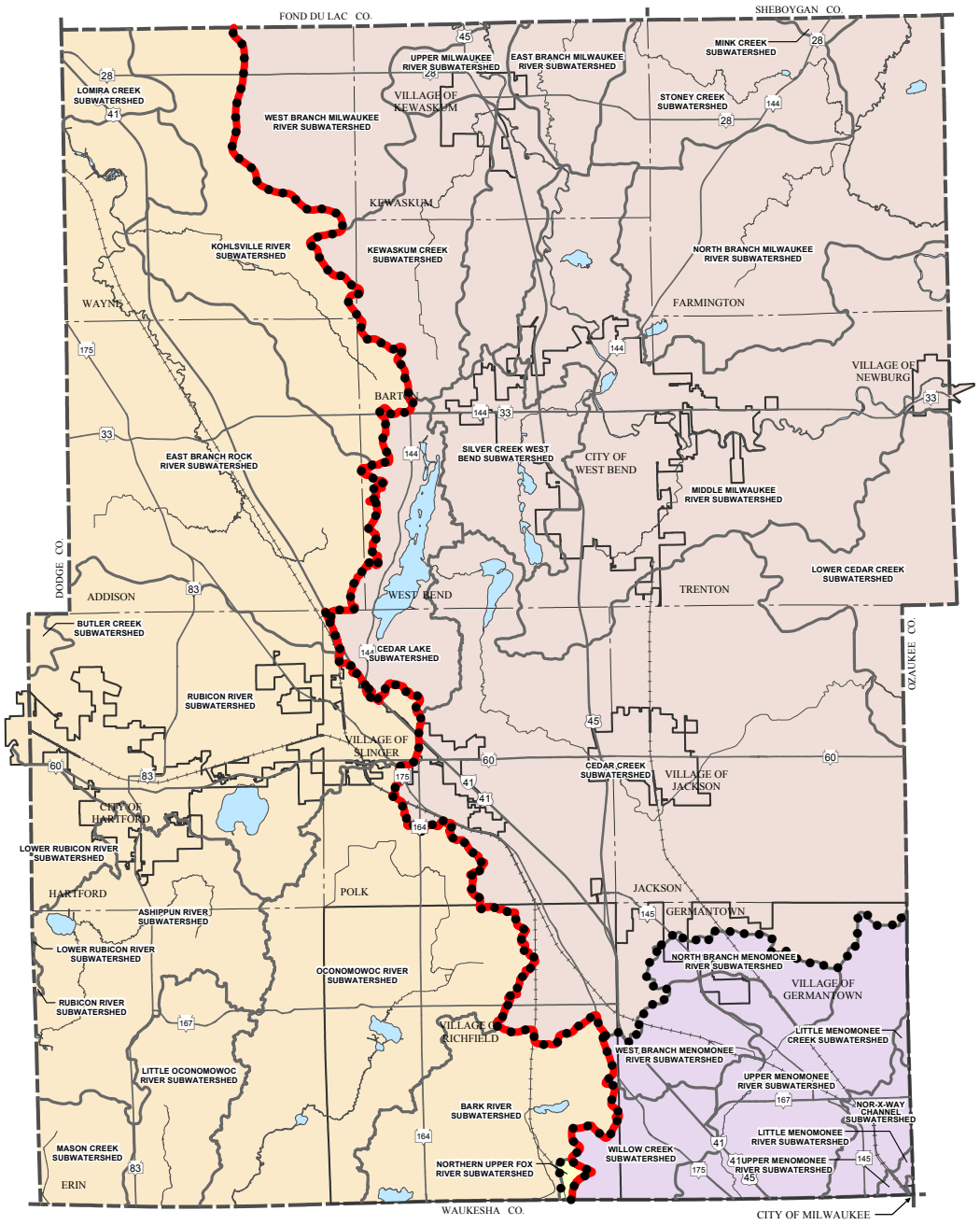
Source: Federal Emergency Management Agency and SEWRPC

Watersheds and Subwatersheds

Watersheds and subwatersheds within the County are shown on Map 5.16. A subcontinental divide that separates the Mississippi River and the Great Lakes–St. Lawrence River drainage basins crosses Washington County from the Town of Wayne on the north to the Village of Richfield on the south, as shown on Map 5.16. About 164,684 acres, or 59 percent of the County, are located east of the divide and drain to the Great Lakes–St. Lawrence River system; the remaining 114,072 acres, or 41 percent of the County, drain west to the Mississippi River. The Great Lakes–St. Lawrence River drainage basin includes the Milwaukee River watershed, which encompasses about 52 percent of the County, and the Menomonee River watershed, which encompasses about 7 percent of the County. The Mississippi River drainage basin includes the Rock River watershed, which encompasses about 41 percent of the County, and the Fox River watershed, which encompasses less than one-tenth of 1 percent of the County.

The subcontinental divide not only exerts a major physical influence on the overall drainage pattern of the County, but also carries with it legal considerations regarding diverting Lake Michigan water west of the divide through the Great Lakes–St. Lawrence River Basin Water Resources Compact. Diversion of water from the Great Lakes Basin to the Mississippi River Basin is prohibited under the Great Lakes–St. Lawrence River Basin Water Resources Compact, but exceptions may be made for communities that straddle the subcontinental divide, or for communities that are completely within the Mississippi River Basin but are located in a county that straddles the divide. The Compact and the *Wisconsin State Statutes* establish the procedures for requesting a diversion and the conditions that must be met for a diversion to be approved. Additional information about water supply in Washington County is provided in the Utilities and Community Facilities Element.

Map 5.16
Watershed Features in Washington County



MILWAUKEE RIVER WATERSHED

ROCK RIVER WATERSHED

FOX RIVER WATERSHED

MENOMONEE RIVER WATERSHED

SUBCONTINENTAL DIVIDE

MAJOR WATERSHED BOUNDARIES

SUBWATERSHED BOUNDARIES

SURFACE WATER

N

0 1 2 3 Miles

Source: SEWRPC

Lakes and Streams

Major streams are defined as those that maintain, at a minimum, a small continuous flow throughout the year except under unusual drought conditions. There are approximately 220 miles of such streams in Washington County. As previously noted, the County includes portions of the Menomonee River, the Milwaukee River, and the Rock River watersheds, along with a very small portion of the Fox River watershed. The major stream in the Menomonee River watershed, which is located in the southeast portion of the County, is the Menomonee River. Major streams in the Milwaukee River watershed, which generally includes the area in the eastern half of the County, include the Milwaukee River, East Branch Milwaukee River, North Branch Milwaukee River, Kewaskum Creek, Cedar Creek, Little Cedar Creek, North Branch Cedar Creek, Evergreen Creek, Quaas Creek, Silver Creek, Stony Creek, and Wallace Creek. Major streams in the Rock River watershed, which generally includes the area in the western half of the County, are the East Branch Rock River, Ashippun River, Coney River, Kohlsville River, Limestone Creek, Mason Creek, Oconomowoc River, Little Oconomowoc River, Bark River, and Rubicon River. Major streams are shown on Map 5.17.

There are 13 major lakes of 50 or more acres located entirely within Washington County, which are shown on Map 5.17. Major lakes in the Milwaukee River watershed include Barton Pond, Big Cedar Lake, Little Cedar Lake, Green Lake, Lucas Lake, Silver Lake, Smith Lake, Lake Twelve, and Wallace Lake. Major lakes in the Rock River watershed include Bark Lake, Druid Lake, Friess Lake, and Pike Lake. One other major lake in the Rock River watershed, Lake Five, is located partially in Washington and partially in Waukesha County. There are no major lakes within the Menomonee River watershed or the Fox River watershed in Washington County. Together, these major lakes have a combined surface area of about 2,563 acres in Washington County. The three largest lakes are Big Cedar Lake, with a surface area of about 957 acres; Pike Lake, with a surface area of about 469 acres; and Little Cedar Lake, with a surface area of about 266 acres.

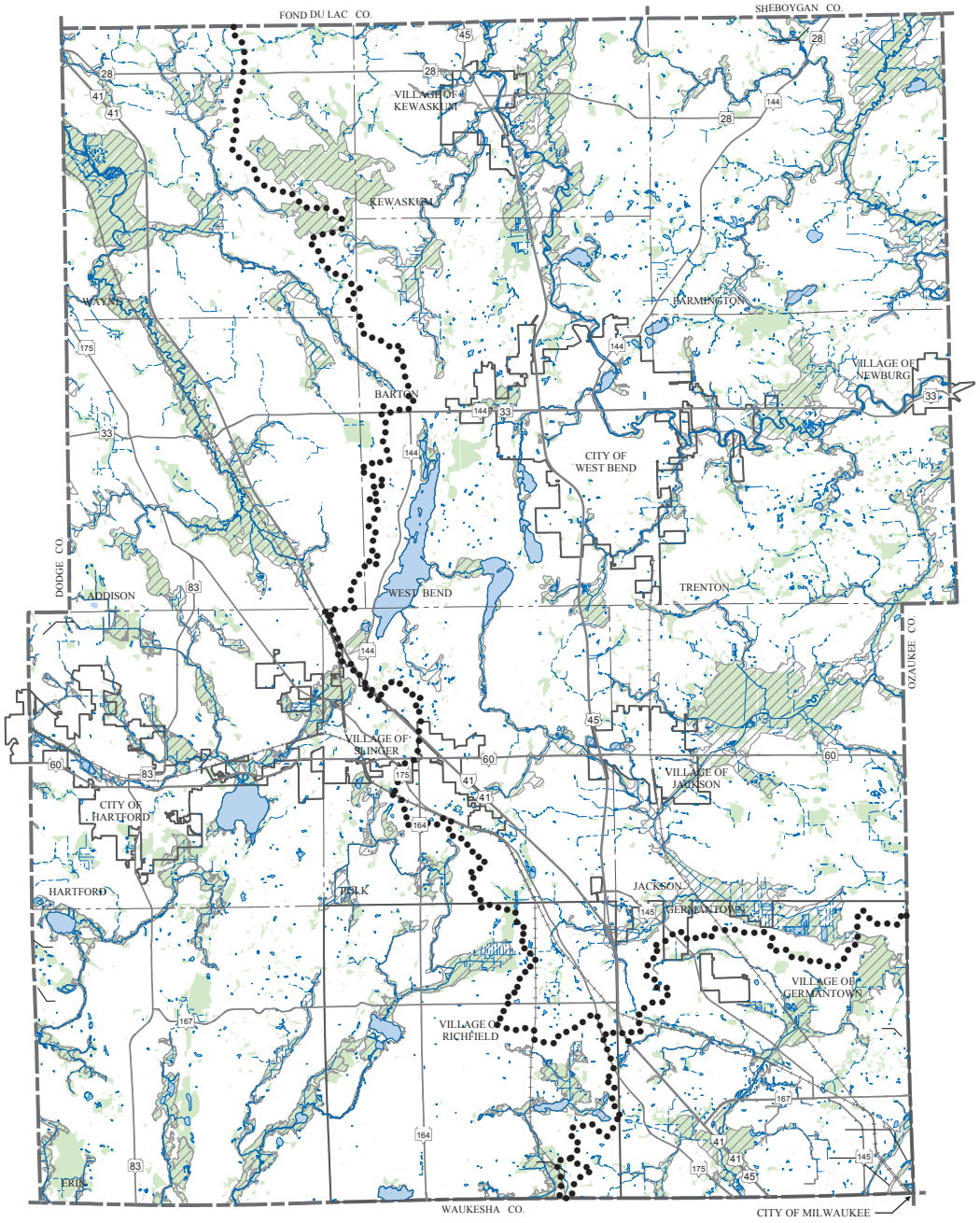
Big Cedar Lake is one of 13 major lakes located in the County.

Major rivers, such as the Milwaukee River, are readily susceptible to degradation through improper land use development and management.

Lakes and streams are readily susceptible to degradation through improper land use development and management. Water quality can be degraded by excessive pollutant loads, including nutrient loads, which enter from malfunctioning and improperly located onsite waste treatment systems, from sanitary sewer overflows, from construction and other urban runoff, and from careless agricultural practices. The water quality of lakes and streams may also be adversely affected by the excessive development of riparian areas and by the filling of peripheral wetlands, which remove valuable nutrient and sediment traps while adding nutrient and sediment sources. It is important that existing and future development in riparian areas be managed carefully to avoid further water quality degradation and to enhance the recreational and aesthetic values of surface water resources.

Lake protection and rehabilitation districts have been formed under Chapter 33 of the *Wisconsin Statutes* for Big Cedar, Druid, Friess, Little Cedar, Pike, and Silver Lakes. The location of the lake districts is shown on Map 5.18. Lake districts are a special-purpose unit of government formed to maintain, protect, and improve the quality of a lake and its watershed. With the exception of the Druid Lake Protection District, each of the lake management districts in Washington County has completed a lake management plan, or a component of such a plan. Additional information regarding lake districts and adopted lake management plans is provided in Chapter 2.

Map 5.17
Surface Waters, Wetlands, and Floodplains in Washington County: 2015



ONE-PERCENT-ANNUAL-PROBABILITY (100-YEAR RECURRENCE INTERVAL) FLOODPLAINS (FEMA FIS, OCTOBER 2015)

MAJOR WATERSHED BOUNDARIES

PERENNIAL STREAM

INTERMITTENT STREAM

WETLANDS

SURFACE WATER

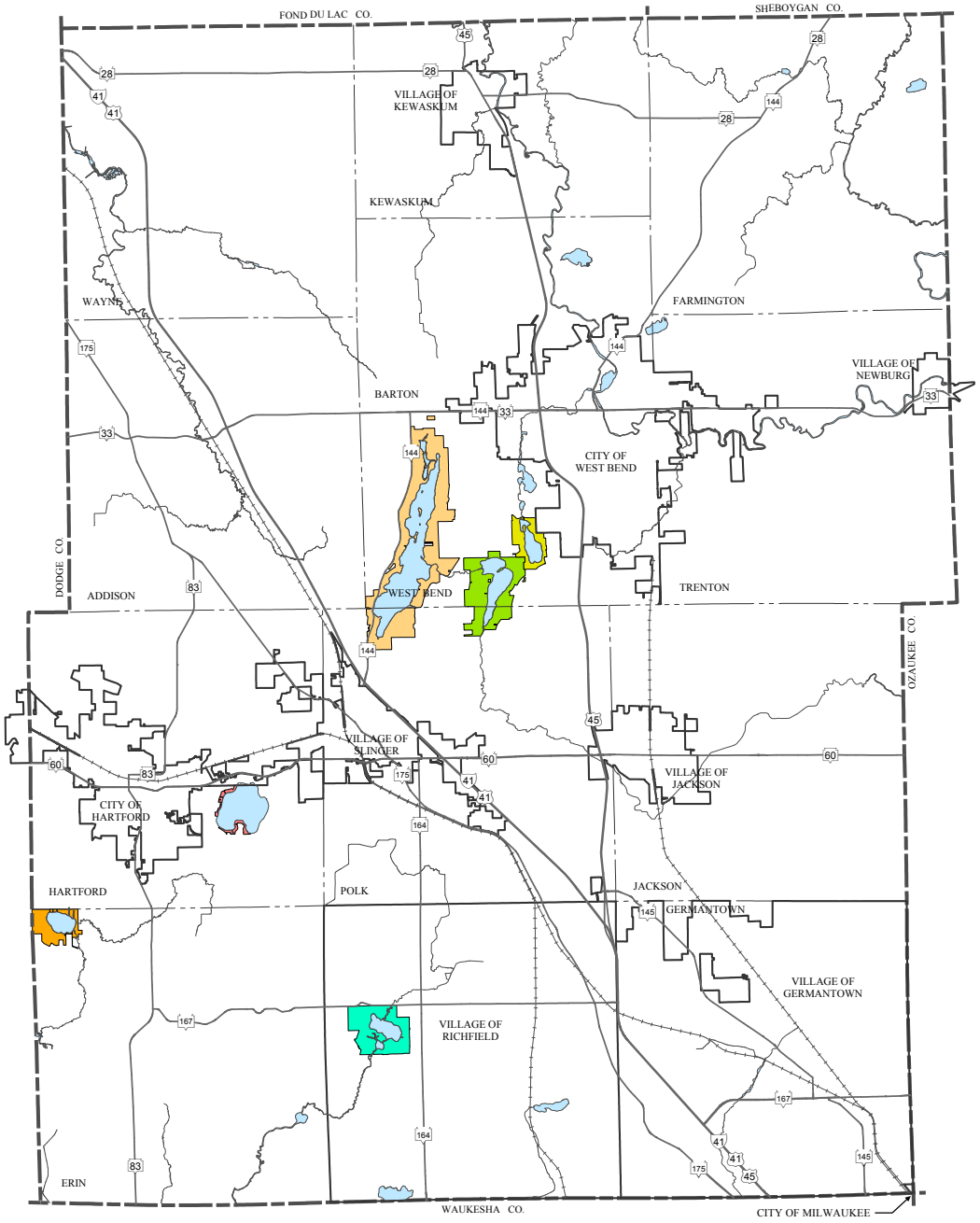
Note: See Map 2.3 in Chapter 2 for floodplains and wetlands regulated by Washington County.

N

0 1 2 3 Miles

Source: Federal Emergency Management Agency and SEWRPC

Map 5.18
Lake Protection Districts in Washington County: 2016



- BIG CEDAR LAKE PROTECTION AND REHABILITATION DISTRICT
- DRUID LAKE PROTECTION DISTRICT
- FRIESS LAKE PROTECTION DISTRICT
- LITTLE CEDAR PROTECTION AND REHABILITATION DISTRICT
- PIKE LAKE PROTECTION AND REHABILITATION DISTRICT
- SILVER LAKE PROTECTION AND REHABILITATION DISTRICT
- SURFACE WATER

N

0 1 2 3 Miles

Source: Washington County and SEWRPC

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.[52] Wetlands may, however, under certain conditions, occur on slopes and even on hilltops. Wetlands perform an important set of natural functions that include supporting a wide variety of desirable, and sometimes unique, forms of plant and animal life; water quality; stabilizing lake levels and streamflows; reducing stormwater runoff by providing areas for floodwater impoundment and storage; and protecting shorelines from erosion.

Wetlands encompassed about 46,640 acres, or 17 percent of the County, in 2015.

Wetlands identified in the SEWRPC regional land use inventory encompassed about 46,640 acres, or 17 percent of the County, in 2015. Wetlands, which are shown on Map 5.17, are based on the Wisconsin Wetlands Inventory completed in 2010 and updated to the year 2015 as part of the regional land use inventory. It should be noted that, in addition to the wetlands shown on Map 5.17, certain other areas have been identified by the NRCS as farmed wetlands, which are subject to Federal wetland regulations.

Wetlands and their boundaries are continuously changing in response to changes in drainage patterns and climatic conditions. While wetland inventory maps provide a basis for areawide planning, detailed field investigations are often necessary to precisely identify wetland boundaries on individual parcels. Field investigations are generally conducted at the time a parcel is proposed to be developed or subdivided.

Floodplains

The floodplains of a river are the wide, gently sloping areas usually lying on both sides of a river or stream channel. The flow of a river onto its floodplain is a normal phenomenon and, in the absence of flood control works, can be expected to occur periodically. For planning and regulatory purposes, floodplains are defined as those areas subject to inundation by the one-percent-annual-probability (100-year recurrence interval) flood event. This event has a 1 percent chance of being equaled or exceeded in any given year. Floodplains are generally not well suited for urban development because of the flood hazard, the presence of high water tables, and/or the presence of wet soils.

Floodplains identified by the Federal Emergency Management Agency (FEMA) within Washington County are shown on Map 5.17 and listed in Table 5.8. They encompass an area of approximately 42,817 acres, or 15 percent of the County. Documentation for FEMA study reaches are summarized in the Washington County Flood Insurance Study, October 16, 2015.

Shorelands

Shorelands are defined by the *Wisconsin Statutes* as lands within the following distances from the ordinary high water mark of navigable waters: 1,000 feet from a lake, pond, or flowage; and 300 feet from a river or stream, or to the landward side of the floodplain, whichever distance is greater. In accordance with the requirements set forth in Chapters NR 115 (shoreland regulations) and NR 116 (floodplain regulations) of the *Wisconsin Administrative Code*, the Washington County shoreland and floodplain zoning ordinance

[52] *The definition of "wetlands" used by SEWRPC 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. This definition differs somewhat from the definition used by the WDNR. Under the WDNR definition, wetlands are areas where water is at, near, or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which has soils indicative of wet conditions. As a practical matter, application of either the WDNR definition or the EPA-Army Corps of Engineers-SEWRPC definition has been found to produce relatively consistent wetland identification and delineations in the majority of the situations in Southeastern Wisconsin.*

restricts uses in wetlands located in the shorelands, and limits the uses allowed in the one-percent-annual-probability (100-year recurrence interval) floodplain to prevent damage to structures and property and to protect floodwater conveyance areas and the storage capacity of floodplains. The ordinance also limits the removal of vegetation and other activities in shoreland areas and requires most structures to be set back a minimum of 75 feet from navigable waters. Additional setbacks may be required based on the lake and stream classification study conducted by the County. State law requires that counties administer shoreland and floodplain regulations in unincorporated areas. Chapter 2 provides additional information about the County shoreland and floodplain zoning ordinance and lake and stream classification study, including a map of shoreland areas in unincorporated portions of the County.

The County shoreland ordinance limits the removal of vegetation and other activities in shoreland areas and requires most structures to be set back a minimum of 75 feet from navigable waters.

Under Chapter NR 117 of the *Administrative Code*, cities and villages are required to restrict uses in wetlands located in the shoreland area. In addition, a structure setback of 50 feet from the ordinary high water mark in shoreland areas is required in cities and villages incorporated after April 30, 1994 and in areas annexed to a city or village after May 7, 1982. The same floodplain regulations set forth in NR 116 for unincorporated areas also apply within cities and villages. Each city and village administers the floodplain regulations within its corporate limits.

Groundwater Resources

Groundwater resources constitute another key element of the natural resource base of the County. Groundwater not only sustains lake levels and wetlands and provides the base flow of streams, but also provides the water supply for domestic, municipal, and industrial water users in Washington County. Map 5.19 depicts the depth to the water table, or groundwater, in Washington County.

Groundwater occurs within three major aquifers that underlie the County and the remainder of southeastern Wisconsin. 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." The shallow and deep aquifers are separated by the Maquoketa shale, which forms a relatively impermeable barrier between the two aquifers.

