

CHAPTER 6

AGRICULTURAL, NATURAL, AND CULTURAL RESOURCES ELEMENT

The comprehensive planning legislation requires this element to include goals, objectives, and recommendations for the conservation and promotion of effective management of agricultural, natural, historical, and cultural resources. The conservation and wise use of 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 Village 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 Village is needed to help properly locate future land uses. This information is necessary to avoid serious environmental problems and to ensure protection of natural resources.



95th Street and Old Green Bay Road

This chapter provides inventory information¹ on existing agricultural, natural, and cultural resources in the Village. Information regarding soil types, existing farmland, farming operations, topography and geology, non-metallic mining resources, water resources, woodland resources, natural areas, and critical species habitats, environmental corridors, park and open space sites, climate, air quality, and cultural (historical and archeological) resources is included in this chapter. Appendix 6-1 describes conservation funding programs used to preserve agricultural, natural, and cultural resources that may be available, including Federal, State, County, and local programs. Included are sources of grant funds for the acquisition, preservation, and development of park and open space sites and the development of trails and bikeways. The Agricultural, Natural, and Cultural Resource objectives and recommendations to meet the primary goal of the Village are provided at the end of this Chapter.

Agricultural, Natural, and Cultural Resource Goal:

Protect the many natural, historical, archeological and cultural resources in the Village that contribute to the Village's history and its quality of life. Promote a healthy environment, including land and water that promotes the health, safety, and welfare of Village residents. Preserve and enhance Village's natural resources, parks and open space sites. Provide a comprehensive system of parks and open spaces to enhance the quality of the environment and life and to allow residents with adequate opportunities to participate in resource and non-resource-oriented outdoor recreation activities.

¹ The base year for inventory data presented in this chapter ranges from 1982 to 2009. Much of the inventory data has been collected through regional land use and natural area planning activities conducted by SEWRPC. Additional inventory data has been collected from and by Kenosha County, the Village of Pleasant Prairie, and State and Federal agencies including the Wisconsin Department of Natural Resources (DNR), Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP), 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 Kenosha County in 1970.² 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 which areas of the Village best suited for urban development and areas with limitations for development due to wet soils or bedrock near the surface.

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 6.1 shows soil associations in Village. This map provides a general idea of the soils in the Village, planning decisions shall be based on the more detailed soils information, including soil mapping units and interpretations for various land uses contained in the soil survey. The four (4) soil associations in Pleasant Prairie are briefly described below:

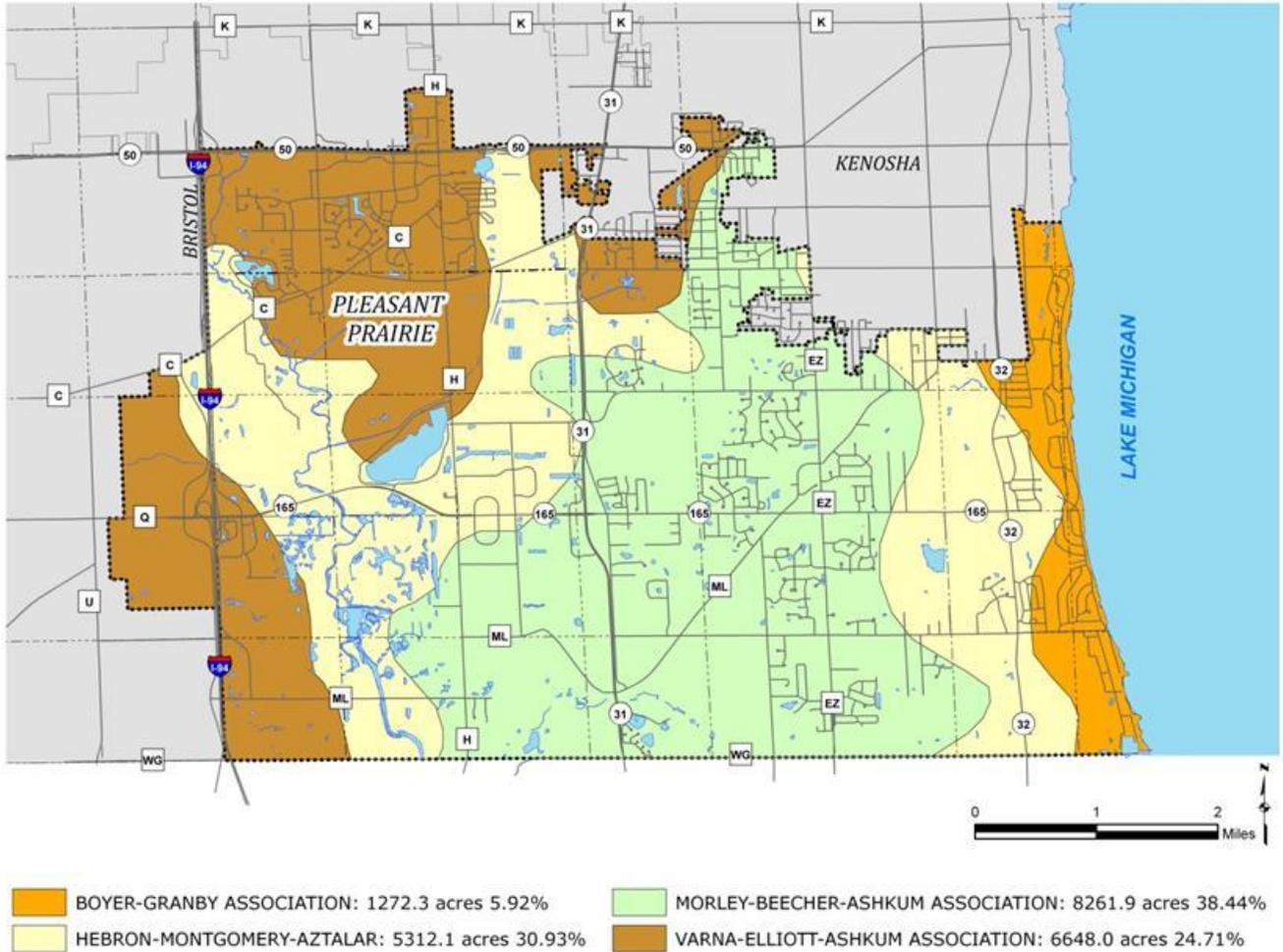
- The *Boyer-Granby association* consists of well-drained to very poorly-drained soils that have a loam-to-sand subsoil, underlain by sandy glacial outwash. The soils are nearly level or gently sloping, occupying a low, long terrace adjoining Lake Michigan. This association encompasses approximately 1,272.3 acres or 5.9% of the Village.
- The *Hebron-Montgomery-Aztalan association* consists of well-drained to poorly-drained soils that have a loamy to silty clay subsoil. The soils are nearly level to rolling and are located on lake plains close to Lake Michigan, along the Des Plaines Rivers, and along other streams. This association encompasses approximately 5,312.1 acres or 30.9% of the Village.
- The *Morley-Beecher-Ashkum association* consists of well-drained to poorly-drained soils that have a silty clay or silty clay-loam subsoil. These soils are nearly level or gently sloping and occupy low, broad ridges and knobs that are dissected by drainageways and depressions. This association encompasses approximately 8,261.9 acres or 38.4% of the Village.
- The *Varna-Elliott-Ashkum association* consists of well-drained to poorly-drained soils that have a silty clay-loam-to-clay subsoil. These soils are nearly level or gently sloping and occur on low, broad ridges and knobs. This association is located throughout much of the northern and eastern areas of the County. This association encompasses approximately 6,648.0 acres or 24.7% of the Village.