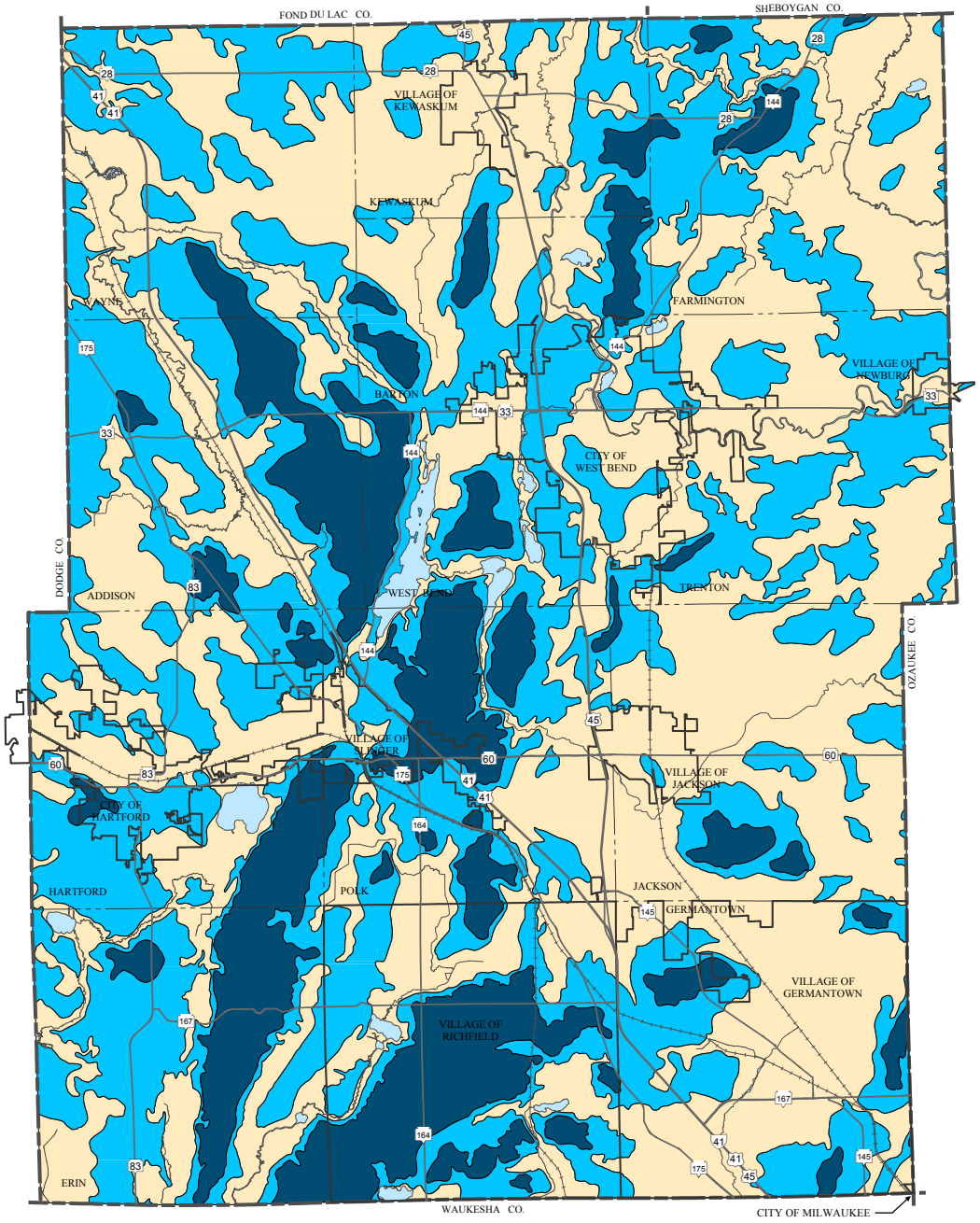
Like surface water, groundwater is susceptible to depletion in quantity and to deterioration in quality as a result of urban and rural development. Consequently, comprehensive planning must appropriately consider the potential impacts of urban and rural development on this important resource. Land use planning must also take into account, as appropriate, natural conditions that may limit the use of groundwater as a source of water supply, including the relatively high levels of naturally occurring radium that may occur in groundwater in the deep sandstone aquifer. Additional information on the groundwater system, including uses for water supply, is included in the Utilities and Community Facilities Element.

Forest Resources

Woodlands

With sound management, woodlands can serve a variety of beneficial functions. In addition to contributing to clean air and water and regulating surface water runoff, woodlands help maintain a diversity of plant and animal life. The destruction of woodlands, particularly on hillsides, can contribute to excessive stormwater runoff, siltation of lakes and streams, and loss of wildlife habitat. Woodlands identified in the SEWRPC land use inventory are shown on Map 5.20. Woodlands are defined as upland areas of one acre or more in size, having 17 or more trees per acre, each deciduous tree measuring at least four inches in diameter 4.5 feet

Map 5.19
Depth to Shallow Water Table in Washington County



0-25 FEET

25-50 FEET

GREATER THAN 50 FEET

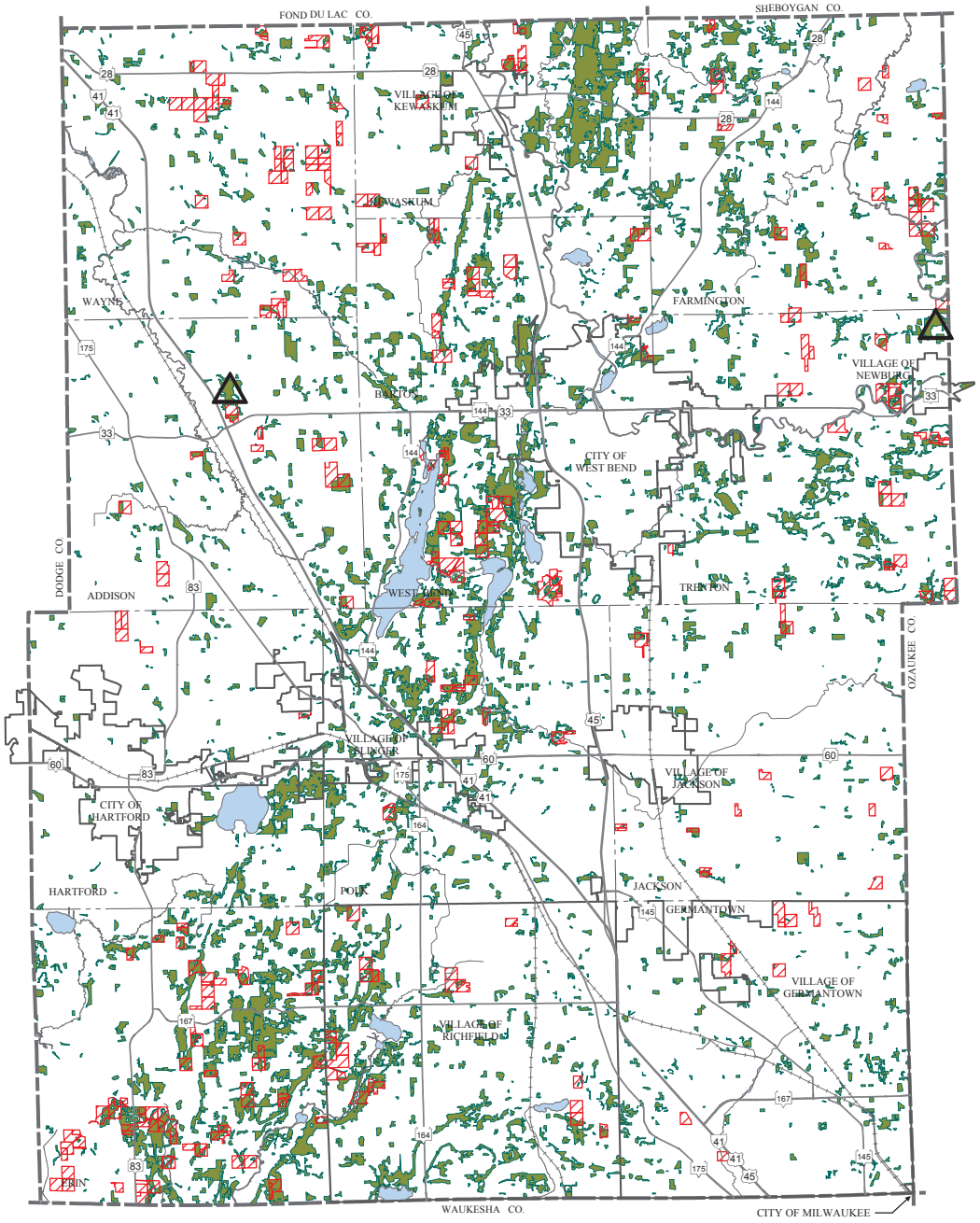
SURFACE WATER

N

0 1 2 3 Miles

Source: Wisconsin Geological and Natural History Survey and SEWRPC

Map 5.20
Woodlands and Managed Forest Lands in Washington County



UPLAND WOODLANDS (2015)
Note: Does not include lowland woods, such as tamarack swamps.

MANAGED FOREST LANDS (2018)

SURFACE WATER

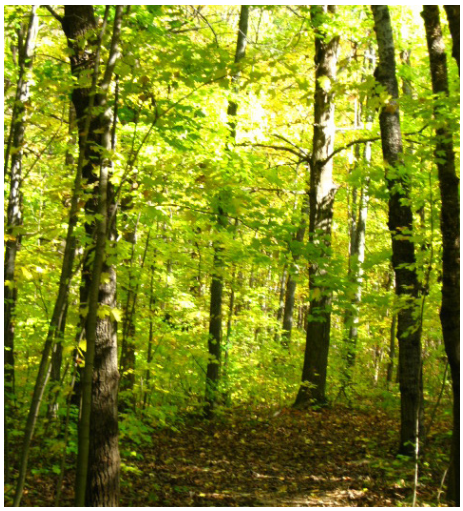
PROPOSED FOREST INTERIOR SITES

N

0 1 2 3 Miles

Source: Wisconsin Department of Natural Resources, Washington County, and SEWRPC

above the ground, and having canopy coverage of 50 percent or greater. Coniferous tree plantations and reforestation projects are also classified as woodlands. Table 5.9 lists the number of acres of woodlands in the County and each local government. In 2015, woodlands encompassed over 26,000 acres, or about 9 percent of the County.[53]



In 2015, woodlands encompassed over 26,000 acres, or about 9 percent of the County. Woodlands contribute to clean air and water and regulating surface water runoff, and help maintain a diversity of plant and animal life.

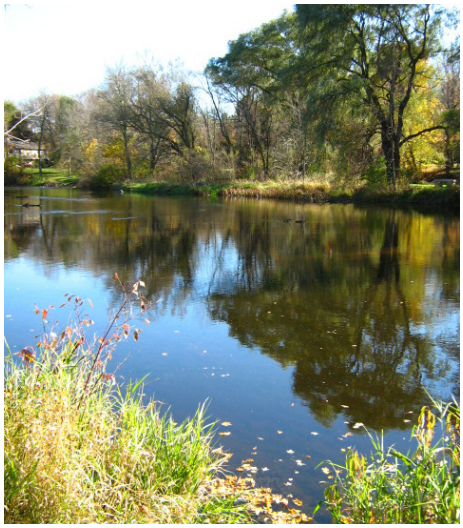
Managed Forest Lands

The Managed Forest Law (MFL) is an incentive program intended to encourage sustainable forestry on private woodlands in Wisconsin with a primary focus on timber production. The MFL offers private owners of woodlands a reduced property tax rate as an incentive to participate. All Wisconsin private woodland owners with at least 10 acres of contiguous forestland in the same city, village, or town are eligible to apply—provided the lands meet the following criteria: 1) a minimum of 80 percent of the land must be wooded, 2) the land must be used primarily for growing forest products (agricultural uses such as cropland, pasture, or orchards are not eligible), and 3) there are no recreational uses that interfere with forest management.

Participants enter into a 25- or 50-year contract. A penalty is assessed if an agreement is terminated before its end. Applications must include a management plan prepared by a person certified by the WDNR. If the enrolled property is sold before the agreement period has expired, the new owner can choose one of three options: 1) complete the agreement period with the approved plan, 2) adjust the plan to meet new goals and objectives, or 3) withdraw the land and pay the penalty. Lands can be open or closed to the public, but the tax benefit is substantially greater for enrolled acreage that is open to the public. Managed forest lands in Washington County are shown on Map 5.20. In 2018, there were 311 sites enrolled in the MFL Program, encompassing about 8,660 acres. About 8,384 acres were closed to the public and 276 acres were open to the public, as shown in Table 5.9.

Natural Areas and Critical Species Habitat Sites

A comprehensive inventory of natural resources and important plant and animal habitats was conducted by SEWRPC in 1994 and updated in 2010 as part of the regional natural areas and critical species habitat protection and management plan. The inventory systematically identified all remaining high-quality natural areas, critical species habitat, and sites having geological significance within the Region. Ownership of identified natural areas and critical species habitat sites in the County were reviewed and updated in 2016. Sites identified by SEWRPC staff since 2010 are also included in the inventory.



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

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); or natural areas of local significance (NA-3). Classification of an area into one of these three categories is based on consideration of the diversity of plant and animal species and community type present,

[53] *This data includes upland woods only, not lowland woods classified as wetlands, such as tamarack swamps. Lowland woods may be enrolled in the Managed Forest Law Program as discussed in the following section.*

Table 5.9
Woodlands and Managed Forest Lands in Washington County Communities

Local Government	Woodlands: 2015 (acres)	Managed Forest Lands: 2018 (acres)		
		Open to the Public	Closed to the Public	Total
Partnering Governments				
Village of Jackson	21	--	--	--
Village of Kewaskum	114	--	--	--
Village of Newburg	17	--	--	--
Town of Addison	1,195	--	460	460
Town of Barton	1,443	--	579	579
Town of Erin	4,425	--	1,826	1,826
Town of Farmington	2,194	--	632	632
Town of Germantown	27	--	--	--
Town of Hartford	1,012	--	137	137
Town of Jackson	675	--	300	300
Town of Kewaskum	2,770	41	408	449
Town of Polk	2,423	--	334	334
Town of Trenton	2,058	--	861	861
Town of Wayne	1,120	207	1,014	1,221
Non-Partnering Governments				
City of Hartford	199	--	--	--
City of West Bend	745	--	--	--
Village of Germantown	784	28	283	311
Village of Richfield	2,695	--	695	695
Village of Slinger	338	--	--	--
Town of West Bend	2,009	--	855	855
Washington County	26,264	276	8,384	8,660

Source: Wisconsin Department of Natural Resources and SEWRPC

the structure and integrity of the native plant or animal community, the uniqueness of the natural features, the size of the site, and the educational value.

A total of 95 natural areas, encompassing about 16,906 acres, or about 6 percent of the County, have been identified. Of the 95 identified sites, eight are classified as NA-1 and encompass about 3,267 acres, 28 are classified as NA-2 and encompass about 5,533 acres, and 59 are classified as NA-3 and encompass about 8,106 acres. Natural areas are shown on Map 5.21 and described in Table 5.10.

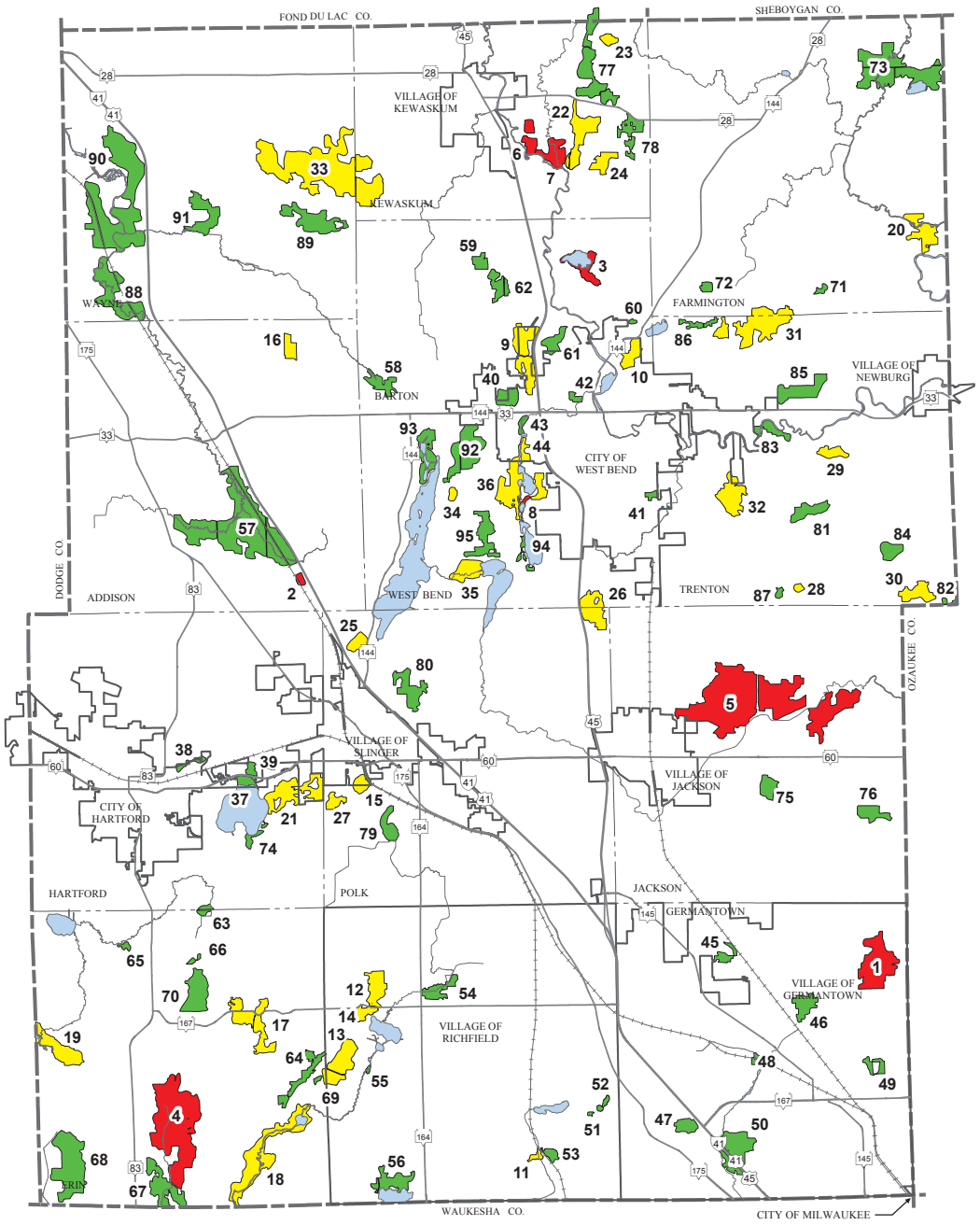
Critical Species Habitat Sites and Aquatic Habitat Areas

Critical species habitat sites consist of areas outside natural areas that are important for their ability to support rare, threatened, or endangered plant or animal species. Such areas constitute "critical" habitat considered to be important to the survival of a particular species or group of species of special concern. A total of 21 sites supporting rare or threatened plant and animal species have been identified in Washington County as of 2016. These sites encompass an area of 1,035 acres, or less than 1 percent of the County, and are shown on Map 5.22 and described in Table 5.11.

There are also 60 aquatic habitat areas supporting threatened or rare fish, herptile, or mussel species in the County, including about 200 miles of rivers and streams and 2,749 acres of lake waters. Aquatic habitat areas are shown on Map 5.22 and described in Table 5.12.

Critical species habitat sites consist of areas outside natural areas that are important for their ability to support rare, threatened, or endangered plant or animal species.

Map 5.21
Natural Areas in Washington County



NATURAL AREAS OF STATEWIDE OR GREATER SIGNIFICANCE (NA-1)

NATURAL AREAS OF COUNTYWIDE OR REGIONAL SIGNIFICANCE (NA-2)

NATURAL AREAS OF LOCAL SIGNIFICANCE (NA-3)

8 REFERENCE NUMBER (SEE TABLE 5.10)

SURFACE WATER

N

0 1 2 3 Miles

Source: Wisconsin Department of Natural Resources and SEWRPC

Table 5.10
Natural Areas in Washington County: 2016[a]

Number on Map 5.21	Area Name	Site Type[b]	Location	Ownership	Size (acres)	Description and Comments
1	Germantown Swamp	NA-1	Village of Germantown	Village of Germantown and private	374	Located along the headwaters of the Menomonee River, this is a large low-lying woods that has apparently suffered only minimal human disturbance, although ditching near the perimeter has had some effect. This is predominantly a southern low-land hardwoods of silver and red maple, green ash, American elm, and bass-wood, but with substantial inclusions of northern wet-mesic forest of yellow birch, tamarack, and white cedar. At the north end is an upland stand of sugar maple and beech. The ground flora contains a mixture of northern and southern elements. The large size of the woods, together with its relatively undisturbed nature and unique combination of species, makes this a valuable site. A severe windstorm in late June 1991 toppled a large number of trees, mostly yellow birch and silver maple
2	Aurora Road Fen	NA-1 (RSH)	Town of Addison	Wisconsin Department of Transportation (WisDOT) and private	22	High-quality calcareous fen, with sedge meadow and tamarack relict associated with cold trout stream that is tributary to the Rock River. Location of swamp metal-mark, a State-designated threatened butterfly species. Threatened by surrounding incompatible land use
3	Smith Lake Fen and Swamp	NA-1 (RSH)	Town of Barton	Wisconsin Department of Natural Resources (WDNR), Town of Barton, and private	170	Shallow lake rich in aquatics bordered by sedge meadow, tamaracks, and good-quality calcareous fens on northeast and east sides
4	Murphy Lake-McConville Lake Wetland Complex	NA-1 (RSH)	Town of Erin	The Nature Conservancy and other private	887	Large wetland complex surrounding undeveloped hard-water seepage lakes located in a large glacial basin. The variety of plant communities includes shrub-carr, alder thicket, lowland hardwoods, sedge meadow, deep and shallow marsh, and both young and mature tamarack forest. Good to excellent quality overall
5	Jackson Swamp	NA-1 (RSH)	Town of Jackson	WDNR and private	1,571	Large forested wetland, consisting mainly of disturbed lowland hardwood swamp with green ash and red and silver maples. There are smaller, higher-quality inclusions of white cedar-dominated northern wet-mesic forest. Changes in hydrology have allowed reed canary grass to invade canopy gaps. The large forest interior is invaluable for a number of native breeding birds
6	Kewaskum Maple-Oak Woods State Natural Area	NA-1 (SNA, RSH)	Town of Kewaskum	WDNR and private	86	An extremely rich and relatively undisturbed southern mesic and dry-mesic forest, located just east of the Milwaukee River on undulating moraine topography. The northern two-thirds consti-tute a designated State Natural Area, which consists of two tracts separated by pine plantation. A number of regionally uncommon species are present. Kettle depressions hold water part of the year
7	Milwaukee River Floodplain Forest State Natural Area	NA-1 (SNA)	Town of Kewaskum	WDNR and private	135	One of the best riverine forests remaining in the Region. Quality varies, but some areas are relatively undisturbed. Upland "islands" contribute to a rich and diverse ground flora

Table continued on next page.