Soil Limitations for Development

A variety of soil characteristics can impact the suitability of land for development. Severe structural soils, as identified by the Kenosha County Planning and Development Department using data from the NRCS, impose significant limitations on development of dwellings with or without basements and structures requiring private on-site waste treatment system (POWTS) absorption fields. Severe structural soils possess properties or site features that are so unfavorable or so difficult to overcome that special design, significant increases in construction

² Documented in the USDA Soil Conservation Service, *Soil Survey of Kenosha and Racine Counties, Wisconsin, 1971.*

**MAP 6.1
GENERAL SOIL ASSOCIATIONS**



Source: Natural Resource Conservation Services and SEWRPC.

costs, and possibly increased maintenance are required. A high water table, flooding, shrinking and swelling, and organic layers can cause the movement of footings and affect dwellings with or without basements. Likewise, a high water table, depth to bedrock, large stones, slope, and flooding affect the ease of excavation and construction and also influence the performance of POWTS absorption fields. These factors were all considered during the identification of severe structural soils.

Soils that are saturated with water or that have a water table at or near the surface, known as hydric soils or severe wet soils, also pose significant limitations for most types of development. High water tables often cause wet basements and poorly-functioning absorption fields for 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 6.2 depicts severe structural soils and severe wet soils in Pleasant Prairie, as identified by the NRCS and the Kenosha County Planning and Development Department.

Approximately 5,823 acres or 27% of the land in the Village is classified as severe structural soils and approximately 6,058 acres or 28% of the land in the Village is classified as severe wet soils. As shown on Map 6.2 severe structural soils and severe wet soils overlap and therefore are not exclusive categories. 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.

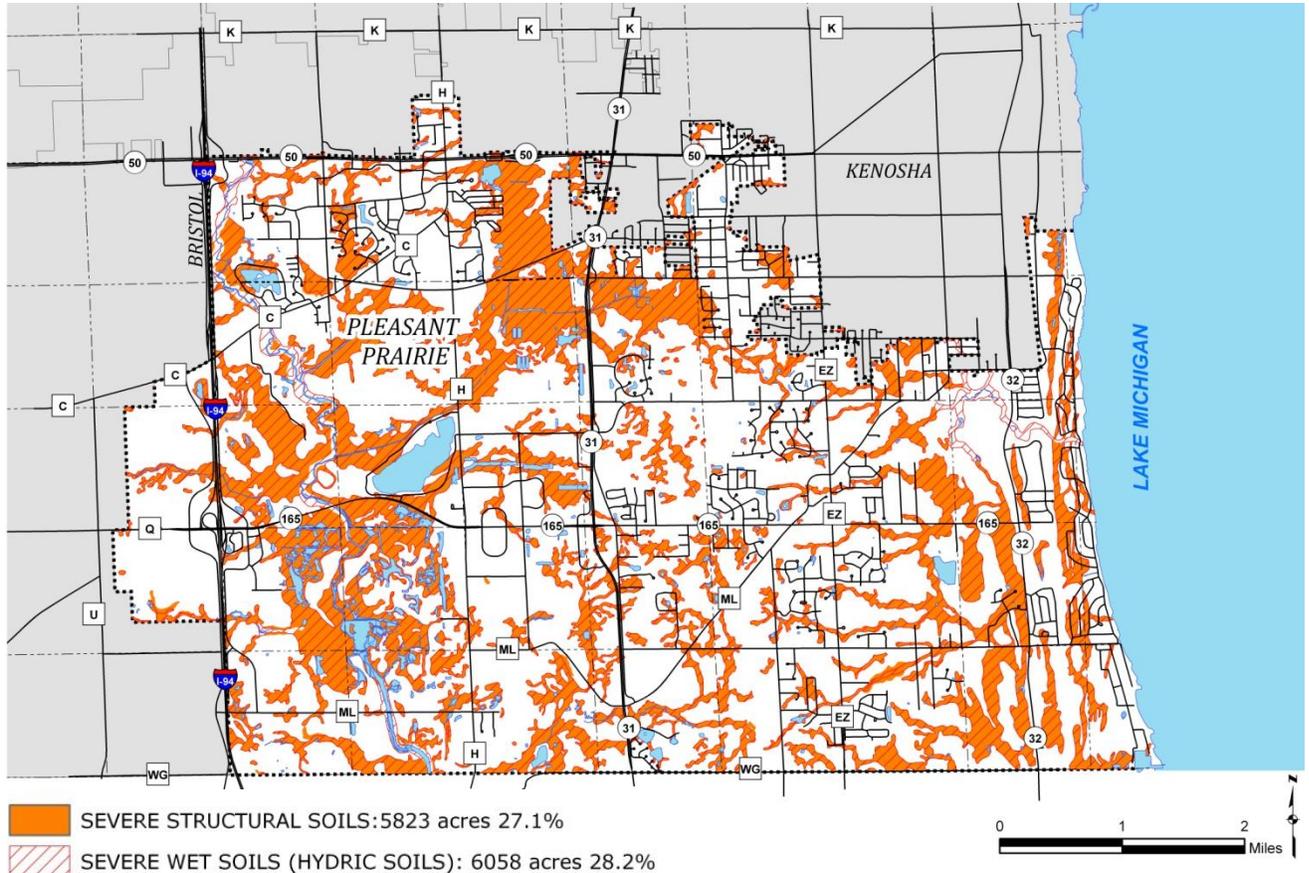
Topographical features, particularly slopes, have a direct bearing on the potential for soil erosion and the sedimentation of surface waters. Slope steepness affects the velocity and, accordingly, the erosive potential of runoff. As a result, steep slopes place moderate to severe limitations on urban development and agricultural activities, especially in areas with highly erodible soil types. Map 6.3 indicates portions of the Village that have slopes exceeding 12% which accounts for approximately 46 acres, or less than 1% of the Village. Development or cultivation of steeply sloped lands is also likely to negatively impact surface water quality through related erosion and sedimentation. Information on Lake Michigan bluffs is provided in a separate section of this Chapter.

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. The location and amount of Class I, II, and III soils, as set forth in Map 6.4 and were an important consideration when farmland preservation areas were identified in the existing County farmland preservation plan (adopted in 1981).

Generally, lands with Class I and II soils are considered "National Prime Farmlands." Approximately 77% of the Village is covered by prime farmland soils. 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. Lands with Class III soils are cover about 16% of the Village. 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 so rough, shallow, or otherwise limited that they do not produce economically worthwhile yields of crops, forage, or wood products.

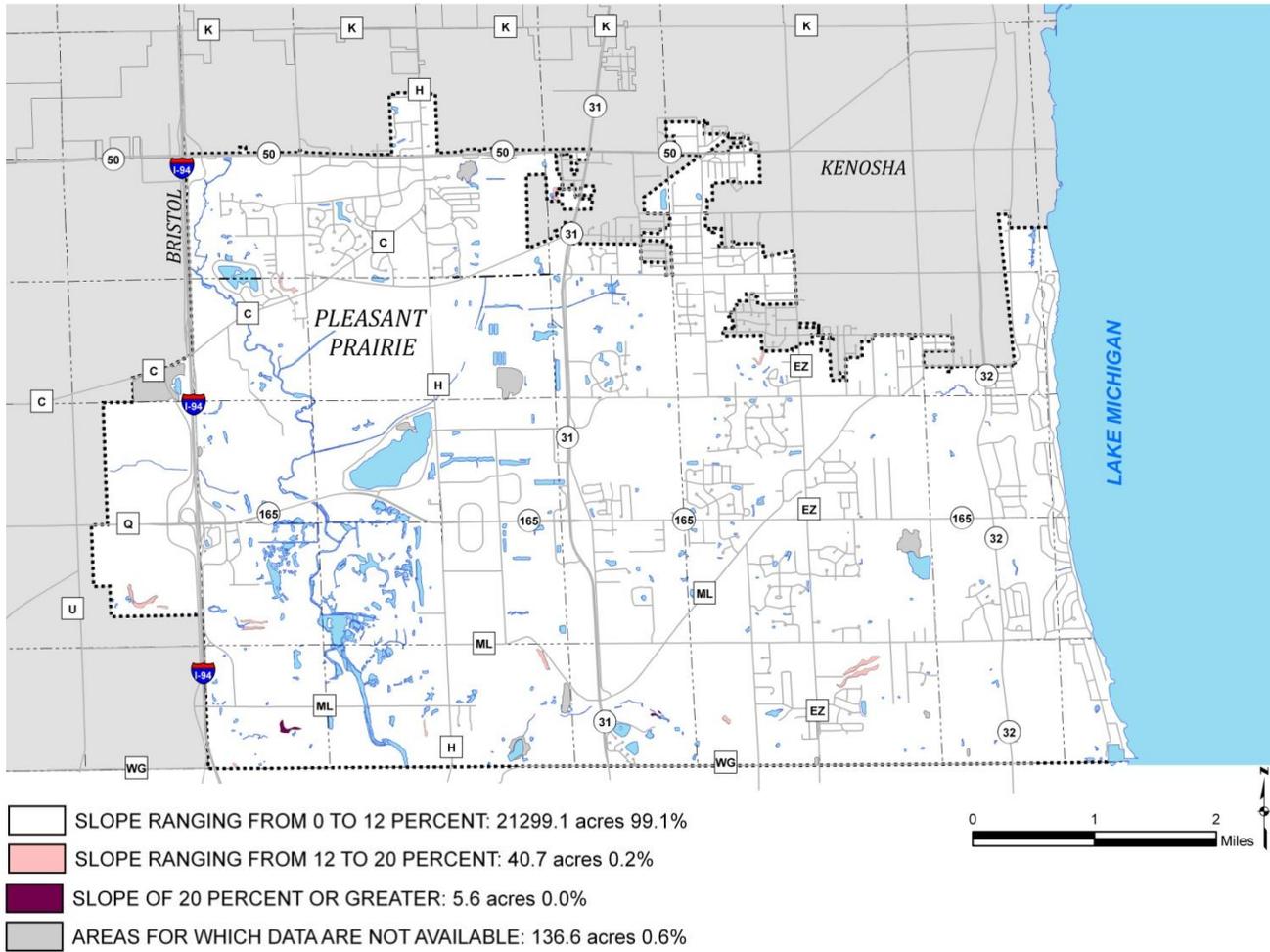
**MAP 6.2
SOIL LIMITATIONS FOR DEVELOPMENT**



Note: Severe structural soils and severe wet soils are not exclusive categories.