Table 5.10 (Continued)

Number on Map 5.21	Area Name	Site Type[b]	Location	Ownership	Size (acres)	Description and Comments
8	Paradise Lake Fen	NA-1 (RSH)	Town of West Bend	WDNR and private	22	Undeveloped nine-acre lake with good-quality calcareous sedge mat and deep and shallow marsh
				NA-1 Subtotal – 8 sites	3,267	--
9	Blue Hills Woods	NA-2 (RSH)	City of West Bend; Town of Barton	City of West Bend, WDNR, Ozaukee Washington Land Trust, and other private	263	Relatively large, good-quality mesic and dry mesic woods on glacial topography of significant relief. Recovering from past grazing and selective cutting. Recently disturbed by construction of USH 45 along east edge
10	Lac Lawrann Conservancy Upland Woods and Wetlands	NA-2 (RSH)	City of West Bend	City of West Bend and private	101	A good-quality wet- and dry-mesic hardwood forest, with a deep and shallow marsh, shrub-carr, and floating sedge mat around a pond. The area contains a good example of kame and esker formation. Location of the State-designated threatened forked aster (*Aster furcatus*)
11	Colgate Fen-Meadow	NA-2 (RSH)	Village of Richfield	Private	23	Good-quality fen-sedge meadow complex, with tamarack relict, bordering the headwaters of the Bark River
12	Daniel Boone Bogs and Upland Woods	NA-2 (RSH)	Village of Richfield	Daniel Boone Conservation League and other private	142	A pair of good-quality, relatively undisturbed sphagnum bogs located within a dry-mesic forest matrix. A number of uncommon species are present, including common bog arrow-grass (*Triglochin maritimum*), a State-designated special concern species
13	Friess Lake Tamarack Swamp	NA-2	Village of Richfield; Town of Erin	Private	228	Large, mostly wooded, wetland complex, consisting of young to medium-aged tamarack swamp, shrub-carr, and shallow marsh. South portion divided by high east-west crevasse fill
14	Glacier Hills Park Bogs and Upland Woods	NA-2 (RSH)	Village of Richfield	Washington County and private	60	Steep, interlobate kettle moraine topography supporting two good-quality bogs in kettle depressions. Southern mesic and dry-mesic hard-wood forest covers the surrounding uplands, with small stands of dry hill prairie containing the State-designated threatened kittentails (*Besseya bullii*)
15	Mud Lake Meadow	NA-2 (RSH)	Village of Slinger; Town of Polk	Private	59	Good-quality open meadow to the east and north of a small, shallow, alkaline seepage lake. Dominated by wire-grass sedges. Fen elements are present, as well as a few scattered patches of tamaracks. A site of unusual species composition
16	St. Anthony Beech Woods	NA-2	Town of Addison	Private	68	An old-growth remnant of the once-extensive mesic woods, dominated by mature beech and sugar maple. Located on a moderate, east-facing slope. Not undisturbed, but in good condition
17	Holy Hill Woods	NA-2	Town of Erin	Carmelite Fathers, Ozaukee Washington Land Trust, and other private	259	Moderate- to good-quality, medium-aged southern mesic and dry-mesic woods located on gently sloping to steep interlobate kettle moraine topography. Dominated by sugar maple, red oak, red maple, white ash, white oak, and basswood. Total wooded area is large, but dissected by highways. However, it remains as one of the larger, better-quality upland hardwood forests locally

Table continued on next page.

Table 5.10 (Continued)

Number on Map 5.21	Area Name	Site Type[b]	Location	Ownership	Size (acres)	Description and Comments
18	Loew Lake Wetland Complex	NA-2 (RSH)	Town of Erin	WDNR and private	481	Undeveloped drainage lake and wetland corridor associated with the upper Oconomowoc River. The diverse wetland communities are in generally good condition, and include sedge meadow, lowland hardwoods, emergent aquatics, shrub-carr, and tamarack swamp. Swamp metalmark butterfly and queen snake have been documented
19	Toland Swamp	NA-2	Town of Erin	Private	202	Large, wooded wetland mixture of shrub-carr, lowland hardwoods, and tamarack relict, with a history of disturbance
20	North Branch Woods	NA-2	Town of Farmington	WDNR and private	180	Good-quality wooded tract bordering the North Branch of the Milwaukee River. Consists of southern mesic and wet-mesic hardwoods. Threatened by future logging operations
21	Pike Lake Woods	NA-2	Town of Hartford	WDNR	280	Low- to medium-quality dry-mesic woods that has suffered from past disturbance, including grazing and selective logging. The irregular kettle moraine topography includes a prominent wooded kame at the southeast corner
22	Glacial Trail Forest	NA-2	Town of Kewaskum	WDNR and private	223	One of the largest intact tracts of contiguous southern mesic and dry-mesic forest remaining in the Region. Located on steep, irregular kettle moraine topography. Good overall quality; recovering from past selective cutting. Important to maintain as intact as possible
23	Kettle Moraine Drive Bog	NA-2	Town of Kewaskum	WDNR and private	39	A good-quality forested bog of tamarack and lack spruce over a layer of ericads, with yellow and paper birch established in older areas. A number of regionally uncommon species are present
24	St. Michael's Woods	NA-2	Town of Kewaskum	WDNR and private	86	Rolling interlobate moraine supporting southern mesic to dry-mesic hardwoods, dominated by sugar maple, red oak, and basswood. Moderately rich ground flora. Relatively recent selective logging
25	Big Cedar Lake Bog	NA-2	Town of Polk	Private	89	Good-quality, relatively large sphagnum bog, surrounded by a tamarack fringe. Regionally uncommon species are present. Some past attempts at ditching
26	Mud Lake Swamp	NA-2 (RSH)	Town of Polk; Town of West Bend	WisDOT and private	186	Good-quality, undeveloped calcareous head-water lake surrounded by lowland hardwoods and tamarack swamp. Fen and bog floral elements are present. Adversely affected by construction of USH 45
27	Mud Lake Upland Woods	NA-2	Town of Polk	Private	55	Relatively undisturbed southern dry-mesic woods on rolling moraine topography. Dominated by red and white oaks, with an admixture of red maple, sugar maple, bass-wood, and white ash. Few exotics present. Threatened by encroaching residential development. A good example of this forest type
28	Bellin Bog	NA-2	Town of Trenton	Private	17	A good-quality sedge mat and tamarack swamp, with many fen elements, that border a shallow, undeveloped pond
29	Myra Wetlands	NA-2	Town of Trenton	Private	69	Good-quality wetland complex of shallow lake, marsh, sedge meadow, shrub-carr, and lowland hardwoods

Table continued on next page.

Table 5.10 (Continued)

Number on Map 5.21	Area Name	Site Type[b]	Location	Ownership	Size (acres)	Description and Comments
30	Reinartz Cedar Swamp	NA-2	Town of Trenton	Private	121	Good-quality northern wet-mesic forest, dominated by white cedar, tamarack, yellow and paper birch, red maple, and black ash. A number of species with more northerly affinities are present. Uplands to the east support a disturbed mesic woods
31	Sandy Knoll Swamp	NA-2	Town of Trenton; Town of Farmington	Washington County and private	392	Large, patchy lowland hardwood forest with areas of tamarack. Some portions contain good-quality wet-mesic forest ground flora. Past disturbances include selective cutting and clear-cutting, and water-level changes due to ditching
32	Schoenbeck Woods	NA-2	Town of Trenton; City of West Bend	Private	196	Relatively large, moderate- to good-quality forested tract, consisting of lowland hard-woods, shrub-carr, southern mesic forest, and southern dry-mesic forest
33	Wayne Swamp	NA-2	Town of Wayne; Town of Kewaskum	Private	1,147	A large depression in rolling moraine supports several wetland communities, including second-growth lowland hardwoods, northern wet-mesic forest, shrub-carr, and tamarack-fen, with southern mesic forest on isolated uplands
34	Hacker Road Bog	NA-2	Town of West Bend	WDNR	25	Good-quality sphagnum bog, bordered by sedge meadow, shallow marsh, and shrub-carr
35	Little Cedar Lake Wetlands	NA-2	Town of West Bend	Cedar Lakes Conservation Foundation and other private	134	Extensive wetlands at west end of Little Cedar Lake, containing good-quality deep and shallow marsh, sedge meadow, shrub-carr, tamarack relicts, and lowland hardwoods
36	Silverbrook Lake Woods	NA-2 (RSH)	Town of West Bend; City of West Bend	Girl Scouts of Milwaukee Area, Inc., Washington County, University of Wisconsin – Washington County, Town of West Bend, Cedar Lakes Conservation Foundation, and other private	408	A large area surrounding Silver-brook Lake, consisting mainly of good-quality southern mesic to dry-mesic hardwoods. Fairly diverse ground flora. Low area contains tamaracks and lowland hardwoods. Residences are beginning to encroach on south and west. Important to preserve as an intact block of relatively contiguous woods
				NA-2 Subtotal – 28 sites	5,533	--
37	Pike Lake Sedge Meadow	NA-3 (RSH)	Town of Hartford; City of Hartford[c]	Town of Hartford and private	44	Good-quality southern sedge meadow and shallow marsh at north end of Pike Lake
38	Rubicon Lowlands	NA-3	Town of Hartford; City of Hartford	Washington County, City of Hartford, and private	30	Moderate-quality southern sedge meadow along the Rubicon River
39	STH 60 Swamp	NA-3	Town of Hartford; City of Hartford	Hartford Community Conservation Club and other private	31	Lowland hardwood swamp of moderate quality, containing some northern elements. Dominated by yellow birch and black ash
40	Albecker Park Wetlands	NA-3	City of West Bend; Town of Barton	City of West Bend and private	91	Shallow marsh and disturbed fresh (wet) meadow complex with some shrub-carr and scattered lowland hardwoods. Disturbances include water-level changes due to past draining efforts and filling
41	Muth Woods	NA-3 (RSH)	City of West Bend	City of West Bend and private	21	A good-quality, medium-aged stand of southern mesic hard-woods, with an exceptionally rich and diverse ground flora that includes some uncommon species. A depression near the center of the woods contains lowland hardwoods
42	Regner Park Woods	NA-3	City of West Bend	City of West Bend	25	Small, but good quality dry-mesic woods within urban park
43	Silver Creek Marsh	NA-3	City of West Bend	Washington County and private	27	Good-quality deep and shallow marsh and sedge meadow

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Table 5.10 (Continued)

Number on Map 5.21	Area Name	Site Type[b]	Location	Ownership	Size (acres)	Description and Comments
44	University Fen	NA-3 (RSH)	City of West Bend	City of West Bend	1	A small, moderate-quality calcareous fen and lowland hardwood forest recently disturbed by adjacent highway construction
45	Faber-Pribyl Woods	NA-3	Village of Germantown	Private	52	Small but good-quality remnant of mesic woods which still exhibits characteristics of an old-growth forest. Dominated by sugar maple and bass-wood, with some beech. Adjoining wet-mesic woods to north are of lesser quality
46	Hoelz Swamp	NA-3	Village of Germantown	Private	110	A moderate-quality lowland hardwoods within the headwaters area of the Menomonee River. Dominated by silver and red maple and yellow birch, with some northern forest understory elements. Valuable for watershed protection
47	Kleinman Swamp	NA-3	Village of Germantown	WisDOT and private	71	Lowland hardwood forest of silver maple and some yellow birch. Low ecological value
48	Lake Park Swamp	NA-3	Village of Germantown	Village of Germantown and private	54	A disturbed silver maple-dominated lowland hardwood forest, important for protection of two intermittent streams tributary to the Menomonee River
49	Schoessow Woods	NA-3 (RSH)	Village of Germantown	Village of Germantown and private	51	A relatively small but good-quality mix upland mix of upland woods alternating with wet and wet-mesic woods in shallow depressions. Trees, mostly sugar maple, green ash, and basswood, are of medium age. Very good species diversity, including two State-designated special concern species: American gromwell (*Lithospermum latifolium*) and goldenseal (*Hydrastis canadensis*). Threatened by mix of woods alternating with wet and wet-mesic woods in shallow depressions. Trees, mostly sugar maple, green ash, and basswood, are of medium-age, Very good species diversity, including two State-designated special concern species: American gromwell (*Lithospermum latifolium*) and goldenseal (*Hydrastis canadensis*). Threatened by residential subdivisions
50	USH 41 Swamp	NA-3	Village of Germantown	Milwaukee Metropolitan Sewerage District and other private	263	An extensive floodplain forest dominated by silver maple, with green ash, black ash, and American elm. Due to Dutch elm disease, dissection by USH 41-45, a logging history, and artificial drainage, its ecological value is low. Important for protection of Menomonee River tributaries
51	Amy Bell Bog	NA-3	Village of Richfield	Private	5	Good quality floating bog mat
52	Amy Bell Lake and Lowlands	NA-3	Village of Richfield	YMCA	20	Small, undeveloped lake with a narrow bog fringe, associated with a tamarack relict and shrub-carr that have suffered from past disturbance
53	Colgate Shrub-Carr	NA-3	Village of Richfield	Private	37	Shrub-carr surrounding small, shallow lake; disturbed by access road
54	CTH J Swamp	NA-3	Village of Richfield	Friess Lake School District and private	100	Moderate- to good-quality complex of shrub-carr, lowland hardwoods, and mesic hardwoods, with scattered spring seepages
55	Hubertus Road Sedge Meadow	NA-3	Village of Richfield	Private	7	Good-quality southern sedge meadow bordering the Ocono-mowoc River

Table continued on next page.

Table 5.10 (Continued)

Number on Map 5.21	Area Name	Site Type[b]	Location	Ownership	Size (acres)	Description and Comments
56	Lake Five Woods	NA-3 (RSH)	Village of Richfield	Private	145	Low- to moderate-quality mesic, dry-mesic, and xeric woods on steep kettle moraine terrain on north side of Lake Five. Depression contains small seepage pond and disturbed wetland plant communities. Small patches of dry hill prairie are located within the xeric woods and contain the State-designated threatened kittentails (*Besseya bullii*). Threatened by surrounding development
57	Allenton Swamp	NA-3	Town of Addison	WDNR and private	1,090	Large, disturbed wetland complex along the Rock River, including southern sedge meadow, lowland hardwoods, shrub-carr, emergent aquatics, and relict tamaracks
58	Kohlsville River Upland Woods and Wetlands	NA-3	Town of Barton	Private	100	Complex of upland and lowland woods
59	Lange Hardwoods	NA-3	Town of Barton	Private	53	Good-quality southern mesic hardwood forest on steep kettle moraine topography
60	Newark Road Wetland	NA-3	Town of Barton	Private	9	A kettle-hole wetland
61	Sunset Park Wetlands	NA-3	Town of Barton; City of West Bend	City of West Bend and private	85	Disturbed wetland complex containing shallow marsh, fresh (wet) meadow, and a good stand of tag alder (*Alnus rugosa*)
62	Wildwood Hardwood Swamp	NA-3	Town of Barton	Private	98	A lowland hardwood forest area
63	CTH E Wetlands	NA-3	Town of Erin; Town of Hartford	Private	28	Wetland complex of shrub-carr, sedge meadow, and shallow marsh that has suffered from past disturbance
63	Donegal Road Woods	NA-3	Town of Erin; Village of Richfield	WDNR and private	141	Large, irregularly shaped dry-mesic woods on steep, southeast-facing slopes
65	Erin Sedge Meadow	NA-3	Town of Erin	Town of Erin and private	17	Moderate-quality sedge meadow
66	Hults Bog and Marsh	NA-3	Town of Erin	Private	14	Small, moderate-quality sphagnum bog-tamarack swamp and associated shallow marsh. Marsh is stopover spot for migrating waterfowl
67	Little Oconomowoc River Woods and Wetlands	NA-3	Town of Erin	Washington County and private	226	Dry-mesic woods and wetland complex
68	Mason Creek Swamp	NA-3	Town of Erin	University of Wisconsin-Milwaukee and private	425	Large lowland hardwoods area
69	St. Augustine Road Sedge Meadow	NA-3	Town of Erin	Private	10	Good-quality southern sedge meadow
70	Thompson Swamp	NA-3	Town of Erin	Private	214	Large but disturbed wetland complex of lowland hardwoods, shrub-carr, sedge meadow, and tamarack relict. Contains some northern species, including white pine
71	Green Lake Bog	NA-3	Town of Farmington	Private	19	Small but good-quality undeveloped bog lake bordered by sphagnum mat, conifer swamp, and mesic hardwoods
72	Lizard Mound Woods	NA-3	Town of Farmington	Washington County and private	29	Mature dry-mesic hardwoods dominated by sugar maple, red oak, basswood, white ash, beech, and white oak. Contains Indian effigy mounds of statewide significance

Table continued on next page.

Table 5.10 (Continued)

Number on Map 5.21	Area Name	Site Type[b]	Location	Ownership	Size (acres)	Description and Comments
73	Milwaukee River Swamp	NA-3	Town of Farmington	Private[d]	547	A large but disturbed wetland complex of lowland hardwoods, northern wet-mesic forest, shrub-carr, and sedge meadow bordering the Milwaukee River
74	Pike Lake Wetlands – South	NA-3	Town of Hartford	WDNR	37	Wetland complex, including sedge meadow and shrub-carr
75	Kowalske Swamp	NA-3	Town of Jackson	Private	83	Young to medium-aged northern wet-mesic hardwoods, disturbed by past selective cutting and windthrow. The ground flora is relatively diverse. A knoll at the north-east corner supports upland mesic woods
76	Sherman Road Swamp	NA-3	Town of Jackson	Private	96	A lowland hardwood swamp dominated by red maple, green ash, and American elm on level terrain
77	Kettle Moraine Drive Woods	NA-3 (RSH)	Town of Kewaskum; Town of Auburn	WDNR and private	293[e]	Long, north-south-trending, irregularly shaped southern mesic and dry-mesic forest that is recovering from past grazing and selective cutting. Located on steep-sided, gravelly ridges of the interlobate kettle moraine. Forest is mostly second-growth. Important as linkage between other large forest blocks to the north and south
78	STH 28 Woods	NA-3	Town of Kewaskum	Private	122	Good-quality southern mesic hardwoods, dominated by sugar maple, ironwood, and basswood, located on kettle moraine topography. Recent cutting, roads, trails, and new homesite construction are threatening the integrity of the woods
79	Heritage Trails Bog	NA-3	Town of Polk	Washington County and private	94	Relatively undisturbed tamarack bog within an interlobate moraine depression. Other associated communities include lowland hardwoods and shrub-carr
80	Slinger Upland Woods	NA-3	Town of Polk	WDNR and private	172	Relatively large area of disturbed southern mesic and dry-mesic hardwoods on kettle and kame topography
81	Camp Wowitan Wetlands	NA-3 (RSH)	Town of Trenton	YMCA and other private	109	Relatively undeveloped lake and wetland complex with a well-developed esker. A good-quality calcareous fen, tamarack swamp, and mesic forest occur on the site
82	Cedar-Sauk Low Woods	NA-3	Town of Trenton; Town of Cedarburg; Town of Saukville	Private	14[f]	Lowland hardwood forest of silver maple, green and black ash, and American elm, with evidence of abundant past disturbances, including grazing, power-line right-of-way, and two highways. Stream flows through area from Cedarburg Bog
83	Fellenz Hardwood Swamp	NA-3	Town of Trenton	Ozaukee Washington Land Trust and private	76	A southern wet to wet-mesic hardwood forest, located within the Milwaukee River floodplain. Disturbances include selective cutting and excessive siltation
84	Paradise Drive Tamarack Swamp	NA-3 (RSH)	Town of Trenton	Ozaukee Washington Land Trust and private	81	Northern wet-mesic forest, tamarack swamp, and shrub-carr of moderate quality
85	Poplar Road Lacustrine Forest	NA-3	Town of Trenton	Private	182	A disturbed lowland hardwoods stand dominated by ash, swamp white oak, and silver maple. Several ephemeral ponds occur on the site, and upland southern mesic forest dominated by basewood occur as islands

Table continued on next page.

Table 5.10 (Continued)

Number on Map 5.21	Area Name	Site Type[b]	Location	Ownership	Size (acres)	Description and Comments
86	Sandy Knoll Wetlands	NA-3	Town of Trenton	Washington County and private	47	A small but good-quality wetland complex containing tamaracks, low-land hardwoods, shrub-carr, shallow marsh, and sedge fen associated with a spring-fed stream
87	Schalla Tamarack Swamp	NA-3	Town of Trenton	Private	17	A tamarack swamp
88	Rock River Marsh	NA-3	Town of Wayne	WDNR and private	339	Shallow marsh within the Rock River floodplain, dominated by cattails. Bisected by railway right-of-way
89	Stockcar Swamp	NA-3 (RSH)	Town of Wayne	Private	245	Forested wetland of northern lowland hardwoods, tamarack-fen, shrub-carr, and alder thicket, of moderately good quality. A number of uncommon species are present
90	Theresa Swamp	NA-3	Town of Wayne	WDNR and private	952	Lowland hardwood forest bordering the Rock River, composed of large silver maple, plus black ash, green ash, American elm, and swamp white oak. Canopy has been opened by Dutch elm disease
91	Wayne Creek Swamp	NA-3	Town of Wayne	Private	181	Disturbed lowland hardwood forest along Wayne Creek. Openings in canopy from Dutch elm disease
92	CTH Z Upland Woods and Wetlands	NA-3 (RSH)	Town of West Bend	Cedar Lake Conservation Foundation and other private	281	Mature mesic hardwood forest on rough interlobate moraine, dominated by sugar maple, red oak, beech, and basswood. The moderately rich herb layer includes several uncommon species. Threatened by ongoing logging operations. Adjacent large wetland complex of shrub-carr, sedge meadow shallow marsh, and tamarack relict is divided by CTH Z
93	Gilbert Lake Tamarack Swamp	NA-3	Town of West Bend	WDNR, Cedar Lakes Conservation Foundation and other private	187	A lightly developed lake surrounded by a wetland complex of tamarack swamp, bog, sedge meadow, and cattail marsh
94	Silver Lake Fen and Tamaracks	NA-3	Town of West Bend	n/a[e]	36	Areas of tamarack swamp, skunk cabbage seep, and calcareous fen on the west side of Silver lake supporting several rare plant species
95	Ziegler Woods	NA-3	Town of West Bend	Private	172	Large tract of southern mesic to dry-mesic hardwoods, dominated by sugar maple and red oak, on irregular glacial terrain. Past disturbance includes grazing and selective logging; more recently, wide horse and all-terrain-vehicle trails have degraded the site, allowing a number of exotic species to invade
				NA-3 Subtotal – 59 sites	8,106	--
				Total – 95 sites	16,906	--

[a] *Inventory conducted in 1994, amendment adopted in 2010, and updated in 2016.*

[b] *NA-1 identifies Natural Areas of statewide or greater significance.*
NA-2 identifies Natural Areas of countywide or regional significance.
NA-3 identifies Natural Areas of local significance.
SNA, or State Natural Area, identifies those sites officially designated as State Natural Areas by the State of Wisconsin Natural Areas Preservation Council.
RSH, or Rare Species Habitat, identifies those sites that support rare, threatened, or endangered animal or plant species officially designated by the Wisconsin Department of Natural Resources (WDNR).