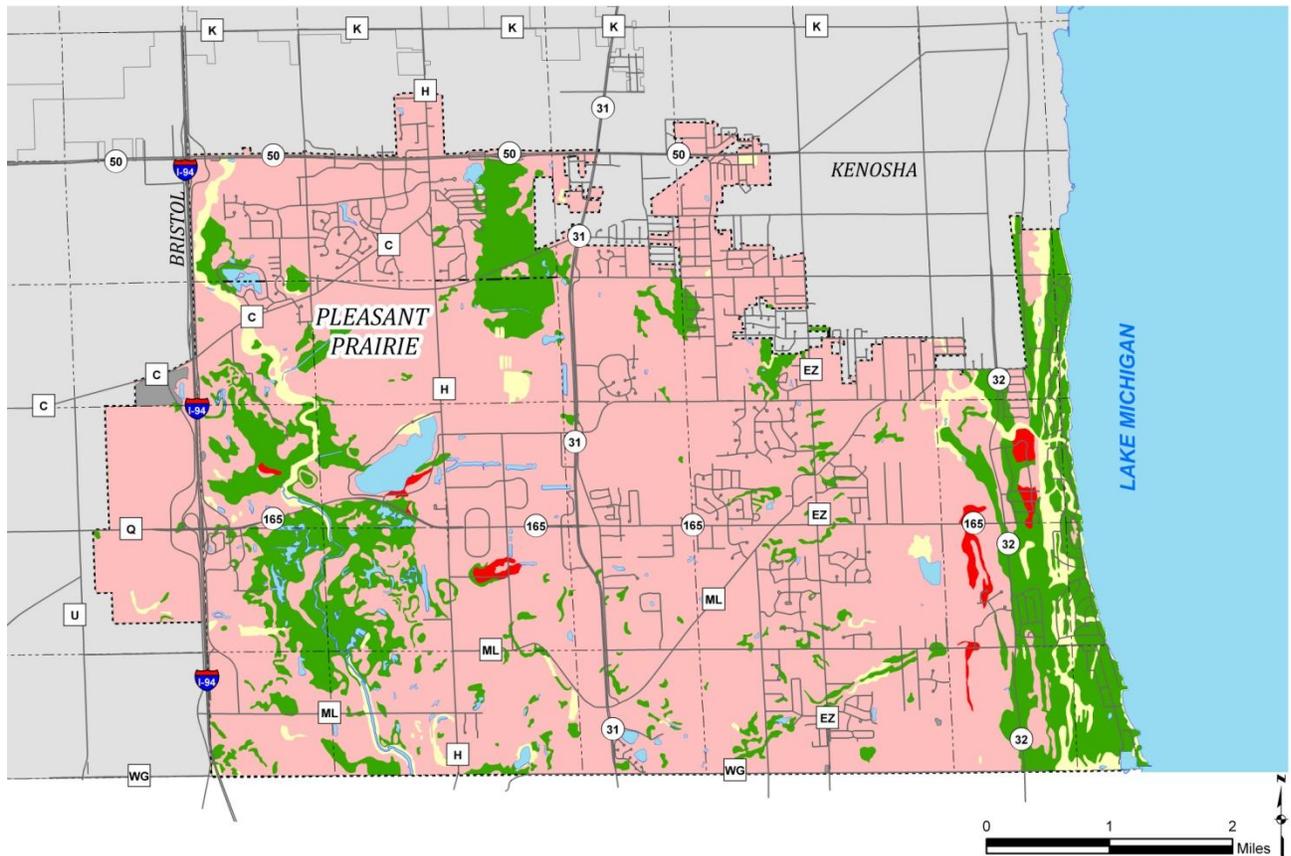
Source: Natural Resource Conservation Services and SEWRPC.

MAP 6.3 SLOPE ANALYSIS



Source: Natural Resource Conservation Services and SEWRPC.

**MAP 6.4
AGRICULTURAL SOIL CAPABILITY**



 CLASS I: 149.6 acres 0.7%	 CLASS IV, V, VI, VII, AND VIII: 825.8 acres 3.8%
 CLASS II: 16492.2 76.8%	 SURFACE WATER: 429.6 acres 2.0%
 CLASS III: 3525.4 acres 16.4%	 AREAS FOR WHICH DATA ARE NOT AVAILABLE FROM SOIL SURVEY

Source: Natural Resource Conservation Services and SEWRPC.



Agricultural Land Evaluation for Cropland

Soils in Wisconsin have been rated by the NRCS based on soil type, slope, agricultural capability class Map 6.4, and soil productivity for producing corn and soybeans. A relative value was then determined for each soil type. The best soils for crop production were assigned a value of 100. The NRCS provided these land evaluation (LE) values for soils in Kenosha County based on LE values for all soil types in Wisconsin. Soil LE values were “normalized” for Kenosha County as part of the LE analysis, meaning that each soil is rated in relative value to other soils in Kenosha County, rather than to soils in the State. Map 6.5 illustrates and depicts the LE ratings for soils in the Village, grouped by various ranges.

Existing Farmland

Agricultural lands in 2000 were identified by SEWRPC as part of 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.³ Based on the land use inventory, about 7,968 acres representing 37% of the Village were in agricultural use in 2000. 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 6.6 shows the area devoted to farmland use in 2000 for the Village categorized as follows:

- Cultivated Lands, which includes lands used for the cultivation of crops including row crops, grain crops, vegetable crops, and hay makes up 81.1% of the land used for agricultural purposes in the Village.
- Pasture Land and Unused Agricultural Lands, which includes lands used as pasture, or lands which were formerly cultivated or used for pasture which have not yet succeeded to a wetland or woodland plant community makes up 17.1% of the land used for agricultural purposes in the Village.
- Orchards, Nurseries, and Specialty Crops, which includes lands used for orchards, nurseries, sod farms, and specialty crops such as mint, ginseng, and berry fields makes up 0.5% of the land used for agricultural purposes in the Village. Greenhouses are not included in this category.
- Farm Buildings, which includes barns, silos, and other buildings used to store farm equipment or supplies or house farm animals makes up 1.2% of the land used for agricultural purposes in the Village.