[c] *The Pike Lake Sedge Meadow natural area is located in the City of Hartford, but is owned by the Town of Hartford.*

[d] *The WDNR has acquired a conservation easement over a portion of the Milwaukee River Swamp. The entire Milwaukee River Swamp site is located within the project boundary of the North Branch Milwaukee River Wildlife and Farming Heritage Area.*

Table continued on next page.

Table 5.10 (Continued)

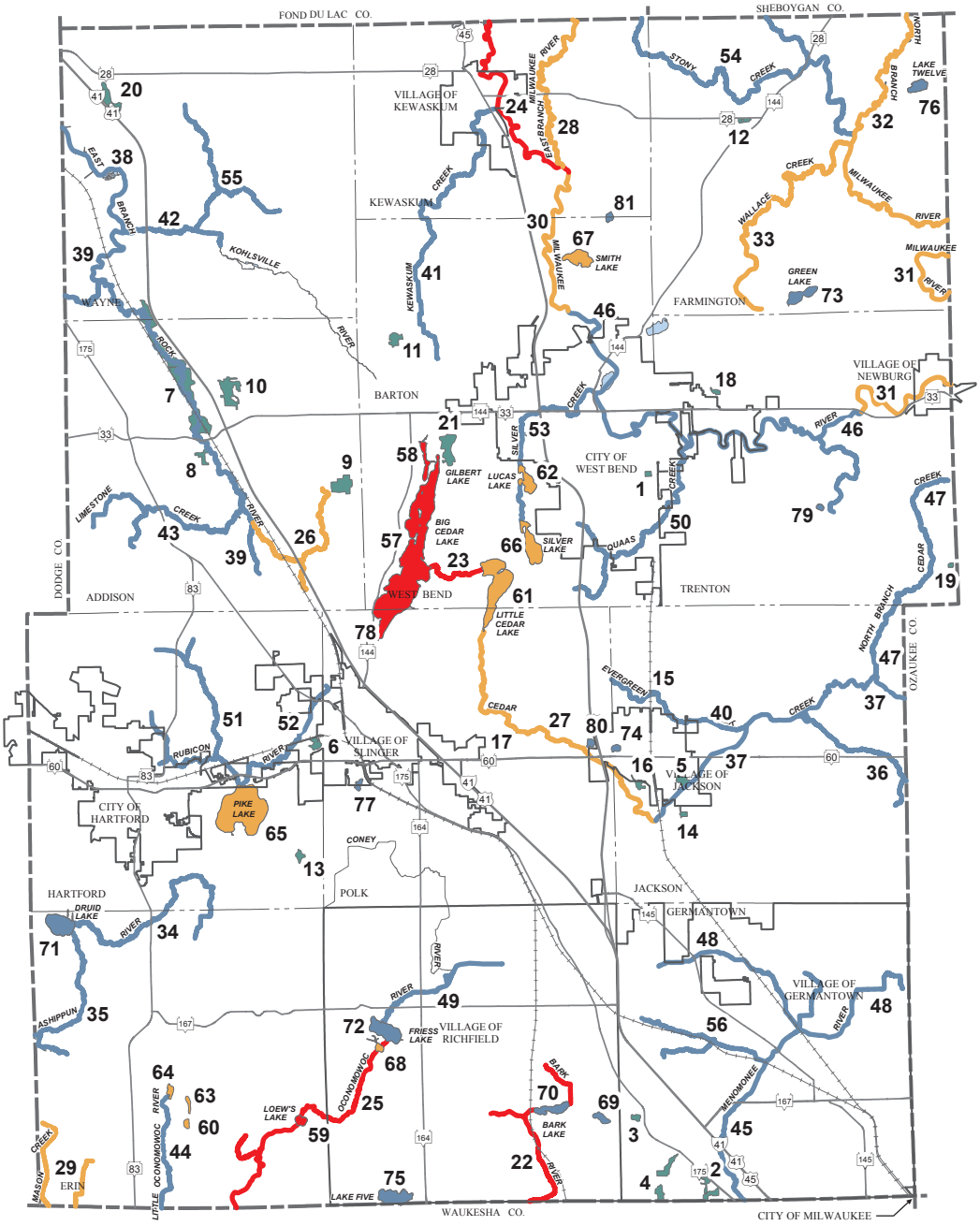
[e] *Plus 30 acres in Fond du Lac County.*

[f] *Plus 204 acres in Ozaukee County.*

[g] *Ownership information for this natural area has not been determined due to the potential for adjustments that occur as natural areas are reviewed during development of a formal amendment to the regional natural areas plan. Ownership information for this natural area will be verified as a regional natural areas plan amendment is developed.*

Source: Wisconsin Department of Natural Resources, Wisconsin Geological and Natural History Survey, and SEWRPC. Sites were identified as part of the regional natural areas plan, documented in SEWRPC Planning Report No. 42, A Regional Natural Areas and Critical Species Habitat Protection and Management Plan for Southeastern Wisconsin, *September 1997 and Amendment to SEWRPC Planning Report No. 42,* Amendment to the Natural Areas and Critical Species Habitat Protection and Management Plan for Southeastern Wisconsin, *December 2010.*

Map 5.22
Critical Species Habitat Sites and Aquatic Habitat Areas in Washington County



CRITICAL SPECIES HABITAT SITES

AQUATIC HABITAT AREAS OF STATEWIDE OR GREATER SIGNIFICANCE (AQ-1)

AQUATIC HABITAT AREAS OF COUNTYWIDE OR REGIONAL SIGNIFICANCE (AQ-2)

AQUATIC HABITAT AREAS OF LOCAL SIGNIFICANCE (AQ-3)

AQUATIC HABITAT RIVERS OR STREAMS OF STATEWIDE OR GREATER SIGNIFICANCE (AQ-1)

AQUATIC HABITAT RIVERS OR STREAMS OF COUNTYWIDE OR REGIONAL SIGNIFICANCE (AQ-2)

AQUATIC HABITAT RIVERS OR STREAMS OF LOCAL SIGNIFICANCE (AQ-3)

10 SITE REFERENCE NUMBER (SEE TABLES 5.11 AND 5.12)

Note: Aquatic habitat area inventory has not been updated since 2010.

Source: Wisconsin Department of Natural Resources, Wisconsin Geological and Natural History Survey, and SEWRPC

Table 5.11
Critical Species Habitat Sites Located Outside Natural Areas in Washington County: 2016[a]

Number on Map 5.22	Site Name and Classification Code[b]	Location	Size (acres)	Ownership	Species of Concern[c]
1	High School Woods (CSH-P)	City of West Bend	9	West Bend School District	Wild ginseng (*Panax quinquefolius*) (R)
2	STH 175 Wetlands and Meadows	Village of Germantown	39	n/a[d]	Wetland complex supporting at least one rare herptile species
3	Wheaton Woods (CSH-P)	Village of Germantown	13	Private	Forked aster (*Aster furcatus*) (T)
4	Willow Creek Swamp (CSH-P)	Village of Germantown	62	Private	American gromwell (*Lithospermum latifolium*) (R)
5	Jackson Woods (CSH-P)	Village of Jackson	25	Village of Jackson	American gromwell (*Lithospermum latifolium*) (R)
6	Unnamed Wetland (CSH-B)	Village of Slinger	26	Private	Black tern (R) (Colony)
7	Allenton Wetlands (CSH-B)	Town of Addison	402	n/a[d]	Wetland complex supporting at least one rare bird species
8	Doll Woods (CSH-P)	Town of Addison	25	Private	American gromwell (*Lithospermum latifolium*) (R)
9	Nabob Upland Woods (CSH-P)	Town of Addison	75	Private	Canada yew (*Taxus canadensis*) (R)
10	St. Anthony Maple Woods (CSH-P)	Town of Addison	100	Private[e]	American gromwell (*Lithospermum latifolium*) (R)
11	Riesch Woods (CSH-P)	Town of Barton	34	Private	American gromwell (*Lithospermum latifolium*) (R)
12	STH 28 Woodland	Town of Farmington	12	Private	Forked aster (*Aster furcatus*) (T)
13	Werner Pond[f] (CSH-B)	Town of Hartford	17	Private	Black Tern (R) (Colony)
14	Chinkapin Oak Woods (CSH-P)	Town of Jackson	11	Private	Chinkapin oak (*Quercus muehlenbergii*) (R)
15	Friedens Creek Woods (CSH-P)	Town of Jackson	12	Private	Chinkapin oak (*Quercus muehlenbergii*) (R)
16	Lamm Woods (CSH-P)	Town of Jackson	20	Private	Chinkapin oak (*Quercus muehlenbergii*) (R) American gromwell (*Lithospermum latifolium*) (R)
17	Cedar Creek Fen (CSH-P)	Town of Polk	4	Wisconsin Department of Natural Resources	Ohio goldenrod (*Solidago ohioensis*) (R)
18	Cameron Property (CSH-P)	Town of Trenton	10	Private	Small yellow lady's-slipper orchid (*Cypridpedium parviflorum*) (R)
19	Fechter's Woods (CSH-P)	Town of Trenton	6	Private	Goldenseal (*Hydrastis canadensis*) (R)
20	Unnamed Wetland (CSH-B)	Town of Wayne	48	Private	Great egret (T)
21	Gilbert Lake Disturbed Woods	Town of West Bend	85	Private	Large yellow lady's-slipper orchid (*Cypridpedium pubescens*) (R)
		Total – 21 sites	1,035	--	--

[a] *Inventory conducted in 1994, amendment adopted in 2010, and updated in 2016.*

[b] *CSH-P identifies a critical plant species habitat site; CSH-B identifies a critical bird species habitat site.*

[c] *"R" refers to species designated as rare or special concern; "T" refers to species designated as threatened.*

[d] *Ownership information for this critical species habitat site has not been determined due to the potential for adjustments that occur as critical species habitat sites are reviewed during development of a formal amendment to the regional natural areas plan. Ownership information for this critical species habitat site will be verified as a regional natural areas plan amendment is developed.*

[e] *The Ozaukee Washington Land Trust has a conservation easement over nine acres of this site.*

[f] *Werner Pond is referred to as an "unnamed wetland" in the regional natural areas report.*

Source: Wisconsin Department of Natural Resources, Wisconsin Geological and Natural History Survey, and SEWRPC. Sites were identified as part of the regional natural areas plan, documented in SEWRPC Planning Report No. 42, A Regional Natural Areas and Critical Species Habitat Protection and Management Plan for Southeastern Wisconsin, *September 1997 and Amendment to SEWRPC Planning Report No. 42,* Amendment to the Natural Areas and Critical Species Habitat Protection and Management Plan for Southeastern Wisconsin, *December 2010.*

Table 5.12
Aquatic Habitat Areas in Washington County: 2010[a]

Number on Map 5.22	River, Stream, or Lake	Size[b]	Rank[c]	Description and Comments[d]
22	Bark River upstream from Nagawicka Lake	4.5	AQ-1 (RSH)	Good overall fish population and diversity; important reservoir for critical fish and herptile species
23	Cedar Creek upstream from Little Cedar Lake	1.4	AQ-1 (RSH)	Good water quality; good fish population and diversity; critical fish and herptile species habitat
24	Milwaukee River downstream from Washington-Fond du Lac county line to CTH H	5.4	AQ-1 (RSH)	Excellent Biotic Index Rating;[e] good water quality and fish population and diversity
25	Oconomowoc River downstream from Friess Lake to North Lake	7.8	AQ-1 (RSH)	Contains critical fish, herptile, and mussel species habitat; bisects high-quality natural areas
26	Allenton Creek	3.4	AQ-2 (RSH)	Class I trout stream with good fish population and diversity
27	Cedar Creek downstream from Little Cedar Lake to Little Cedar Creek inflow	6.6	AQ-2 (RSH)	Contains critical mussel and fish species habitat
28	East Branch, Milwaukee River downstream from Washington-Fond du Lac county line	5.0	AQ-2 (RSH)	Low sedimentation and few modifications to channel; bisects the Milwaukee River Floodplain Forest State natural area
29	Mason Creek	2.7	AQ-2 (RSH)	Class I trout stream; Biotic Index Rating[e] of Good; critical fish species present
30	Milwaukee River downstream from CTH H to Woodford Drive	4.9	AQ-2 (RSH)	Good water quality; critical fish species present
31	Milwaukee River downstream from STH 33 to main stem	5.6	AQ-2 (RSH)	Excellent Biotic Index Rating;[f] critical fish species present; good assemblage of mussel species
32	North Branch, Milwaukee River	7.7	AQ-2 (RSH)	Good overall fish population and diversity, including critical fish species; Biotic Index Rating;[e] of Good to Excellent
33	Wallace Creek	8.6	AQ-2 (RSH)	Good overall fish population and diversity, including critical fish species
34	Ashippun River upstream from Druid Lake	4.3	AQ-3 (RSH)	Critical fish species present
35	Ashippun River downstream from Druid Lake to Washington-Dodge county line	5.2	AQ-3 (RSH)	Critical herptile species habitat
36	Cedar Creek downstream from Little Cedar Creek inflow to CTH M	9.3	AQ-3	Good fish population and diversity; bisects Jackson Swamp, an identified natural area
37	Cedar Creek downstream from CTH M to STH 60	0.7	AQ-3	Good fish population and diversity; good mussel species assemblage
38	East Branch, Rock River downstream from CTH D	4.4	AQ-3 (RSH)	Critical fish species present
39	East Branch, Rock River upstream from CTH D	14.3	AQ-3 (RSH)	Critical fish species present
40	Friedens Creek	3.2	AQ-3 (RSH)	Biotic Index Rating[f] of Very Good
41	Kewaskum Creek	8.1	AQ-3	Good fish population and diversity
42	Kohlsville River	1.9	AQ-3	A cold-water stream
43	Limestone Creek	5.8	AQ-3 (RSH)	Good fish population and diversity, including critical species records
44	Little Oconomowoc River	2.7	AQ-3 (RSH)	Biotic Index Rating[e] of Excellent; upper reaches bisect a high-quality natural area, Murphy Lake-McConville Lake Wetland Complex
45	Menomonee River downstream from STH 145 to CTH Q	3.8	AQ-3	Bisects identified natural areas
46	Milwaukee River downstream from Woodford Drive to STH 33	13.6	AQ-3 (RSH)	Critical fish species present

Table continued on next page.

Table 5.12 (Continued)

Number on Map 5.22	River, Stream, or Lake	Size[b]	Rank[c]	Description and Comments[d]
47	North Branch, Cedar Creek	7.3	AQ-3 (RSH)	Critical fish species; bisects an identified natural area, Reinartz Cedar Swamp
48	North Branch, Menomonee River upstream from STH 145	9.2	AQ-3	Bisects identified natural areas
49	Oconomowoc River upstream from Friess Lake	2.8	AQ-3 (RSH)	Critical herptile species habitat
50	Quaas Creek	4.9	AQ-3 (RSH)	Good fish population and diversity
51	Rubicon River downstream from Pike Lake	6.7	AQ-3 (RSH)	Critical fish species present
52	Rubicon River upstream from Pike Lake	2.8	AQ-3 (RSH)	Critical herptile species habitat
53	Silver Creek	5.9	AQ-3 (RSH)	Critical fish species present; Biotic Index Rating[f] of Good
54	Stony Creek	11.7	AQ-3 (RSH)	Critical fish species present; Class II trout stream
55	Wayne Creek	3.5	AQ-3	Good fish population and diversity
56	West Branch, Menomonee River	4.2	AQ-3	Good fish population and diversity; good Biotic Index Rating[f]
	Subtotal (35 river and stream reaches)	199.9	--	--
57	Big Cedar Lake	957	AQ-1 (RSH)	A deep spring-drainage lake at the headwaters of Cedar Creek; critical fish and herptile species present; good water quality
58	Gilbert Lake	45	AQ-1 (RSH)	An undeveloped spring lake surrounded by tamarack swamp, bog, sedge meadow, and marsh at the headwaters of Cedar Creek; critical fish and herptile species present
59	Loew's Lake	26	AQ-1 (RSH)	An undeveloped drainage lake located in the heart of the valuable upper Oconomowoc River environmental corridor
60	Beck Lake	12	AQ-2 (RSH)	An undeveloped seepage lake encompassed by a high-quality natural area, Murphy Lake-McConville Lake Wetland Complex
61	Little Cedar Lake	266	AQ-2 (RSH)	A drainage lake with adjacent wetlands which support good habitat for critical herptile species such as the bullfrog
62	Lucas Lake	69	AQ-2 (RSH)	A largely undeveloped drainage lake with good water quality and critical fish species present
63	McConville Lake	12	AQ-2 (RSH)	An undeveloped seepage lake encompasses by a high-quality natural area, Murphy Lake-McConville Lake Wetland Complex
64	Murphy Lake	18	AQ-2 (RSH)	An undeveloped seepage lake encompassed by a high-quality natural area, Murphy Lake-McConville Lake Wetland Complex
65	Pike Lake	469	AQ-2 (RSH)	A drainage lake with critical fish and herptile species present; important spawning area for game fish
66	Silver Lake	125	AQ-2 (RSH)	A drainage lake with critical fish species present; wetland to west offers diversity of wildlife and plant communities
67	Smith Lake	86	AQ-2 (RSH)	A shallow seepage lake with adjacent high-quality wetlands; an identified natural area
68	Unnamed Lake	18	AQ-2 (RSH)	A drainage lake; a component of the Oconomowoc River corridor
69	Amy Bell Lake	29	AQ-3 (RSH)	A seepage lake encompassed by a natural area, Amy Bell Lake and Lowlands
70	Bark Lake	65	AQ-3 (RSH)	A spring-drainage lake located at the headwaters of the Bark River
71	Druid Lake	127	AQ-3	A drainage lake within the Ashippun River watershed
72	Friess Lake	120	AQ-3 (RSH)	A drainage lake in the Oconomowoc River corridor; important for waterfowl
73	Green Lake	71	AQ-3 (RSH)	A seepage lake with critical fish species present; extensive wetlands adjacent to Lake

Table continued on next page.

Table 5.12 (Continued)

Number on Map 5.22	River, Stream, or Lake	Size[b]	Rank[c]	Description and Comments[d]
74	Hasmer Lake	15	AQ-3 (RSH)	A drainage lake with critical fish species present
75	Lake Five	103	AQ-3	A seepage lake with good water quality; adjacent natural area, Lake Five Woods
76	Lake Twelve	46	AQ-3	A spring lake with a mostly undisturbed shoreline; good wildlife habitat
77	Mud Lake	16	AQ-3	An undeveloped seepage lake encompassed by a natural area, Mud Lake Meadow
78	Mueller Lake	14	AQ-3 (RSH)	A spring lake with an adjacent natural area, Big Cedar Lake Bog; critical herptile habitat
79	Radtke Lake	10	AQ-3	An undeveloped seepage lake within an identified natural area, Camp Wowitan Wetlands
80	Tilly Lake	14	AQ-3 (RSH)	A spring lake with critical fish species present
81	Unnamed Lake	16	AQ-3 (RSH)	Suitable habitat for Blanding's turtle, a threatened species
	Subtotal – 25 lakes	2,749	--	--

[a] *Inventory conducted in 1994 and amendment adopted in 2010.*

[b] *Size, listed as stream miles for rivers and streams and acres of surface area for lakes, only reflects the portion of the river, stream, or lake located within Washington County.*

[c] *AQ-1 identifies Aquatic Habitat Areas of statewide or greater significance.*
AQ-2 identifies Aquatic Habitat Areas of countywide or regional significance.
AQ-3 identifies Aquatic Habitat Areas of local significance.
RSH, or Rare Species Habitat, identifies those aquatic habitat areas that support rare, endangered, threatened, or "special concern" species officially designated by the Wisconsin Department of Natural Resources.

[d] *"Seepage lakes" are lakes that have no inlet or outlet and whose main source of water is direct precipitation and runoff supplemented by groundwater. "Spring lakes" are lakes that have no inlet but do have an outlet and whose main source of water is groundwater flowing directly into the basin and from the immediate drainage area. "Drainage lakes" are lakes that have both an inlet and an outlet and whose main water source is a river or stream.*

[e] *Based upon the Index of Biotic Integrity (IBI) discussed in U.S. Department of Agriculture, Forest Service, General Technical Report No. 149,* Using the Index of Biotic Integrity (IBI) to Measure Environmental Quality in Warmwater Streams of Wisconsin, *April 1992.*

[f] *Based upon the Hilsenhoff Biotic Index (HBI) discussed in Wisconsin Department of Natural Resources Technical Bulletin No. 132,* Using a Biotic Index to Evaluate Water Quality in Streams, *1982.*

Source: Wisconsin Department of Natural Resources, Wisconsin Geological and Natural History Survey, and SEWRPC. Sites were identified as part of the regional natural areas plan, documented in SEWRPC Planning Report No. 42, A Regional Natural Areas and Critical Species Habitat Protection and Management Plan for Southeastern Wisconsin, *September 1997 and Amendment to SEWRPC Planning Report No. 42,* Amendment to the Natural Areas and Critical Species Habitat Protection and Management Plan for Southeastern Wisconsin, *December 2010.*

Reestablishment of Forest Interior

In addition to setting forth recommendations for protecting existing areas with important biological resources, the regional natural areas plan also recommends that efforts be made to reestablish relatively large tracts of grasslands and forest interiors in the Region. Reestablishing such tracts would serve to provide additional habitat for bird populations, which have been adversely affected by loss of habitat due to development in the Region.

Two sites in Washington County, shown on Map 5.20, were identified for re-establishment of forest interior. The first site is located in the Town of Addison and would use as its core the St. Anthony Maple Woods, recommended for acquisition by the WDNR as a critical species habitat site. The entire project is envisioned to cover approximately 160 acres after reforestation, of which about 94 acres, or 59 percent, would meet the definition of forest interior (forest lying at least 300 feet from the forest edge).

The second forest-interior reserve site lies in the Town of Trenton. This site would use as its core an existing wooded area near Shady Lane; which encompasses approximately 147 acres. After forest restoration, this area would include about 80 acres, or about 54 percent, of the site classified as forest interior. The site is located in a "focus area" identified by the Ozaukee Washington Land Trust in the first edition of this plan (Map 32).