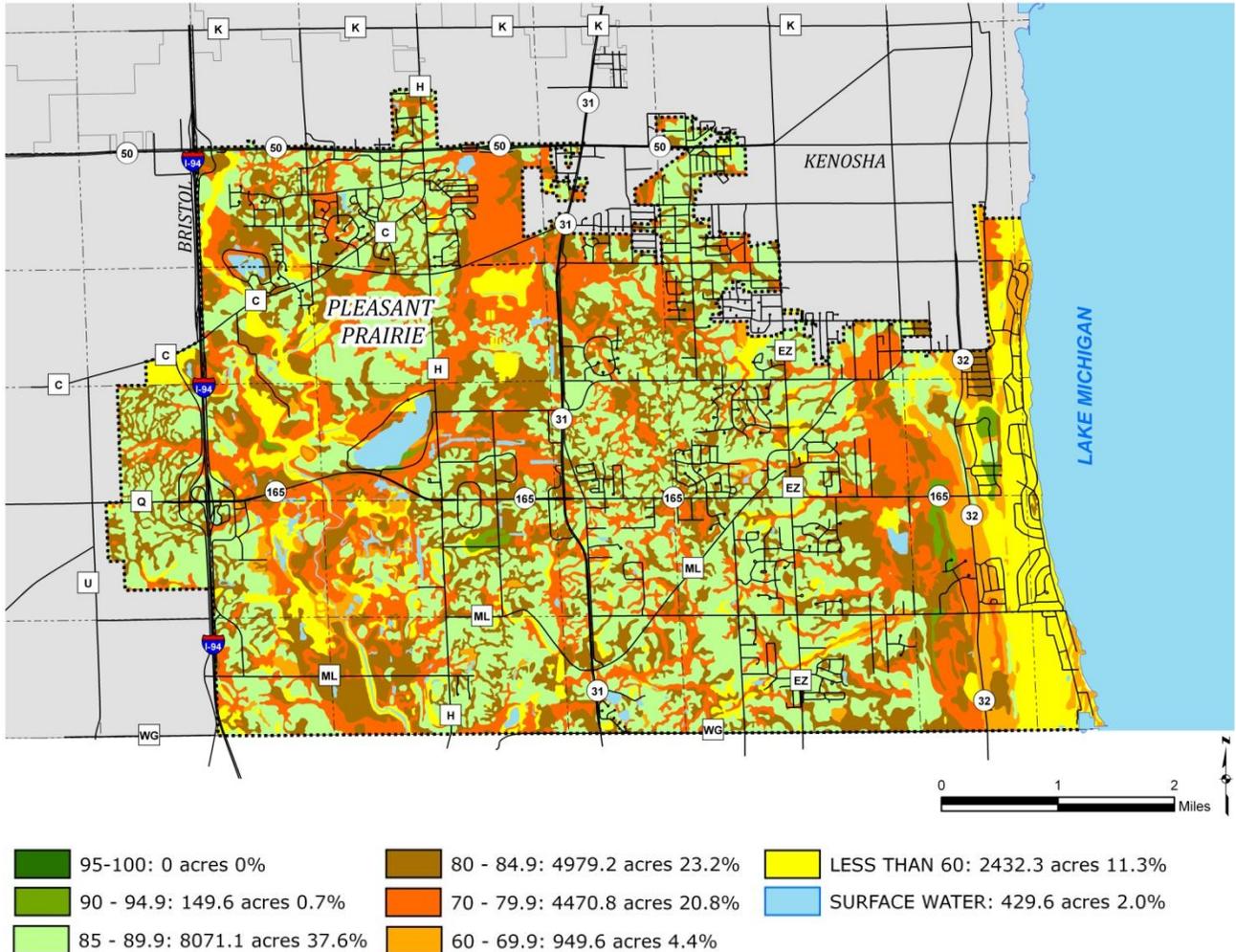
Farmland east at 88th Ave.



Farm at 88th Ave. and Bain Station Rd.

³ See *Land Use Element (Chapter 9)* for more information about the SEWRPC 2000 land use inventory.

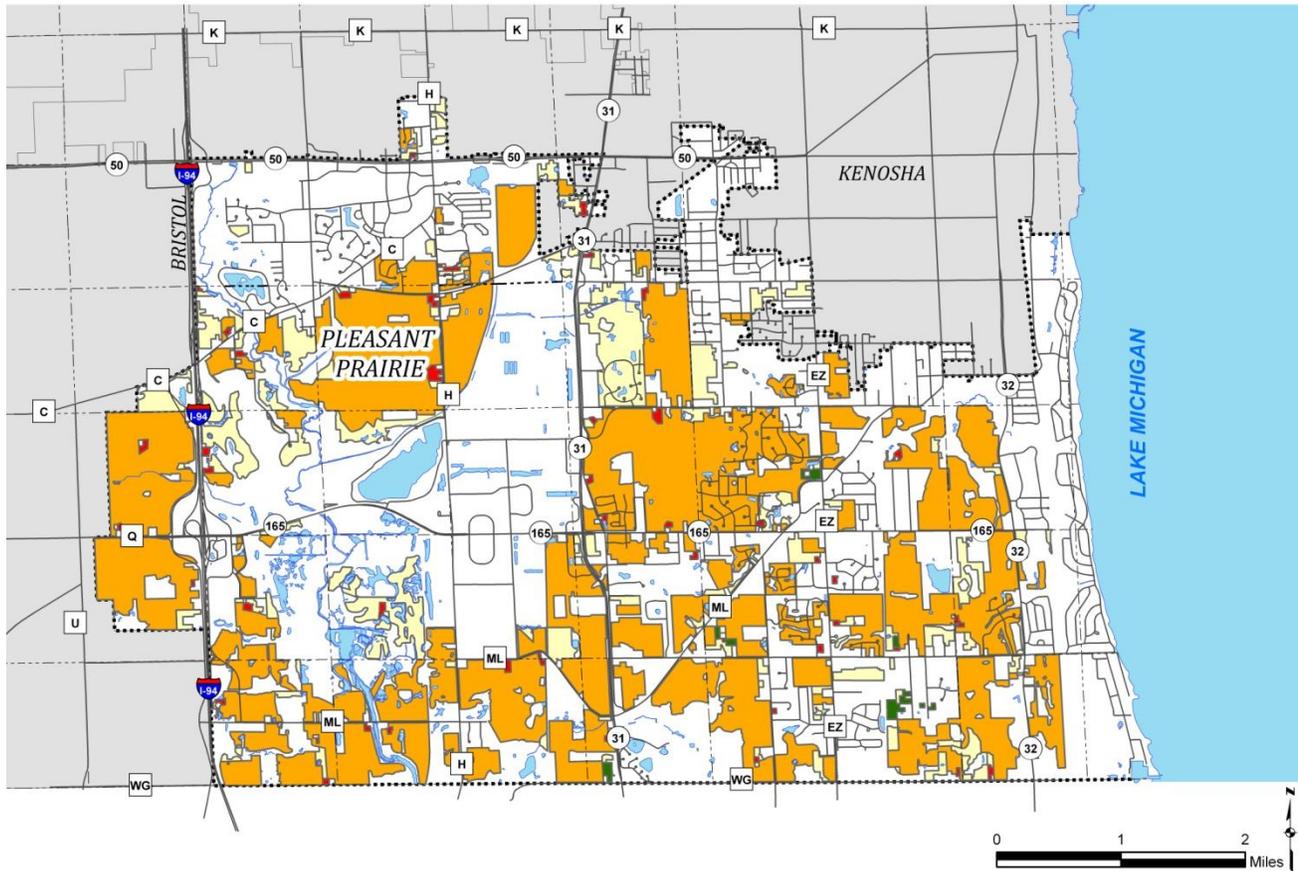
**MAP 6.5
AGRICULTURAL LAND EVALUATION FOR SOILS**



Source: Natural Resource Conservation Services and SEWRPC.



**MAP 6.6
EXISTING AGRICULTURAL LANDS: 2000**



 CULTIVATED LANDS: 6505.5 acres and 81.2%	 ORCHARDS, NURSERIES, AND SPECIALTY CROPS: 37.6 acres and .5%
 FARM BUILDINGS: 98.0 acres and 1.2%	 PASTURE AND UNUSED AGRICULTURAL LANDS: 1366.3 acres and 17.1%

Source: SEWRPC.

NATURAL RESOURCES

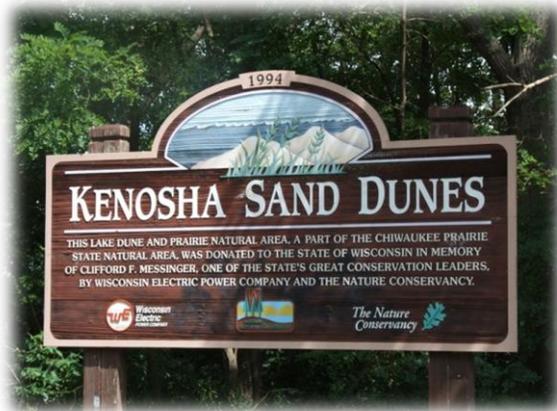
Topography and Geology

The landforms and physical features of the Village, such as topography and drainage patterns, are an important determinant of growth and development. The physiography of the area not only must be considered in sound land use and supporting transportation, utility, and community facility planning and development, but it also contributes directly to the natural beauty and overall quality of life in the Village. Additionally, the subcontinental divide, which separates the Mississippi River Basin and the Great Lakes-St. Lawrence River Basin, traverses the Village. In addition, the Village is also located adjacent to Lake Michigan, one (1) of the five (5) Great Lakes.

Glaciation has largely determined the physiography and topography, as well as the soil within the Village. Generalized landforms and topographic characteristics in about 50-foot interval contours are shown on Map 6.7. Topographic elevations range from 580 feet above sea level at the Lake Michigan shoreline to approximately 700 feet above sea level in the central and western portions of the Village. There is evidence of four major stages of glaciation in the Southeastern Wisconsin Region. The last, and most influential stage in terms of present physiography and topography in Pleasant Prairie, was the Wisconsin stage, which is believed to have ended in the State about 11,000 years ago.

The majority of Pleasant Prairie is dominated by gently sloping ground moraines. Ground moraines were laid down directly by the glacier, and are typically made up of dense basal till, which contains a combination of silt and clay. Pleasant Prairie also contains wetland areas made up of peat and organic materials.

One site of geological importance in the Village is the Kenosha Dunes and Buried Forest shown on Map 6.7. The Kenosha Dunes and Buried Forest, encompassing 36 acres, is a glacial geology site of regional significance that lies wholly within the established project boundary of