Primary Environmental Corridors and Isolated Natural Resource Areas

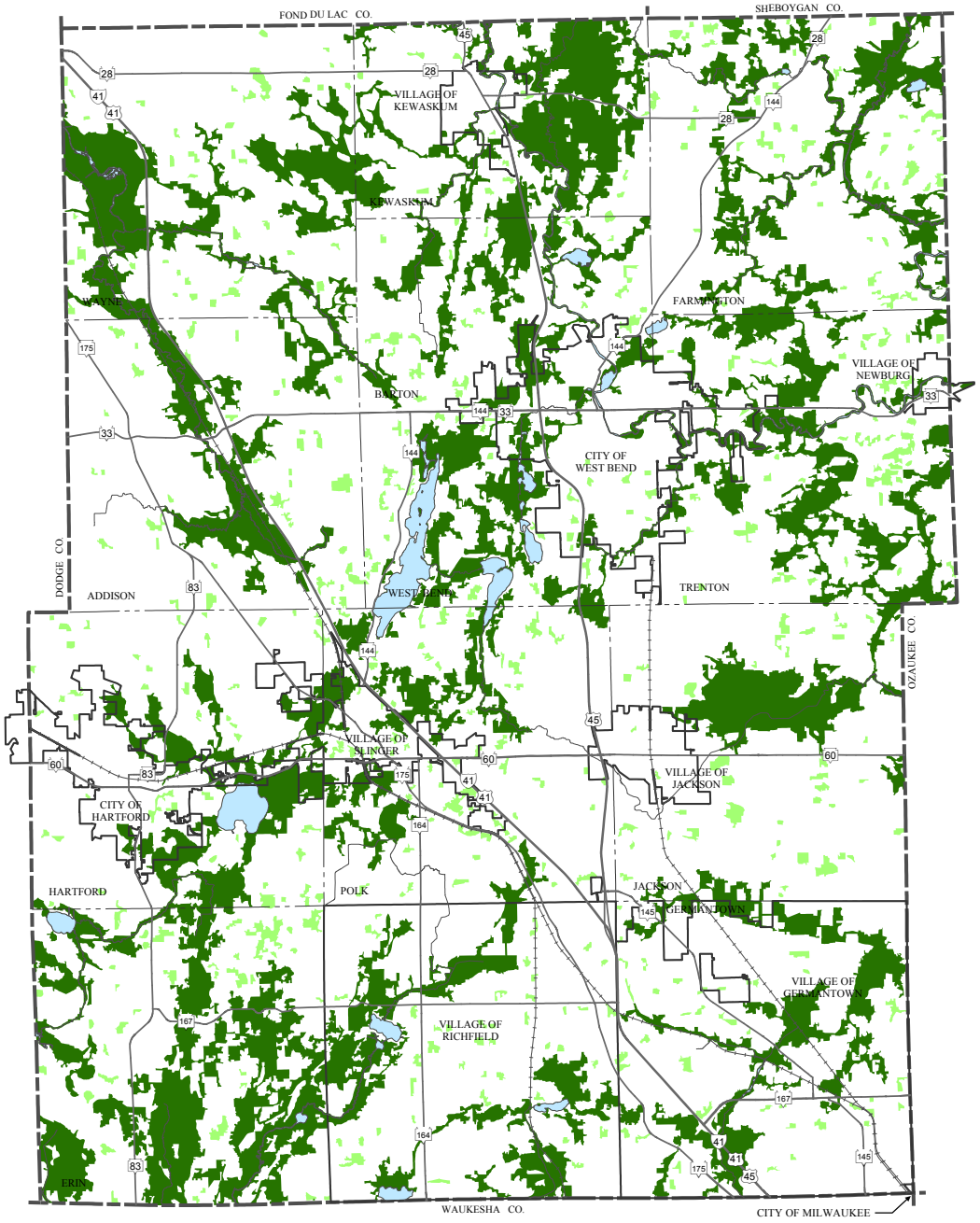
One of the most important tasks completed under the regional planning program for Southeastern Wisconsin has been identifying and delineating areas in which concentrations of the best remaining elements of the natural resource base occur. It has been recognized that preserving these areas is essential to both the maintenance of the overall environmental quality of the Region and to provide amenities required to maintain a high quality of life for residents.

Several important, high-value elements of the natural resource base are considered essential to maintaining the ecological balance and the overall quality of life in Southeastern Wisconsin. Such elements generally include woodlands, wetlands, and lakes, rivers, and streams and their associated shorelands. Additional important natural resource elements include floodplains and steeply sloped areas where intensive development would be ill-advised. Though not components of the natural resource base, certain natural resource-oriented features offer complimentary recreational, aesthetic, ecological, and natural value to the aforementioned high-value natural resource elements. These natural resource-oriented features include existing and potential park and open space sites, historic sites, scenic areas and vistas, natural areas, and critical species habitat sites. Together, these high-value natural resource elements and natural resource-oriented features serve as the foundation for identifying primary environmental corridors and isolated natural resource areas.

Concentrations of such high-value natural resource elements often form a linear pattern of relatively narrow, elongated areas in the landscape. Primary environmental corridors, which contain a variety of the aforementioned important natural resource elements and natural resource-related features, are at least 400 acres in size, two miles in length, and 200 feet in width. Isolated natural resource areas, which also contain concentrations of important natural resource elements, are between five and 100 acres and are physically separated from primary environmental corridors by intensive urban or agricultural land. Primary environmental corridors and isolated natural resource areas in Washington County as of 2015 are shown on Map 5.23.

Preserving primary environmental corridors and isolated natural resource areas in essentially natural, open uses can help reduce flood flows, reduce noise pollution, and maintain air and water quality. Primary environmental corridors are important to the movement of wildlife and for the movement and dispersal of seeds for a variety of plant species. In addition, because of the many interacting relationships between living organisms and their environment, the destruction and deterioration of any one element of the natural resource base may lead to a chain reaction of destruction and deterioration. For example, destroying woodland cover may result in soil erosion and stream siltation, more rapid stormwater runoff and attendant increased flood flows and stages, as well as destruction of wildlife habitat. Although the effects of any single environmental change may not be overwhelming, the combined effects will eventually create serious environmental and developmental problems.

Map 5.23
Primary Environmental Corridors and Isolated Natural Resource Areas in Washington County: 2015



PRIMARY ENVIRONMENTAL CORRIDOR

ISOLATED NATURAL RESOURCE AREA

SURFACE WATER

N

0 1 2 3 Miles

Source: SEWRPC

These problems include flooding, water pollution, deterioration and destruction of wildlife habitat, reduced groundwater recharge, as well as a decline in the scenic beauty of the County. The importance of maintaining the integrity of the remaining primary environmental corridors and isolated natural resource areas thus becomes apparent.

As shown on Map 5.23, the primary environmental corridors in Washington County are located along the Milwaukee River and other major streams, around the major lakes, in large wetland areas such as the Jackson and Theresa Marshes, and in the Kettle Moraine. In 2015, about 63,282 acres, comprising about 23 percent of the County, were encompassed within primary environmental corridors. Isolated natural resource areas within the County include a geographically well-distributed variety of isolated wetlands, woodlands, and wildlife habitat. These areas encompassed about 7,476 acres, or about 3 percent of the County, in 2015. Table 5.13 presents the amount of land encompassed by primary environmental corridors and isolated natural resource areas in each local government.

VISION 2050 recommends preserving primary environmental corridors through acquisition by government agencies or nonprofit conservation organizations, or through conservancy zoning regulations. Acquisition may include fee-simple ownership or a conservation easement. Primary environmental corridors within sewer service areas are also protected under WDNR policies that limit the extension of sewers to serve development proposed within primary environmental corridors. Primary environmental corridors and isolated natural resource areas that were protected in 2017 through public or nonprofit conservation organization ownership, conservancy zoning, or location within an adopted sewer service area are shown on Map 5.24. Map 5.25 shows all primary environmental corridors and other natural resource areas in the County, including isolated natural resource areas, floodplains, natural areas, critical species habitat sites, wetlands located outside of primary environmental corridors and isolated natural resource areas, and surface water.

Table 5.13
Primary Environmental Corridors and Isolated Natural Resource Areas in Washington County Communities: 2015

Local Government	Primary Environmental Corridors (acres)	Isolated Natural Resource Areas (acres)
Partnering Governments		
Village of Jackson	25	14
Village of Kewaskum	194	19
Village of Newburg	71	2
Town of Addison	3,456	612
Town of Barton	2,935	379
Town of Erin	8,652	751
Town of Farmington	5,042	715
Town of Germantown	214	27
Town of Hartford	3,211	473
Town of Jackson	3,337	721
Town of Kewaskum	5,812	125
Town of Polk	3,096	675
Town of Trenton	5,722	697
Town of Wayne	5,732	485
Non-Partnering Governments		
City of Hartford	842	75
City of West Bend	1,799	172
Village of Germantown	3,875	476
Village of Richfield	4,561	553
Village of Slinger	604	176
Town of West Bend	4,102	329
Washington County	63,282[a]	7,476[b]

[a] *Includes 4,231 acres of surface water.*

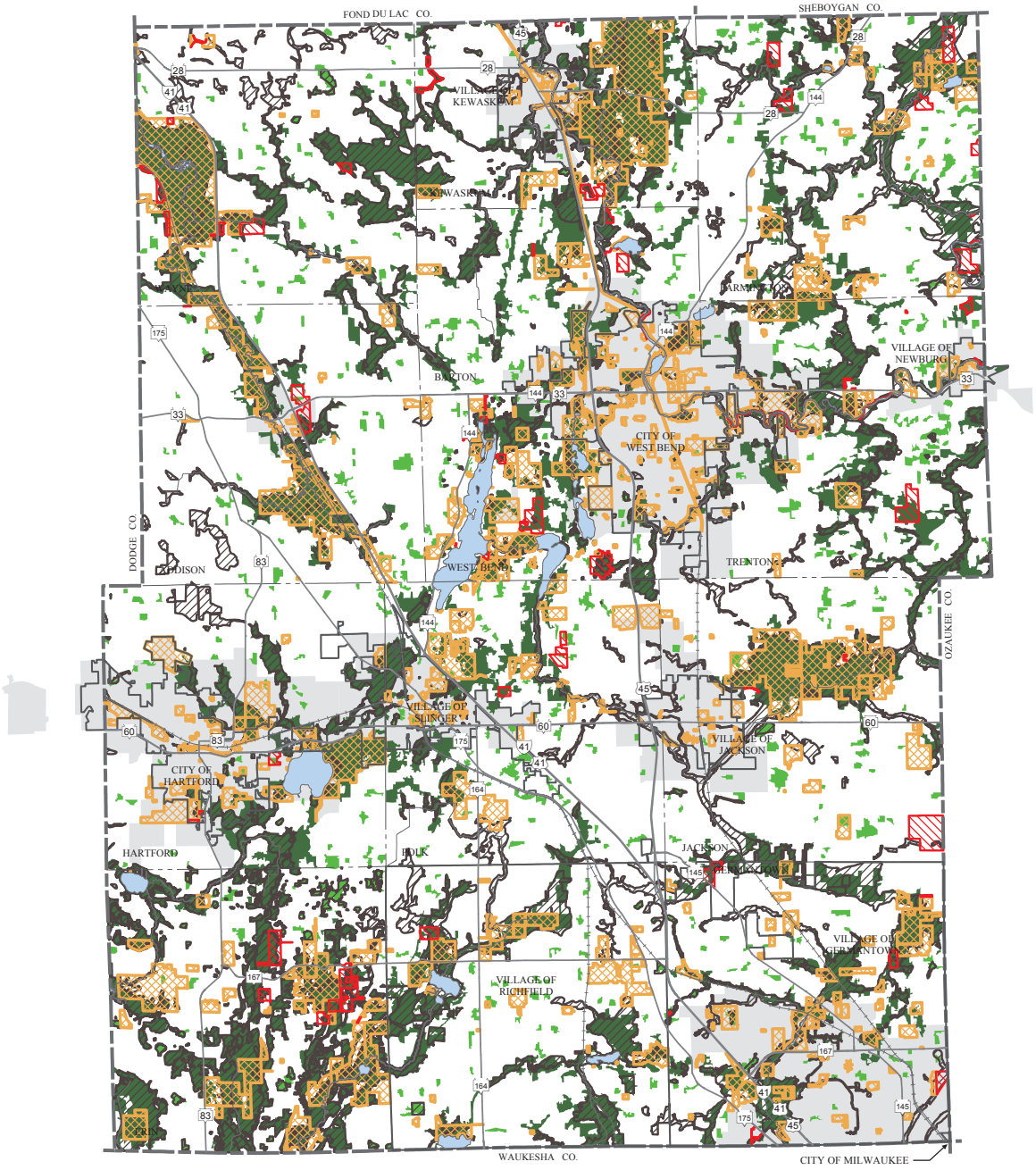
[b] *Includes 144 acres of surface water.*

Source: SEWRPC

In 2015, about 63,282 acres, comprising about 22 percent of the County, were encompassed within primary environmental corridors. Preserving environmental corridors helps reduce flood flows, reduce noise pollution, and maintain air and water quality.

VISION 2050 recommends that county and local governments consider protecting isolated natural resource areas, in addition to primary environmental corridors. Wetland portions of primary environmental corridors and isolated natural resource areas are protected under WDNR regulations. WDNR regulations for the floodway portion of the floodplain also protect primary environmental corridors and isolated natural resource areas. Protecting primary environmental corridors and isolated natural resource areas outside

Map 5.24
Protected Primary Environmental Corridors and Isolated Natural Resource Areas in Washington County



PRIMARY ENVIRONMENTAL CORRIDOR (2015)

ISOLATED NATURAL RESOURCE AREA (2015)

CONSERVATION EASEMENTS (2017)

PARK AND OPEN SPACE SITES (2017)

COUNTY AND LOCAL CONSERVANCY ZONING DISTRICTS (2000)

PLANNED SEWER SERVICE AREAS (JUNE 2015)

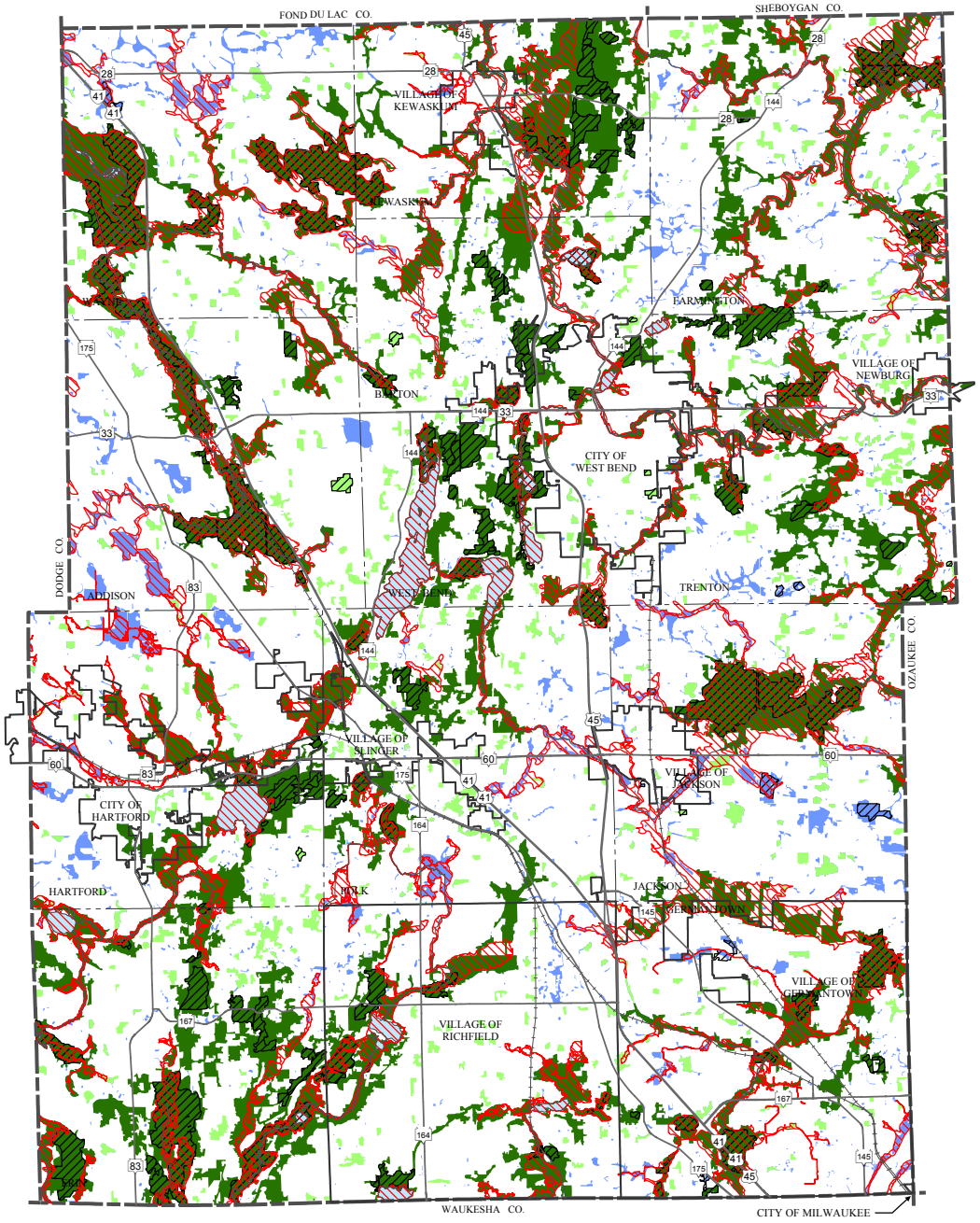
SURFACE WATER

Note: Primary environmental corridors within sewer service areas can only be developed in accordance with the guidelines in Table 2.1.

0 1 2 3 Miles

Source: Washington County and SEWRPC

Map 5.25
Primary Environmental Corridors and Other Natural Resources in Washington County



PRIMARY ENVIRONMENTAL CORRIDOR (2015)

ISOLATED NATURAL RESOURCE AREA (2015)

ONE-PERCENT-ANNUAL-PROBABILITY (100-YEAR RECURRENCE INTERVAL) FLOODPLAINS (FEMA FIS, OCTOBER 2015)

NATURAL AREAS AND CRITICAL SPECIES HABITAT SITES (2016)

WETLANDS OUTSIDE PRIMARY ENVIRONMENTAL CORRIDORS AND ISOLATED NATURAL RESOURCE AREAS (2015)

SURFACE WATER

N

0 1 2 3 Miles

Source: Federal Emergency Management Agency, Wisconsin Department of Natural Resources, and SEWRPC

wetlands and floodways, and protecting primary environmental corridors outside sewer service areas, relies on zoning regulations or protective ownership. Table 2.1 in Chapter 2 provides guidelines for development considered compatible with primary environmental corridors and isolated natural resource areas.

Park and Open Space Sites

A comprehensive regionwide inventory of park and open space sites was conducted in 1973 under the initial regional park and open space planning program conducted by SEWRPC. The inventory is updated periodically, and was updated in 2017 as part of this planning process for Washington County. The inventory identified all park and open space sites owned by a public agency, including Federal, State, County, and local units of government and school districts. The inventory also identified privately owned outdoor recreation sites such as golf courses, campgrounds, boating access sites, hunting clubs, group camps, and special use outdoor recreation sites. In addition, sites owned by nonprofit conservation organizations, such the Ozaukee Washington Land Trust and the Cedar Lakes Conservation Foundation, were identified. As of 2017, there were 30,550 acres of park and open space land encompassing about 11 percent of Washington County in fee simple ownership. An additional 2,862 acres were under conservation or other easements intended to protect the natural resources of a site.

More detailed information on existing and potential park and open space sites can be found in the Washington County park and open space plan, which was adopted by the Washington County Board in March 2004 (an update to the County park and open space plan was under preparation during the development of this comprehensive plan update).

These children are enjoying the playground equipment and fishing opportunities in Washington County parks.

Park and Open Space Sites Owned by Washington County

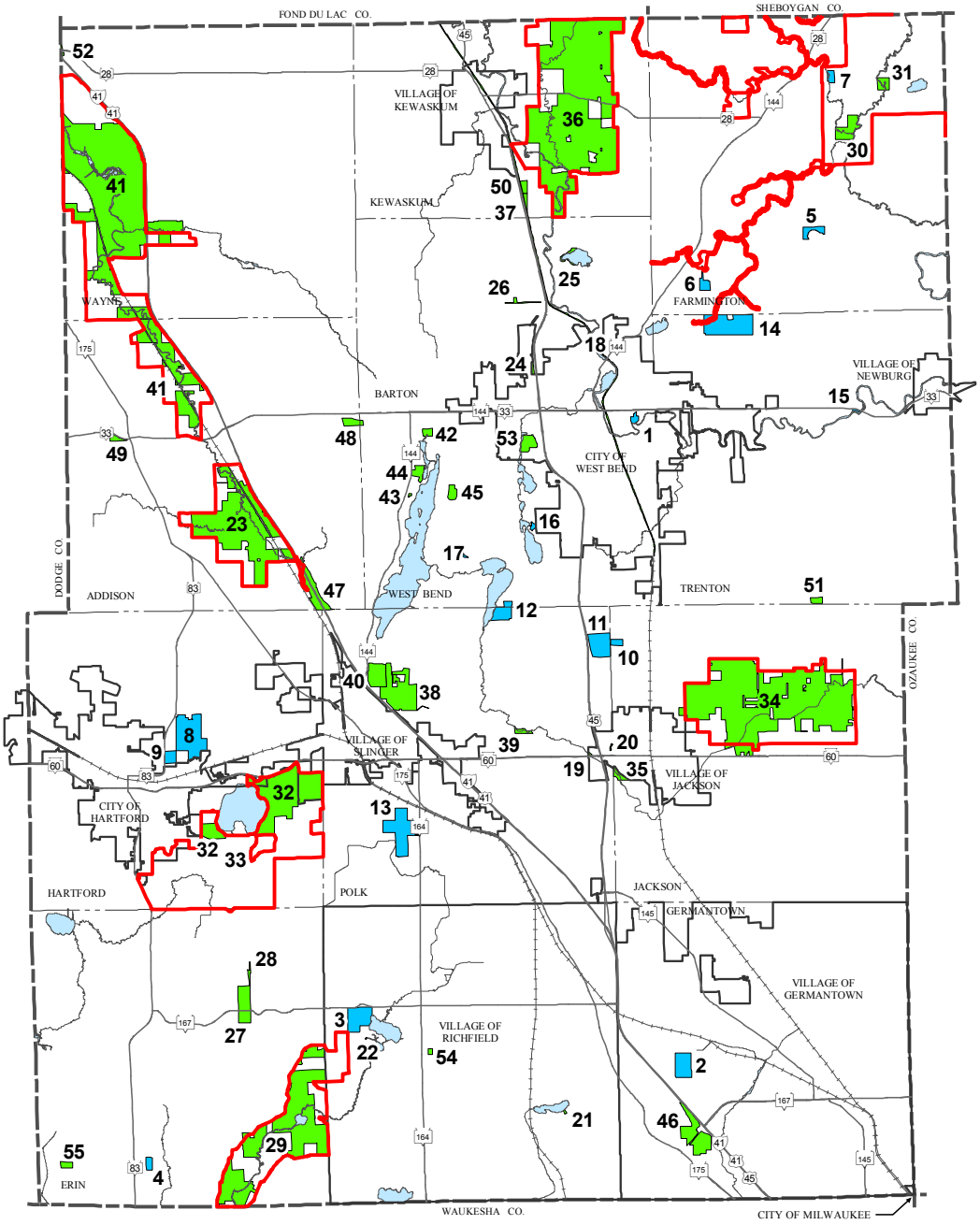
Park and open space sites owned by Washington County in 2017 are shown on Map 5.26 and listed in Table 5.14. In 2017, Washington County owned 17 park and open space sites, including six major[54] parks encompassing 1,079 acres; eight other park and outdoor recreation sites encompassing 164 acres; and three special outdoor recreation sites not considered part of the County park system, encompassing 166 acres. In all, these 17 sites encompass 1,409 acres, or less than 1 percent of the County. Although it is WDNR-owned, the County has developed and will maintain the Eisenbahn State Trail.