Kenosha Sand Dunes



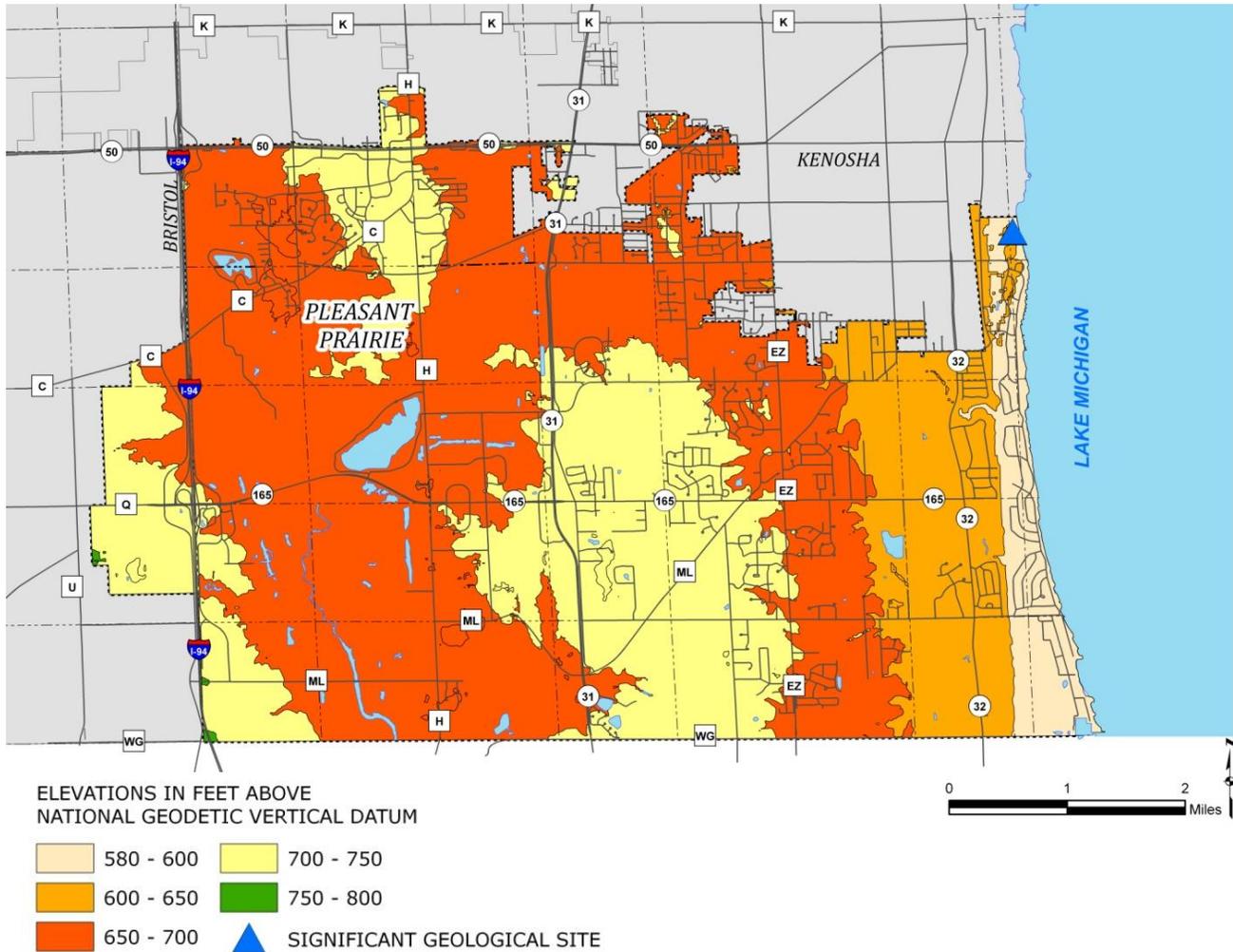
Lake Michigan

the Chiwaukee Prairie-Carol Beach State Natural Area⁴ within the Village along ½ mile of Lake Michigan containing well developed dunes and dune succession patterns (fore dunes to swale to wet prairie). The diversity of beach plant species is good. Some ditching has been done behind the dune areas, but it remains in good condition and is an excellent observation area for migrating birds. An ancient hardwood forest bed was discovered in this area in the early 1960s as wave erosion exposed sections of the shoreline.

There are no bedrock geology sites of local, countywide, regional, or statewide significance identified in the Village.

⁴ For additional information related to the Chiwaukee Prairie-Carol Beach area in the Village see Community Assistant Planning Report No. 88 entitled "A Land Use Management Plan for the Chiwaukee Prairie-Carol Beach Area of the Town of Pleasant Prairie, prepared by the SEWRPC in 1985.

**MAP 6.7
PHYSIOGRAPHIC FEATURES, GENERALIZED TOPOGRAPHIC CHARACTERISTICS
AND SIGNIFICANT GEOLOGICAL SITES**



Source: SEWRPC.



Lake Michigan

Lake Michigan, the eastern boundary of the Village is a major recreational resource for this region. It provides opportunities for fishing, swimming, wind-surfing, sailing and all types of boating. Lake Michigan, the second largest of the Great Lakes, is the only Great Lake entirely within the borders of the United States. Its name is derived from the Indian words "Michi-gama" meaning "large lake". It has a surface area of 22,300 square miles, making it the largest freshwater lake in the U.S. and the 5th largest lake in the world.



Lake Michigan

Lake Michigan was formed during the last Great Ice Age as glaciers advanced across what is now called the Great Lakes Region, scouring the land. As they receded, large glacial lakes were formed. Lake Michigan has diminished from its original size over time yet its significance to both human and natural ecosystems remains strong.

About 10,000 to 14,000 years ago, at the end of the Great Ice Age, ancient peoples traveled over extinct land bridges to the Great Lakes region. These Woodland Indians depended on the vast forests of the region for their survival and engaged in various forms of agriculture. European settlers were also drawn to the shores of Lake Michigan because of its natural resources. Today Lake Michigan is home to the nation's third-largest population center and provides drinking water for over 10 million people.

Lake Michigan has experienced profound changes in its aquatic ecosystem over the last 140 years and is threatened on several fronts. One of the greatest threats is the presence of aquatic invasive species, sometimes referred to as exotic species. Once established they are nearly impossible to eliminate and often out-compete native aquatic species for food and habitat. Sediments, air, land, and water continue to be pathways of contamination that also affect the integrity of Lake Michigan's ecosystem.