Park and Open Space Sites Owned by the State of Wisconsin

As indicated in Table 5.15 and shown on Map 5.26, in 2017 there were 38 State-owned park and open space sites in Washington County, encompassing 13,311 acres, or about 5 percent of the County. Of the 38 sites, 28 sites encompassing 12,829 acres were WDNR-owned; seven sites, encompassing 419 acres were owned by WisDOT; and three sites, encompassing 63 acres, were owned by the University of Wisconsin.

[54] *Major parks are defined as large, publicly owned outdoor recreation sites containing significant natural resource amenities that provide opportunities for such resource-oriented activities as camping, golfing, picnicking, and swimming. Major parks include both Type I, or regional parks, which are those having an area of 250 acres or more, and Type II, or multi-community parks, which are those having an area of generally 100 to 250 acres.*

Map 5.26
County- and State-Owned Park and Open Space Sites in Washington County: 2017



COUNTY-OWNED SITE

STATE-OWNED SITE

23 SITE REFERENCE NUMBER (SEE TABLES 5.14 AND 5.15)

WISCONSIN DEPARTMENT OF NATURAL RESOURCES PROJECT BOUNDARY

SURFACE WATER

N

0 1 2 3 Miles

Source: Wisconsin Department of Natural Resources, Washington County, and SEWRPC

Table 5.14
Park, Outdoor Recreation, and Open Space Sites Owned by Washington County: 2017

Number on Map 5.26	Site Name	Location	Size (acres)
1	Hughes Burckhardt Field[a]	City of West Bend	15
2	Homestead Hollow Park	Village of Germantown	103
3	Glacier Hills Park	Village of Richfield	135
4	Erin Property	Town of Erin	20
5	Leonard J. Yahr Park	Town of Farmington	38
6	Lizard Mound Park	Town of Farmington	32
7	Washington County Mitigation Site	Town of Farmington	22
8	Family Park/Washington County Golf Course	Town of Hartford	277
9	Joseph P. Marx Woods and Nature Preserve	Town of Hartford	39
10	Isadore and Lorraine Spaeth County Park	Town of Jackson	20
11	Washington County Fair Park	Town of Polk	129
12	Ackerman's Grove Park	Town of Polk, Town of West Bend	75
13	Heritage Trails Park	Town of Polk	233
14	Sandy Knoll Park	Town of Trenton	256
15	Goeden Park	Town of Trenton	4
16	Henschke Hillside Lake Access	Town of West Bend	9
17	Cedar Lake Wayside	Town of West Bend	2
	Total –17 Sites	--	1,409

[a] *Hughes Burckhardt Field is on County-owned land leased by the County to the West Bend Little League.*

Source: SEWRPC

Private and Public-Interest Resource Oriented Park and Open Space Sites

There are a number of conservation organizations active in Washington County, including the Ozaukee Washington Land Trust, the Cedar Lakes Conservation Foundation, and other nonprofit conservation organizations. These organizations acquire lands to protect resources. As shown on Map 5.27 and Table 5.16, such organizations owned 70 sites encompassing 4,115 acres in 2017.

Conservation easements located in the County are shown on Map 5.28 and listed in Table 5.17. Project boundaries for State forests and wildlife areas in the County are shown on Map 5.29.

Fellenz Woods, located along the Milwaukee River in the Town of Trenton, is one of five resource protection sites in Washington County owned by the Ozaukee Washington Land Trust.

Park and Open Space Sites Owned by Local Governments and Public School Districts

In addition to County and State-owned park and open space sites, there were 166 park and open space sites owned by local governments and public schools in Washington County in 2017, encompassing about 4,693 acres, or about 2 percent of the County. Local governments owned 133 park and open space sites and public schools owned 33 sites.

There were 166 park and open space sites owned by local governments and public schools in Washington County in 2017.

Commercial and Organizational Park and Open Space Sites

In 2017 there were 133 park and open space sites owned by organizations and/or owned for commercial purposes in the County, encompassing about 7,015 acres, or about 3 percent of the County. Commercial and organizational

Table 5.15
Existing State-Owned Park, Outdoor Recreation, and Open Space Sites in Washington County: 2017

Number on Map 5.26	Site Name	Location	Size (acres)
	Wisconsin Department of Natural Resources (WDNR) Sites		
18	Eisenbahn State Trail[a]	City of West Bend, Village of Kewaskum, Town of Barton, Town of Kewaskum, and Town of West Bend	148
19	WDNR Site	Village of Jackson	2
20	WDNR Site	Village of Jackson	2
21	Public Access – Bark Lake	Village of Richfield	2
22	Little Friess Lake Boat Launch	Village of Richfield	1
23	Allenton Wildlife Area	Town of Addison	1,148
24	WDNR – State Ice Age Trail Area[b]	Town of Barton	8
25	WDNR Site	Town of Barton	15
26	WDNR Site – Ice Age Trail	Town of Barton	11
27	WDNR – State Ice Age Trail Area[b]	Town of Erin	120
28	WDNR Site – Ice Age Trail	Town of Erin	9
29	Kettle Moraine State Forest – Loew Lake Unit	Town of Erin	1,213
30	WDNR – North Branch Milwaukee River Wildlife and Farming Heritage Area	Town of Farmington	100
31	WDNR – North Branch Milwaukee River Wildlife and Farming Heritage Area	Town of Farmington	40
32	Kettle Moraine State Forest-Pike Lake Unit	Town of Hartford and City of Hartford	777
33	WDNR Site – Ice Age Trail	Town of Hartford	3
34	Jackson Marsh Wildlife Area	Town of Jackson	2,533
35	WDNR Site	Town of Jackson	24
36	Kettle Moraine State Forest-Northern Unit	Town of Kewaskum	3,028[c]
37	WDNR Site – Ice Age Trail	Town of Kewaskum	13
38	WDNR – Ice Age Trail Corridor/Polk Kames	Town of Polk	297
39	WDNR – Schweitzer Dam/Cedar Creek	Town of Polk	17
40	WDNR – Ice Age Trail	Town of Polk	108
41	Theresa Marsh Wildlife Area	Town of Wayne and Town of Addison	3,122[c]
42	WDNR Site	Town of West Bend	20
43	Parking Area – Big Cedar Lake	Town of West Bend	2
44	Gilbert Lake Open Space Site	Town of West Bend	37
45	Hacker Road Bog Natural Area	Town of West Bend	29
		Subtotal – 28 Sites	12,829
	Wisconsin Department of Transportation (WisDOT) Sites		
46	WisDOT Mitigation Site	Village of Germantown	188
47	WisDOT Mitigation Site	Town of Addison	136
48	WisDOT Mitigation Site	Town of Addison	33
49	WisDOT Mitigation Site	Town of Addison	17
50	WisDOT Mitigation Site	Town of Kewaskum	20
51	WisDOT Mitigation Site	Town of Trenton	19
52	WisDOT Site – Highway 28 Loop	Town of Wayne	6
		Subtotal – 7 Sites	419
	University of Wisconsin (UW) Sites		
53	UW Center – Washington County	City of West Bend	36[d]
54	UW-Milwaukee Land	Village of Richfield	7
55	UW-Milwaukee Land	Town of Erin	20
		Subtotal – 3 Sites	63
		Total – 38 Sites	13,311

[a] *WDNR has entered into an agreement with Washington County to develop and maintain the Eisenbahn State Trail segment that is located in Washington County. The Washington County trail segment extends about 12 miles, from Rusco Road in the City of West Bend to the Washington-Fond du Lac county line. The Eisenbahn State Trail then extends another 12 miles beyond the county line to Eden in Fond du Lac County.*

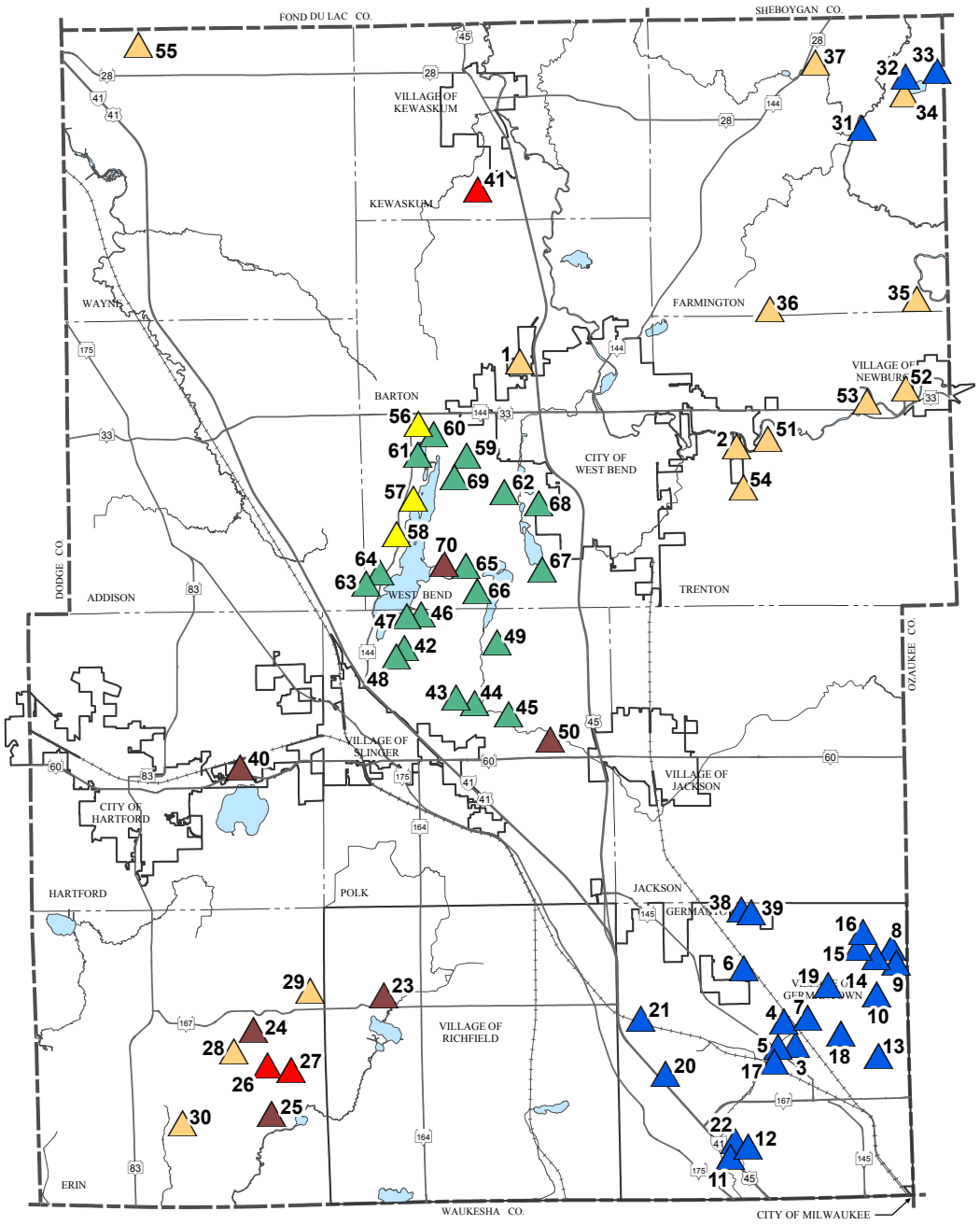
[b] *Includes only lands specifically acquired for trail purposes. The Ice Age trail in Washington County also extends through the Loew Lake and Northern units of the Kettle Moraine State Forest, through County and local park lands, and on easements across privately owned lands.*

[c] *Includes only lands located in Washington County.*

[d] *The University of Wisconsin Center-Washington County is located on lands managed by the University but owned jointly by Washington County and the City of West Bend. The entire site encompasses 59 acres, of which 36 acres are in recreational or open space use.*

Source: Wisconsin Department of Natural Resources and SEWRPC

Map 5.27
Privately Owned Resource Protection Sites in Washington County: 2017



- CEDAR LAKES CONSERVATION FOUNDATION SITES
- ICE AGE TRAIL FOUNDATION SITES
- METROPOLITAN MILWAUKEE SEWERAGE DISTRICT SITES
- OZAUKEE WASHINGTON LAND TRUST SITES
- BIG CEDAR LAKE PROTECTION AND REHABILITATION DISTRICT SITES
- OTHER OWNERSHIP SITES
- 4 REFERENCE NUMBER (SEE TABLE 5.16)
- SURFACE WATER

N

0 1 2 3 Miles

Source: SEWRPC

Table 5.16
Privately Owned Resource Protection Sites in Washington County: 2017

Number on Map 5.27	Site Name	Owner	Location	Size (acres)
1	Hepburn Woods	Ozaukee Washington Land Trust	City of West Bend	19
2	Decorah Woods	Ozaukee Washington Land Trust	City of West Bend	44
3	MMSD Conservation Plan	Milwaukee Metropolitan Sewerage District (MMSD)	Village of Germantown	23
4	MMSD Conservation Plan	MMSD	Village of Germantown	50
5	MMSD Conservation Plan	MMSD	Village of Germantown	5
6	MMSD Conservation Plan	MMSD	Village of Germantown	75
7	MMSD Conservation Plan	MMSD	Village of Germantown	52
8	MMSD Conservation Plan	MMSD	Village of Germantown	40
9	MMSD Conservation Plan	MMSD	Village of Germantown	21
10	MMSD Conservation Plan	MMSD	Village of Germantown	167
11	MMSD Conservation Plan	MMSD	Village of Germantown	11
12	MMSD Conservation Plan	MMSD	Village of Germantown	20
13	MMSD Conservation Plan	MMSD	Village of Germantown	35
14	MMSD Conservation Plan	MMSD	Village of Germantown	10
15	MMSD Conservation Plan	MMSD	Village of Germantown	46
16	MMSD Conservation Plan	MMSD	Village of Germantown	13
17	MMSD Conservation Plan	MMSD	Village of Germantown	33
18	MMSD Conservation Plan	MMSD	Village of Germantown	18
19	MMSD Conservation Plan	MMSD	Village of Germantown	23
20	MMSD Conservation Plan	MMSD	Village of Germantown	4
21	MMSD Conservation Plan	MMSD	Village of Germantown	52
22	MMSD Conservation Plan	MMSD	Village of Germantown	24
23	Daniel Boone Conservation League	Daniel Boone Conservation League	Village of Richfield	147
24	Holy Hill	Carmelite Fathers	Town of Erin	446
25	Ice Age Park and Trail Foundation	Ice Age Park and Trail Foundation	Town of Erin	40
26	Ice Age Park and Trail Foundation	Ice Age Park and Trail Foundation	Town of Erin	20
27	Ice Age Park and Trail Foundation	Ice Age Park and Trail Foundation	Town of Erin	2
28	Paveck Property	Ozaukee Washington Land Trust	Town of Erin	30
29	Schoofs Property	Ozaukee Washington Land Trust	Town of Erin	52
30	Zinn Preserve	Ozaukee Washington Land Trust	Town of Erin	181
31	MMSD Conservation Plan	MMSD	Town of Farmington	59
32	MMSD Conservation Plan	MMSD	Town of Farmington	138
33	MMSD Conservation Plan	MMSD	Town of Farmington	41
34	Lake Twelve	Ozaukee Washington Land Trust	Town of Farmington	13
35	Mayhew Property	Ozaukee Washington Land Trust	Town of Farmington	71
36	Sandy Knoll Wetland	Ozaukee Washington Land Trust	Town of Farmington	114
37	Stony Creek	Ozaukee Washington Land Trust	Town of Farmington	35
38	MMSD Conservation Plan	MMSD	Town of Germantown	44
39	MMSD Conservation Plan	MMSD	Town of Germantown	2
40	Hartford Community Conservation Club	Hartford Community Conservation Club	Town of Hartford	51
41	Ice Age Park and Trail Foundation	Ice Age Park and Trail Foundation	Town of Kewaskum	126
42	Cedar Lakes Conservation Foundation	Cedar Lakes Conservation Foundation	Town of Polk	109
43	Cedar Lakes Conservation Foundation	Cedar Lakes Conservation Foundation	Town of Polk	23
44	Cedar Lakes Conservation Foundation	Cedar Lakes Conservation Foundation	Town of Polk	86
45	Cedar Lakes Conservation Foundation	Cedar Lakes Conservation Foundation	Town of Polk	10
46	Cedar Lakes Conservation Foundation	Cedar Lakes Conservation Foundation	Town of Polk	11
47	Cedar Lakes Conservation Foundation	Cedar Lakes Conservation Foundation	Town of Polk	6
48	Cedar Lakes Conservation Foundation	Cedar Lakes Conservation Foundation	Town of Polk	27
49	Cedar Lakes Conservation Foundation	Cedar Lakes Conservation Foundation	Town of Polk	90
50	Friends of Nature Association	Friends of Nature Association	Town of Polk	14
51	Fellenz Woods	Ozaukee Washington Land Trust	Town of Trenton	151
52	Kratzsch Conservancy	Ozaukee Washington Land Trust	Town of Trenton	76
53	Riverbend Conservancy	Ozaukee Washington Land Trust	Town of Trenton	81

Table continued on next page.

Table 5.16 (Continued)

Number on Map 5.27	Site Name	Owner	Location	Size (acres)
54	Schoenbeck Woods	Ozaukee Washington Land Trust	Town of Trenton	72
55	Wendt Farm	Ozaukee Washington Land Trust	Town of Wayne	44
56	Fritsche Nature Preserve	Big Cedar Lake Protection and Rehabilitation District	Town of West Bend	41
57	Big Cedar Lake Protection Rehabilitation District	Big Cedar Lake Protection and Rehabilitation District	Town of West Bend	2
58	Water Spirit Preserve	Big Cedar Lake Protection and Rehabilitation District	Town of West Bend	107
59	Cedar Lakes Conservation Foundation	Cedar Lakes Conservation Foundation	Town of West Bend	39
60	Cedar Lakes Conservation Foundation	Cedar Lakes Conservation Foundation	Town of West Bend	5
61	Cedar Lakes Conservation Foundation	Cedar Lakes Conservation Foundation	Town of West Bend	44
62	Cedar Lakes Conservation Foundation	Cedar Lakes Conservation Foundation	Town of West Bend	40
63	Cedar Lakes Conservation Foundation	Cedar Lakes Conservation Foundation	Town of West Bend	3
64	Rudorf Farm	Cedar Lakes Conservation Foundation	Town of West Bend	96
65	Fox Hill Nature Conservancy	Cedar Lakes Conservation Foundation	Town of West Bend	350
66	Cedar Lakes Conservation Foundation	Cedar Lakes Conservation Foundation	Town of West Bend	11
67	Cedar Lakes Conservation Foundation	Cedar Lakes Conservation Foundation	Town of West Bend	2
68	Cedar Lakes Conservation Foundation	Cedar Lakes Conservation Foundation	Town of West Bend	37
69	Pick Nature Preserve	Cedar Lakes Conservation Foundation	Town of West Bend	54
70	Cedar Lake Partners	Cedar Lake Partners	Town of West Bend	87
			Total – 70 Sites	4,115

Source: SEWRPC

park and open space sites include privately owned golf courses, schools, subdivision parks, hunting clubs, campgrounds, boat access sites, horse stables, and soccer parks.

Park and Open Space Sites in Participating Local Governments

As listed in Table 5.18 and shown on Map 5.30, in 2017 there were 36 park and open space sites owned by participating local governments in Washington County, encompassing 407 acres, or less than one percent of the County. A total of nine sites owned by public school districts within participating local governments in 2017, encompassing 181 acres, are listed in Table 5.19 and shown on Map 5.30. Table 5.20 sets forth 73 private sites encompassing 4,699 acres owned by organizations and/or owned for commercial purposes in participating local governments, which are shown on Map 5.30.[55]

Cultural Resources

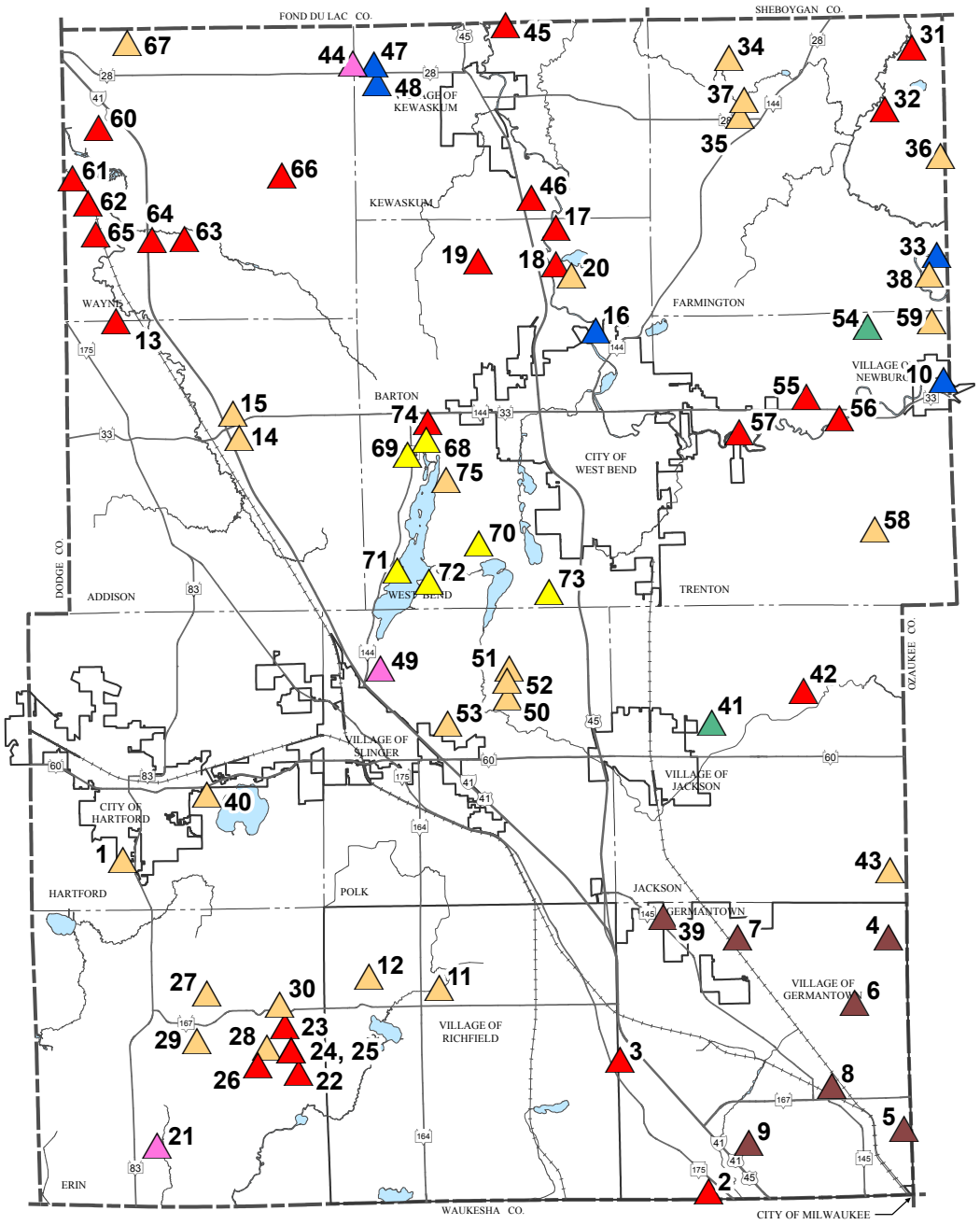
The term cultural resource encompasses historic buildings, structures, and sites; archaeological sites; and museums. Cultural resources in Washington County have important recreational and educational value. Cultural resources help to provide the County and each of its distinct communities with a sense of heritage, identity, and civic pride. Resources such as historical and archaeological sites and historic districts can also provide economic opportunities through tourism.

Historic Resources

In 2016 there were 27 historic places and districts in the County listed on the National Register of Historic Places and the State Register of Historic Places, as shown on Map 5.31 and in Table 5.21. In most cases, historic places or districts listed on the National Register are also listed on the State Register. Of the 27 historic places and districts listed on the National and State Registers, 20 are historic buildings or structures, six are historic districts, and one is a historic site. Historic places and districts listed on the National and State Registers have an increased measure of protection against degradation and destruction. Listing on the National or State Register requires government agencies to consider the impacts of their activities, such as the construction or reconstruction of a highway or issuing permits, on the designated property. If a property on the National or State Register would be adversely affected by such activity, the government agency must work with the State Historic Preservation Officer to attempt to avoid or reduce adverse effects.

[55] *Includes sites designated for conservation purposes only.*

Map 5.28
Lands Under Protective Easements in Washington County: 2017



- CONSERVATION RESERVE ENHANCEMENT PROGRAM EASEMENT SITE
- WISCONSIN DEPARTMENT OF NATURAL RESOURCES EASEMENT SITE
- WISCONSIN DEPARTMENT OF NATURAL RESOURCES STREAMBANK EASEMENT SITE
- OZAUKEE WASHINGTON LAND TRUST EASEMENT SITE
- CEDAR LAKES CONSERVATION FOUNDATION EASEMENT SITE
- MILWAUKEE METROPOLITAN SEWERAGE DISTRICT EASEMENT SITE
- OTHER EASEMENT SITE
- 4 REFERENCE NUMBER (SEE TABLE 5.17)
- SURFACE WATER

N

0 1 2 3 Miles

Source: SEWRPC

Table 5.17
Lands Under Protective Easements in Washington County: 2017

Number on Map 5.28	Holder of Easement	Location	Size (acres)
1	Ozaukee Washington Land Trust Easement	City of Hartford	14
2	WDNR Easement	Village of Germantown	9
3	WDNR Easement	Village of Germantown	2
4	MMSD Conservation Plan Easement	Village of Germantown	6
5	MMSD Conservation Plan Easement	Village of Germantown	50
6	MMSD Conservation Plan Easement	Village of Germantown	41
7	MMSD Conservation Plan Easement	Village of Germantown	32
8	MMSD Conservation Plan Easement	Village of Germantown	55
9	MMSD Conservation Plan Easement	Village of Germantown	10
10	WDNR Streambank Easement	Village of Newburg	7
11	Ozaukee Washington Land Trust Easement	Village of Richfield	67
12	Ozaukee Washington Land Trust Easement	Village of Richfield	60
13	WDNR Easement	Town of Addison	2
14	Ozaukee Washington Land Trust Easement	Town of Addison	82
15	Ozaukee Washington Land Trust Easement	Town of Addison	69
16	WDNR Streambank Easement	Town of Barton	5
17	WDNR Easement	Town of Barton	29
18	WDNR Easement	Town of Barton	2
19	WDNR Easement	Town of Barton	6
20	Ozaukee Washington Land Trust Easement	Town of Barton	58
21	Tall Pines Conservancy Easement	Town of Erin	324
22	WDNR Easement	Town of Erin	2
23	WDNR Easement	Town of Erin	75
24	WDNR Easement	Town of Erin	90
25	WDNR Easement	Town of Erin	9
26	WDNR Easement	Town of Erin	35
27	Ozaukee Washington Land Trust Easement	Town of Erin	132
28	Ozaukee Washington Land Trust Easement	Town of Erin	39
29	Ozaukee Washington Land Trust Easement	Town of Erin	40
30	Ozaukee Washington Land Trust Easement	Town of Erin	8
31	WDNR Easement	Town of Farmington	110
32	WDNR Easement	Town of Farmington	58
33	WDNR Streambank Easement	Town of Farmington	6
34	Ozaukee Washington Land Trust Easement	Town of Farmington	81
35	Ozaukee Washington Land Trust Easement	Town of Farmington	57
36	Ozaukee Washington Land Trust Easement	Town of Farmington	33
37	Ozaukee Washington Land Trust Easement	Town of Farmington	27
38	Ozaukee Washington Land Trust Easement	Town of Farmington	112
39	MMSD Conservation Plan Easement	Town of Germantown	79
40	Ozaukee Washington Land Trust Easement	Town of Hartford	37
41	Conservation Reserve Enhancement Program Easement	Town of Jackson	4
42	WDNR Easement	Town of Jackson	3
43	Ozaukee Washington Land Trust Easement	Town of Jackson	313
44	Statewide Non-Point Easement Program	Town of Kewaskum	1
45	WDNR Easement	Town of Kewaskum	10
46	WDNR Easement	Town of Kewaskum	74
47	WDNR Streambank Easement	Town of Kewaskum	11
48	WDNR Streambank Easement	Town of Kewaskum	44
49	Big Cedar Lake Protection and Rehabilitation District	Town of Polk	5
50	Ozaukee Washington Land Trust Easement	Town of Polk	49
51	Ozaukee Washington Land Trust Easement	Town of Polk	23
52	Ozaukee Washington Land Trust Easement	Town of Polk	22
53	Ozaukee Washington Land Trust Easement	Town of Polk	31
54	Conservation Reserve Enhancement Program Easement	Town of Trenton	1

Table continued on next page.

Table 5.17 (Continued)

Number on Map 5.28	Holder of Easement	Location	Size (acres)
55	WDNR Wetland Mitigation Easement	Town of Trenton	11
56	WDNR Streambank Easement	Town of Trenton	4
57	WDNR Streambank Easement	Town of Trenton; City of West Bend	21
58	Ozaukee Washington Land Trust Easement	Town Trenton	170
59	Ozaukee Washington Land Trust Easement	Town Trenton	31
60	WDNR Easement	Town of Wayne	10
61	WDNR Easement	Town of Wayne	11
62	WDNR Easement	Town of Wayne	40
63	WDNR Easement	Town of Wayne	94
64	WDNR Easement	Town of Wayne	18
65	WDNR Easement	Town of Wayne	24
66	WDNR Easement	Town of Wayne	25
67	Ozaukee Washington Land Trust Easement	Town of Wayne	4
68	Cedar Lakes Conservation Foundation Easement	Town of West Bend	10
69	Cedar Lakes Conservation Foundation Easement	Town of West Bend	17
70	Cedar Lakes Conservation Foundation Easement	Town of West Bend	154
71	Cedar Lakes Conservation Foundation Easement	Town of West Bend	1
72	Cedar Lakes Conservation Foundation Easement	Town of West Bend	8
73	Cedar Lakes Conservation Foundation Easement (Wild Wings)	Town of West Bend	126
74	WDNR Easement	Town of West Bend	6
75	Ozaukee Washington Land Trust Easement	Town of West Bend	21
		Total – 75 Sites	3,357

Source: SEWRPC

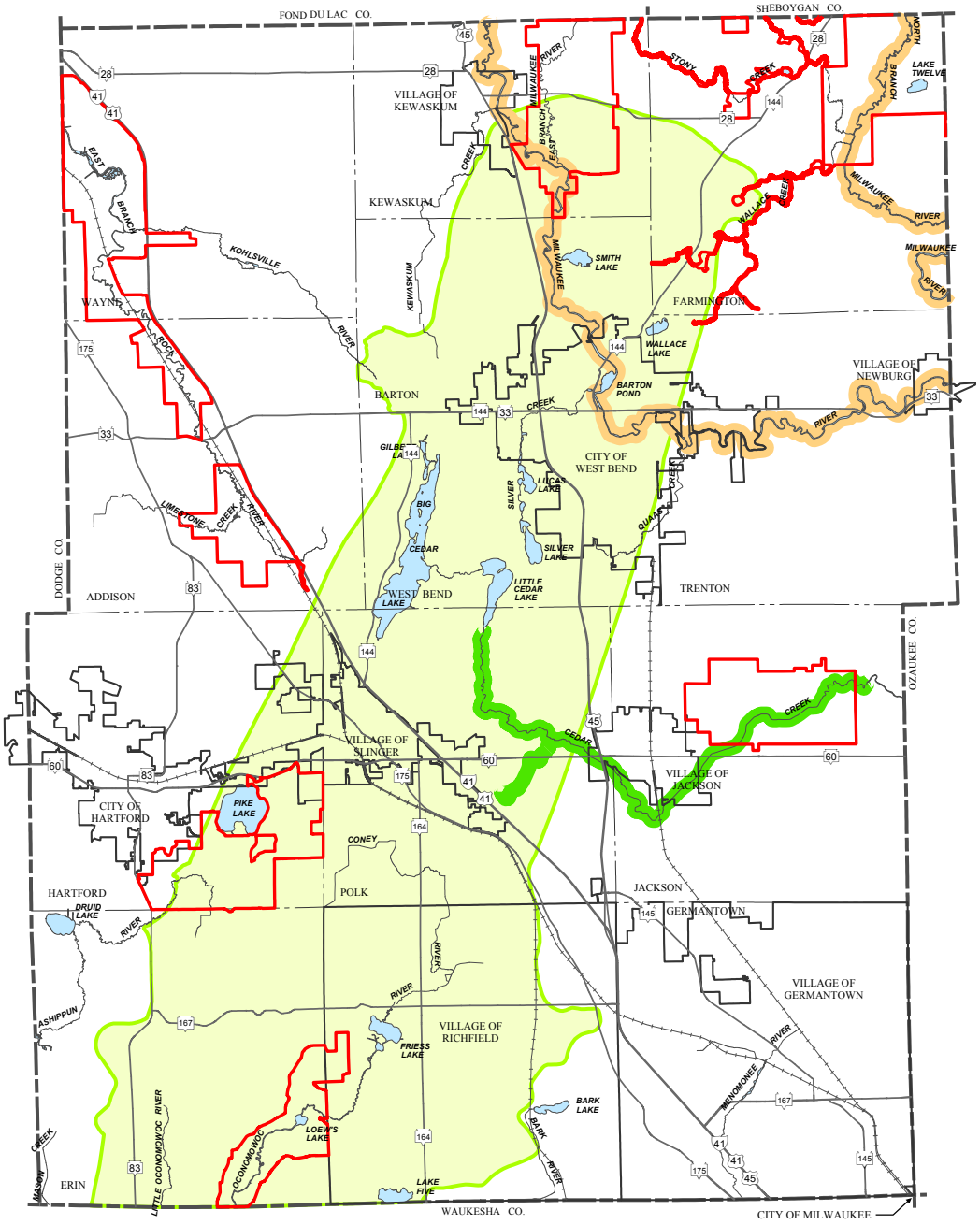
The County is also home to seven Wisconsin State Historical Markers through a program administered by the State Historical Society of Wisconsin's Division of Historic Preservation. State Historical Markers are intended to identify, commemorate, and honor the important people, places, and events that have contributed to Wisconsin's rich heritage. The program serves as a vital educational tool, informing people about the most significant aspects of Wisconsin's past. State Historical Markers in the County are identified on Map 5.32 and in Table 5.22. Three sites with State Historical Markers, the Lizard Mound County Park, Kissel, and Schwartz Ballroom sites, are also listed on the National and State Registers as previously referenced. The County also contains sites of significance that feature markers issued under the Wisconsin Registered Landmarks (WRL) Program, which was established in 1964 and ended in 1973. While information on sites featuring markers issued under the WRL Program is not comprehensive, details regarding some such sites in the County are available through the State Historical Society.

Local and County landmarks, some of which are listed on the National or State Register of Historic Places, are also on Map 5.32 and in Table 5.22. County and local governments may designate landmarks once a landmarks commission or historic preservation commission has been established by ordinance and certified by the State Historical Society. Three sites

The Dheinsville Settlement in the Village of Germantown has a State Historical Marker.

The Allenton Iron Bridge is a historical structure registered as a Washington County landmark.

Map 5.29
Wisconsin Department of Natural Resources Project Boundaries and Other Focus Areas in Washington County: 2016



WISCONSIN DEPARTMENT OF NATURAL RESOURCES (WDNR) PROJECT BOUNDARIES

MID KETTLE MORAINE STUDY AREA (WDNR)

CEDAR CREEK STREAM BANK PROTECTION PROGRAM CORRIDOR (WDNR)

MILWAUKEE RIVER WATERSHED STREAM BANK EASEMENT PROGRAM CORRIDOR (WDNR)

SURFACE WATER

Note: In addition to the WDNR project boundaries, the Ozaukee Washington Land Trust works throughout Washington County to preserve important natural resource areas.

Source: Wisconsin Department of Natural Resources, Ozaukee Washington Land Trust, and SEWRPC

0 1 2 3 Miles

Table 5.18
Public Park, Recreation, and Open Space Sites Owned by Partnering Local Governments: 2017

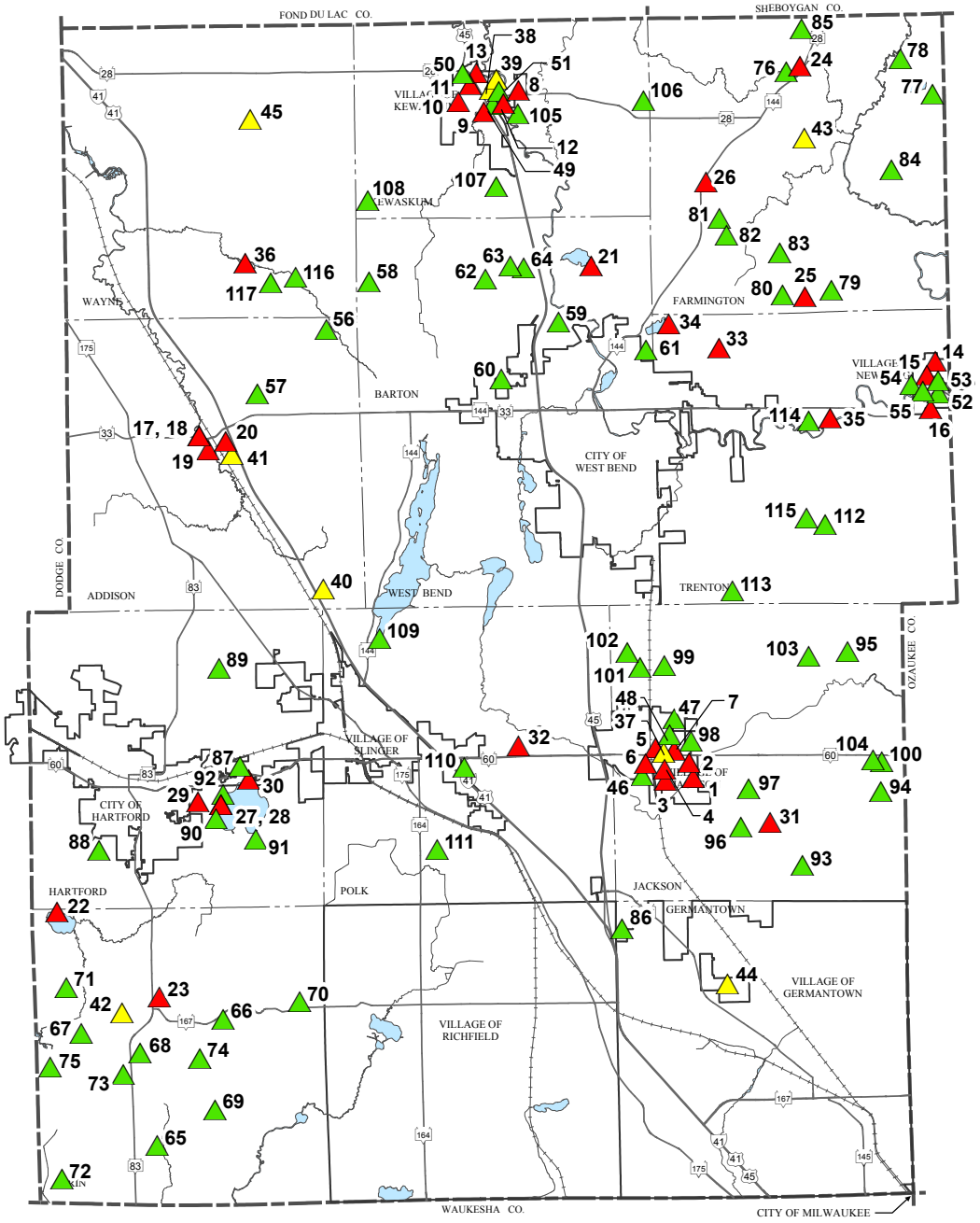
Local Government	Number on Map 5.30	Site Name	Size[a] (acres)
Village of Jackson	1	Cedar Run Park	25
	2	Eagle Drive Playfield	2
	3	Hickory Lane Park	14
	4	Jackson Area Community Center	3
	5	Jackson Park	25
	6	Meadowview Park	2
	7	Reis Memorial Park	1
		Subtotal – 7 Sites	72
Village of Kewaskum	8	Kettle Kountry Estates Neighborhood Park	3
	9	Kewaskum Creek Park	6
	10	Kewaskum Kiwanis Community Park	35
	11	Knights Avenue Neighborhood Park	1
	12	River Hill Park	13
	13	Wildlife Drive Neighborhood Park	10
		Subtotal – 6 Sites	68
Village of Newburg	14	Dr. Weber Park	3
	15	Faulkner Park	1
	16	Grotelueschen Presidents' Park	5
		Subtotal – 3 Sites	9
Town of Addison	17	Riveredge Park	1
	18	Town-owned Land North	10
	19	Town-owned Land South	16
	20	Veteran's Memorial Park	11
		Subtotal – 4 Sites	38
Town of Barton	21	Smith Lake Boat Access	1
Town of Erin	22	Druid Lake Access	1
	23	Erin Go Bragh Park	72
		Subtotal – 2 Sites	73
Town of Farmington	24	Fireman's Park	3
	25	Green Lake Boat Access	1
	26	Town-Owned Land	4
		Subtotal – 3 Sites	8
Town of Hartford	27	2nd Street Boat Access	1
	28	Lake Drive Boat Launch	1
	29	Town of Hartford Park	11
	30	Town of Hartford Wetland Mitigation Site	25
		Subtotal – 4 Sites	38
Town of Jackson	31	Jackson Town Hall and Park	49
Town of Polk	32	Town Hall Park	28
Town of Trenton	33	Lawrence Stockhausen Park	7
	34	Public Access to Wallace Lake	1
	35	Trenton Town Park	13
		Subtotal – 3 Sites	21
Town of Wayne	36	Kohlsvillle Town Park	2
		Total – 36 Sites	407

[a] *Site area is rounded to the nearest whole number. Sites less than one acre are rounded up to one acre.*

Source: SEWRPC

designated as Washington County Landmarks also feature State Historical Markers, including the Dheinsville Settlement, Great Divide, and Lizard Mound County Park, and an additional site, the Jacob Schunk House, is designated as both a local and County landmark.

Map 5.30
Local Public and Privately Owned Park and Open Space Sites in Partnering Local Governments: 2017



▲ LOCAL GOVERNMENT SITE

△ PUBLIC SCHOOL SITE

▲ PRIVATELY OWNED SITE

4 SITE REFERENCE NUMBER
(SEE TABLES 5.18, 5.19, AND 5.20)

SURFACE WATER

Source: SEWRPC

N

0 1 2 3 Miles

Table 5.19
Park, Recreation, and Open Space Sites Owned by Public School Districts in Partnering Local Governments: 2017

Local Government	Number on Map 5.30	Site Name	Size[a] (acres)
Village of Jackson	37	Jackson Elementary School	6
Village of Kewaskum	38	Kewaskum Elementary School	7
	39	Kewaskum Middle and High Schools	50
		Subtotal – 2 Sites	57
Town of Addison	40	Addison Elementary School	42
	41	Allenton Elementary School	15
		Subtotal – 2 Sites	57
Town of Erin	42	Erin Elementary School	18
Town of Farmington	43	Farmington Elementary School	19
Town of Germantown	44	Rockfield Elementary School	15
Town of Wayne	45	Wayne Elementary School	9
		Total – 9 Sites	181

[a] *Site area is rounded to the nearest whole number.*

Source: SEWRPC

The County also contains numerous sites for heritage tourism, which refers to tourist visits to historic sites and buildings. The State Historical Society and Wisconsin Department of Tourism offer information on heritage tourism and on destinations for heritage tourism, including three such sites within the County. Two of these sites, the Dheinsville Settlement and Lizard Mound County Park, feature a Wisconsin Historical Society Marker and are included on Map 5.32 and in Table 5.22. An additional site, the Old Courthouse Square Museum, located in West Bend, is an example of historic architecture that features permanent and temporary exhibits on early cultural, social, and industrial history.

Archaeological Resources

Preservation of archaeological resources is also important in preserving the cultural heritage of Washington County. Like historic sites and districts, significant prehistoric and historic archaeological sites provide the County and each of its communities with a sense of heritage and identity, which can provide for economic opportunities through tourism if properly identified and preserved. Archaeological sites found in Washington County fall under two categories: prehistoric sites and historic sites. Prehistoric sites are defined as those sites that date from before written history. Historic sites are sites established after history began to be recorded in written form (the State Historical Society of Wisconsin defines this date as A.D. 1650).

The Lizard Mound group is one of three mound groups located in the Town of Farmington listed on the National Register of Historic Places.

There are about 425 known prehistoric and historic archaeological sites in Washington County listed in the State Historical Society's Archaeological Sites Inventory, including prehistoric and historic camp sites, villages, and farmsteads; marked and unmarked burial sites; and Native American mounds. There are three mound groups in the Town of Farmington listed on the National Register of Historic Places: the Lizard Mound group, located in and adjacent to Lizard Mound County Park; the Glass mound group; and the Susen-Backhaus mound group. These three mound groups together are classified as the "Island" Effigy mound district listed on the National Register.

Table 5.20
Privately Owned Park, Recreation, and Open Space Sites in Partnering Local Governments: 2017

Local Government	Number on Map 5.30	Site Name	Size[a] (acres)
Village of Jackson	46	Glen Brook Subdivision Park	8
	47	Highland Creek Farms Subdivision Park	5
	48	Morning Star Lutheran School	9
		Subtotal – 3 Sites	22
Village of Kewaskum	49	Holy Trinity Elementary School	6
	50	Kewaskum Health Center	10
	51	St. Lucas Elementary School	3
		Subtotal – 3 Sites	19
Village of Newburg	52	Holy Trinity Catholic School	2
	53	Newburg Fireman's Park	12
	54	Newburg Sportsmen's Club	45
	55	St. John's Lutheran School	5
		Subtotal – 4 Sites	64
Town of Addison	56	Country View Equestrian Estates	80
	57	Western Trails Equestrian Center	12
		Subtotal – 2 Sites	92
Town of Barton	58	Faith Haven	59
	59	Highway 45 Golf	14
	60	Jansen Family Park	48
	61	Lake Lenwood Beach and Campground	57
	62	Timber Trail Campground	98
	63	Union Rod and Gun Club	80
	64	West Bend-Barton Sportsmen's Club	92
		Subtotal – 7 Sites	448
Town of Erin	65	Camp Quad	320
	66	Crossroads Farm	18
	67	Erin Hills Golf Course	627
	68	Erin Meadows Farms	87
	69	Erin Meadows Subdivision Park	3
	70	Heileger-Huegel Ski Club	80
	71	Lake Erin Estates Subdivision Park	55
	72	Monches Fish and Game Club	161
	73	Sconfinato Park	15
	74	Spring Ridge Park	5
	75	Twilight Farms	36
		Subtotal – 11 Sites	1,407
Town of Farmington	76	Boltonville Sportsmen's Club	14
	77	Camp Awana	132
	78	Fillmore Sportsmen's Club	89
	79	Lakehaven Subdivision Beach and Park	66
	80	Lazy Days Campground	76
	81	Pheasant Ridge Subdivision Park	14
	82	Shalom Wildlife Sanctuary	96
	83	Star Valley Subdivision Park	23
	84	Turner Park	14
	85	Wildlife, Inc.	70
		Subtotal – 10 Sites	594
Town of Germantown	86	Hillside Farm	20
Town of Hartford	87	Hartford Conservation and Gun Club	51
	88	Hartford Country Club	225
	89	Heartfield Farm	16
	90	Johnny's Boat Launch	3

Table continued on next page.

Table 5.20 (Continued)

Local Government	Number on Map 5.30	Site Name	Size[a] (acres)
Town of Hartford (continued)	91	Park View Heights Subdivision Park	5
	92	Reef Point Resort	2
		Subtotal – 6 Sites	302
Town of Jackson	93	David's Star Lutheran Elementary School	83
	94	Hidden Glen Golf Club	197
	95	Hidden Talent Farm	38
	96	Jackson Historical Society	1
	97	Kettle Moraine Lutheran High School	82
	98	Living Word Lutheran High School	53
	99	Magna Vista Subdivision Park	3
	100	Pinewood Farm	11
	101	Pleasant Hollow Subdivision Park	7
	102	Pleasant Valley Tennis Club	10
	103	Trinity Lutheran School	4
	104	Wild Strawberry Acres	10
		Subtotal – 13 Sites	505
Town of Kewaskum	105	Hon-E-Kor Golf Course	252
	106	Legacy Hills Farm	20
	107	Sunburst Ski Area	46
	108	West Bar Sporting Club	78
		Subtotal – 4 Sites	396
Town of Polk	109	Cedar Lake Hills Subdivision Park	4
	110	Country Sport	23
	111	Scenic View Country Club	182
		Subtotal – 3 Sites	209
Town of Trenton	112	Blue Lotus Farm and Retreat Center	60
	113	Seoul Creek Farm	41
	114	West Bend Lakes Golf and Recreation	152
	115	Woodfield Farms Horse Boarding Facility	158
		Subtotal – 4 Sites	411
Town of Wayne	116	Cedar Valley Center	96
	117	Faith Haven Corporation	114
		Subtotal – 2 Sites	210
		Total – 73 Sites	4,699

[a] *Site area is rounded to the nearest whole number. Sites less than one acre are rounded up to one acre.*

Source: SEWRPC

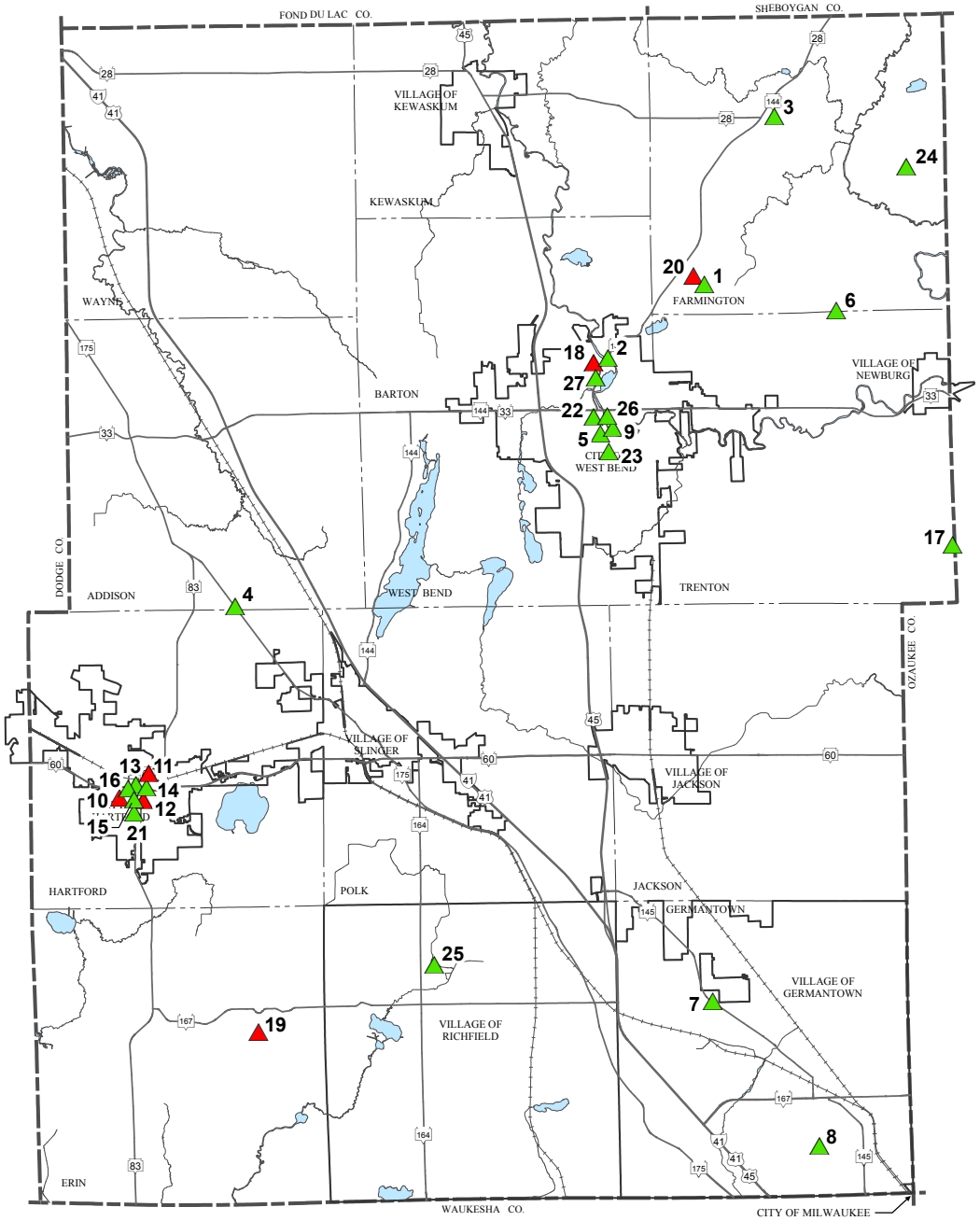
An additional mound group in the County was recently acquired by the City of West Bend and incorporated into Quaas Creek Park. This group, known as the Joedike Mound group, is located near the confluence of Quaas Creek and the Milwaukee River on the east side of the City of West Bend.

Local Historical Societies and Museums

Several local historical societies in the County are affiliated with the State Historical Society of Wisconsin. These include the Washington County Historical Society, Erin Historical Society, Farmington Historical Society, Germantown Historical Society, Hartford Historical Society, Jackson Historical Society, Kewaskum Historical Society, and Richfield Historical Society.

As shown in Table 5.23, many of the historical societies in Washington County maintain historic sites or facilities that contain items of historical or archaeological significance as well as historical records. The Germantown Historical Society maintains a pair of museums and a research library, all within the confines of the historic Dheinsville Settlement, providing great insight into the early pioneer lifestyle. The Jackson Historical Society operates a museum with artifacts dating back to the community's earliest days, along with local family histories, census records, photos, and genealogical material. Additionally, the site is home

Map 5.31
Historic Sites and Districts in Washington County Listed on the National and State Registers of Historic Places: 2016



HISTORIC DISTRICT

HISTORIC SITE

4 REFERENCE NUMBER (SEE TABLE 5.21)

SURFACE WATER

N

0 1 2 3 Miles

Source: SEWRPC

Table 5.21
Historic Sites and Districts in Washington County Listed on the National and State Registers of Historic Places: 2016

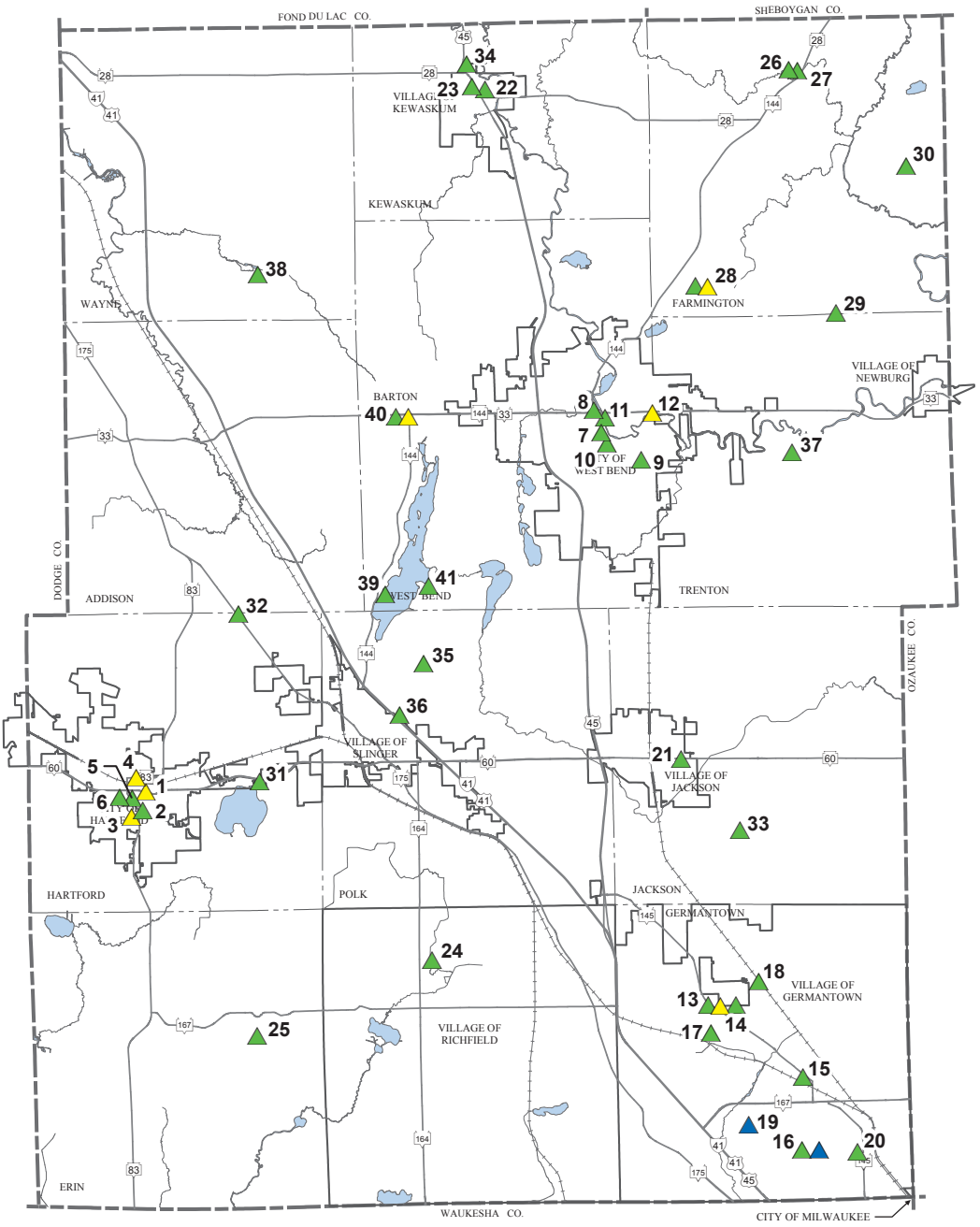
Number on Map 5.31	Site Name	Location	Year Listed
1	Lizard Mound Park	Town of Farmington	1970
2	Gadow's Mill	City of West Bend	1974
3	St. John of God Roman Catholic Church, Convent, and School	Town of Farmington	1979
4	Ritger Wagonmaking and Blacksmith Shop	Town of Addison	1982
5	Washington County Courthouse and Jail	320 S. 5th Avenue, City of West Bend	1982
6	St. Peter's Church	1010 Newark Drive, Town of Farmington	1983
7	Christ Evangelical Church	Village of Germantown	1983
8	Jacob Schunk Farmhouse	Donges Bay Road, Village of Germantown	1983
9	Leander F. Frisby House	304 S. Main Street, City of West Bend	1985
10	Kissel's Addition Historic District	City of Hartford	1988
11	Kissel Motor Car Industrial District	City of Hartford	1988
12	Kissel's Wheelock Addition Historic District	City of Hartford	1988
13	George A. Kissel House	215 E. Sumner Street, City of Hartford	1988
14	Louis Kissel House	407 E. Sumner Street, City of Hartford	1988
15	Otto P. Kissel House	124 South Street, City of Hartford	1988
16	William L. Kissel House	67 South Street, City of Hartford	1988
17	St. Augustine Catholic Church and Cemetery	CTH Y, Town of Trenton	1990
18	Barton Historic District	City of West Bend	1992
19	Holy Hill	1525 Carmel Road, Town of Erin	1992
20	Washington County "Island" Effigy Mound District	Town of Farmington	1996
21	Schwartz Ballroom	150 Jefferson Avenue, City of Hartford	1998
22	West Bend Post Office	607 Elm Street, City of West Bend	2000
23	Amity Leather Products Company Factory	723-735 S. Main Street, City of West Bend	2002
24	Saxonia House	421 CTH H, Town of Farmington	2006
25	Messer-Mayer Mill	4399 Pleasant Hill Road, Village of Richfield	2007
26	West Bend Chicago and Northwestern Depot	City of West Bend	2008
27	St. Agnes School and Convent	City of West Bend	2013

Source: State Historical Society of Wisconsin, Washington County, and SEWRPC

to a 19th century styled, one-room schoolhouse, which is also a designated Washington County Landmark. The Kewaskum Historical Society maintains a museum as well, along with a log cabin dwelling reflective of the late 19th century. Finally, the Washington County Historical Society operates several historic sites within the County, including the Old Courthouse and Old Jailhouse Museums and the St. Agnes School and Convent in the City of West Bend. The museums include interactive and interpretive galleries and a research center. Other museums in Washington County include the Wisconsin Automotive Museum in the City of Hartford and the Museum of Wisconsin Art in the City of West Bend.

The Old Jailhouse Museum, located in the City of West Bend, is operated by the Washington County Historical Society.

Map 5.32
Wisconsin Historical Markers and Local and County Landmarks in Washington County: 2016



WISCONSIN HISTORICAL SOCIETY MARKER

COUNTY LANDMARK

LOCAL LANDMARK

16 REFERENCE NUMBER (SEE TABLE 5.22)

SURFACE WATER

Note: Due to map scale limitations, locations of sites may be slightly exaggerated where a site has multiple designations.

N

0 1 2 3 Miles

Source: State Historical Society of Wisconsin, Washington County, and SEWRPC

Table 5.22
Wisconsin State Historical Society Marker Sites and Local and County Landmarks in Washington County: 2016

Number on Map 5.32	Site Name	Designation	Location
	City of Hartford		
1	Kissel (Motor Car Company)	Wisconsin Historical Society Marker	608 East Sumner Street
2	Lohr's Gas Station	Washington County Landmark	158 Branch Street
3	Schwartz Ballroom – Chandelier Ballroom	Wisconsin Historical Society Marker	150 Jefferson Avenue
4	Schwartz Family House	Wisconsin Historical Society Marker	220 Union Street
5	Willard R. Amidon Home	Washington County Landmark	134 South Street
6	Westphal Mansion Inn	Washington County Landmark	90 South Main Street
	City of West Bend		
7	James Kneeland House	Washington County Landmark	518 Poplar Street
8	Stephan F. Mayer Home	Washington County Landmark	724 Beech Street
9	Verbeck Residence	Washington County Landmark	906 East Decorah Road
10	Washington County Courthouse Square	Washington County Landmark	320 South 5th Avenue
11	Washington House	Washington County Landmark	228 North Main Street
12	West Bend Aluminum Company	Wisconsin Historical Society Marker	Riverside Park, STH 33 and STH 144
	Village of Germantown		
13	Christ Evangelical Church	Washington County Landmark	N188 W12806 Fond du Lac Avenue
14	Dheinsville Settlement[a]	Wisconsin Historical Society Marker; Washington County Landmark	STH 145 and STH 167
15	Gehl's Guernsey Farms	Washington County Landmark	N116 W15970 Main Street
16	Jacob Schunk Farmhouse	Washington County Landmark; Village of Germantown Landmark	N104 W15446 Donges Bay Road
17	Knetzger Log House	Washington County Landmark	N188 W12369 Maple Road
18	The Livery	Washington County Landmark	N132 W17303 Rockfield Road
19	Private Residence	Village of Germantown Landmark	N108 W17760 Lilac Lane
20	St. Johns United Church of Christ	Washington County Landmark	N104 W14181 Donges Bay Road
	Village of Jackson		
21	Home of Reuben John Schmal	Washington County Landmark	N168 W19721 Main Street
	Village of Kewaskum		
22	Homestead of N. Edward Hausmann, M.D.	Washington County Landmark	1546 Fond du Lac Avenue
23	Homestead of William Hausmann, M.D.	Washington County Landmark	1554 Fond du Lac Avenue
	Village of Richfield		
24	Messer-Mayer Mill	Village of Richfield Landmark	4399 Pleasant Hill Road
	Town of Erin		
25	Holy Hill[a]	Washington County Landmark	1525 Carmel Road
	Town of Farmington		
26	Boltonville Church	Washington County Landmark	1332 Scenic Drive
27	Boltonville Mill	Washington County Landmark	9298 Boltonville Road
28	Lizard Mound County Park[a]	Wisconsin Historical Society Marker; Washington County Landmark	7999 Orchard Valley Road
29	St. Peter's Church	Washington County Landmark	1010 Newark Drive
30	Saxonia House	Washington County Landmark	421 CTH H
	Town of Hartford		
31	Gertsch Log Home on Pike Lake	Washington County Landmark	5862 Franklin Drive
32	St. Lawrence Catholic Church	Washington County Landmark	4886 STH 175
	Town of Jackson		
33	Emmanuel Church	Washington County Landmark	1860 West Mill Road
	Town of Kewaskum		
34	Backhaus Estate	Washington County Landmark	9376 Old Fond du Lac Road
	Town of Polk		
35	Schubert Cheese Factory	Washington County Landmark	4432 Arthur Road
36	Winter Farm	Washington County Landmark	4631 Cedar Creek Road
	Town of Trenton		
37	Esker	Washington County Landmark	Evergreen Drive and Decorah Road

Table continued on next page.

Table 5.22 (Continued)

Number on Map 5.32	Site Name	Designation	Location
	Town of Wayne		
38	Moritz Farmhouse	Washington County Landmark	7671 CTH WW
	Town of West Bend		
39	Cedar Lake Yacht Club	Washington County Landmark	4719 Yacht Club Drive
40	Great Divide	Wisconsin Historical Society Marker; Washington County Landmark	STH 33 and STH 144
41	Timmer's Resort	Washington County Landmark	5151 Timmer Bay Road

[a] *Site serves as a heritage tourism site.*

Source: State Historical Society of Wisconsin, Washington County, and SEWRPC

Table 5.23
Local Historical Societies in Washington County: 2016

Historical Society	Historic Site/Museum
Erin Historical Society	--
Farmington Historical Society	--
Germantown Historical Society	
Germantown Historical Museum/Dheinsville Settlement	Six-way Crossroads – Holy Hill Road, Village of Germantown
Research Library/Wolf Haus	Six-way Crossroads – Holy Hill Road, Village of Germantown
Sila Lydia Bast Bell Museum	Six-way Crossroads – Holy Hill Road, Village of Germantown
Hartford Historical Society	--
Jackson Historical Society	
Mill Road Church Museum	1860 Mill Road, Town of Jackson
Kewaskum Historical Society	
Kewaskum Historical Society Museum and Log Cabin	1202 Parkview Drive, Town of Kewaskum
Richfield Historical Society	
Richfield Historical Park	Pleasant Hill Road and STH 164, along the Coney River, Village of Richfield
Washington County Historical Society	
Old Jailhouse	340 S. Fifth Avenue, City of West Bend
Old Courthouse Square Museum	320 S. Fifth Avenue, City of West Bend
St. Agnes Convent	1386 Fond du Lac Street, City of West Bend

Source: State Historical Society of Wisconsin and SEWRPC