Despite these challenges, progress has been made to clean up Lake Michigan. Partnerships such as the Lake Michigan Federation, help leverage resources to address specific problems. The Lake Michigan Lakewide Management Plan (LaMP), provides an update on the activities to improve the Lake Michigan ecosystem. These and national focus on the Great Lakes will help ensure a cleaner and safer lake for future generations.

There are approximately 5.7 linear miles of Lake Michigan shoreline in Pleasant Prairie. The nature of the shoreline in Pleasant Prairie is relatively consistent with a bluff height of approximately four (4) or five (5) feet along the shoreline reaches of Pleasant Prairie.

Shoreline erosion and bluff stability conditions are important considerations in planning for the protection and sound development and redevelopment of lands located along Lake Michigan. These conditions can change over time because they are related to changes in climate, water level, the geometry of the near shore areas, the extent and condition of shore protection measures, the type and extent of vegetation, and the type of land uses in



Lake Michigan

shoreland areas. In 1995 SEWRPC completed a study of shoreline erosion and bluff stability conditions along Lake Michigan for its entire length in the Southeastern Wisconsin Region⁵.

The shoreline of Lake Michigan within the Village is located entirely within Reach 1 and the findings for Pleasant Prairie are depicted on Map 6.8. The findings illustrated on Map 6.8 are from multiple research points along several shoreline “reaches” which begin at the Wisconsin-Illinois State line and progress northward along the shoreline to the Village of Mt. Pleasant in Racine County. The linear expanse of each reach was determined by the presence of similar shoreline characteristics. Between 1963 and 1995, beach erosion ranged from 20 to 190 feet with shoreline recession rates ranging from an average of 0.6 to 5.9 feet per year. As of 1995, the beach width varies considerably, ranging from complete absence of beach to 150 feet.



Lake Michigan



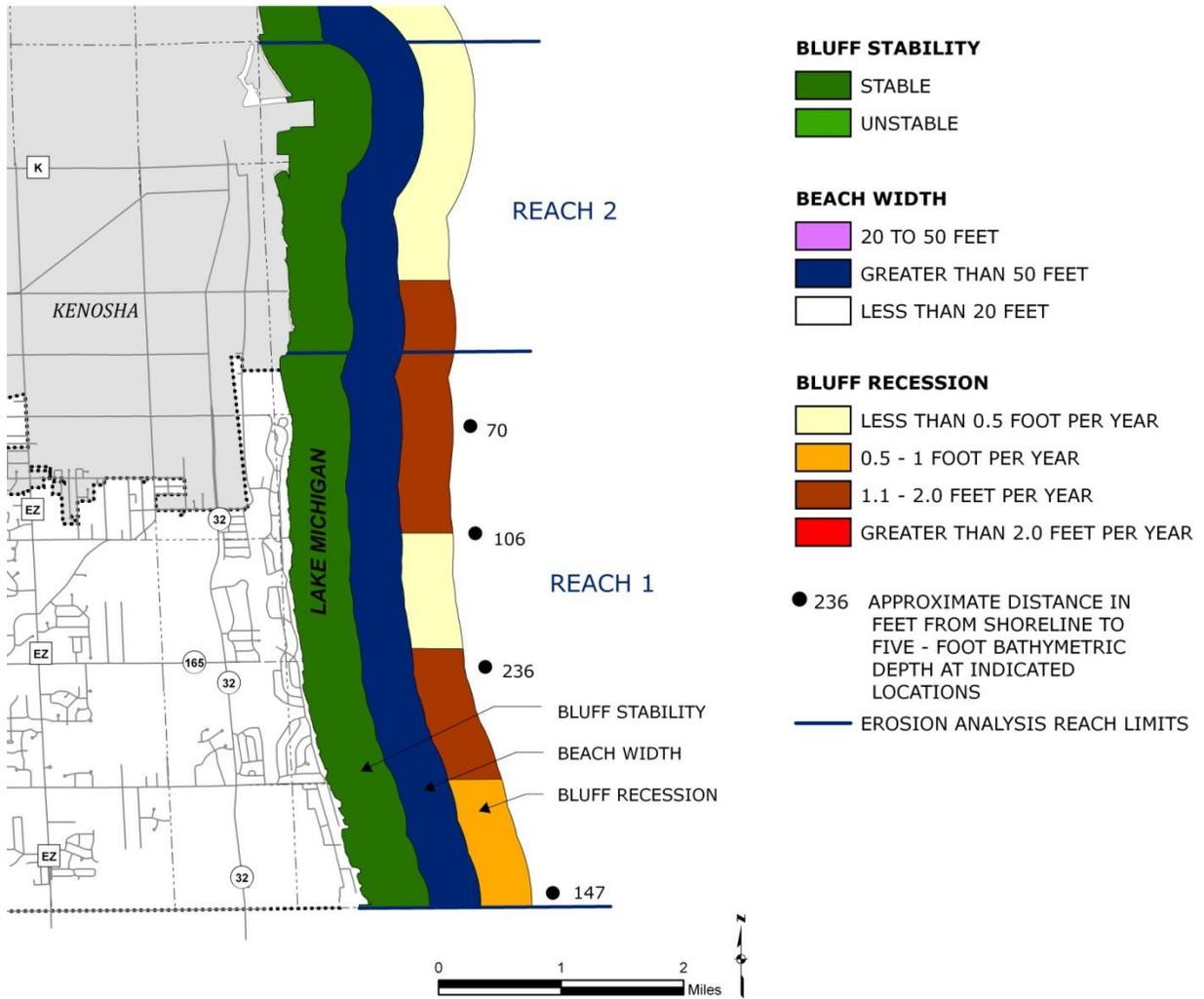
Lake Michigan



Lake Michigan

⁵ Additional information related to bluff height, bluff stability, shoreline recession data and beach width is documented in greater detail in the 1995 SEWRPC Lake Michigan shoreline recession and bluff stability report which includes field research conducted at 192 sites in Kenosha and Racine Counties.

**MAP 6.8
LAKE MICHIGAN SHORELINE EROSION AND BLUFF STABILITY ANALYSIS: 1995**



Source: SEWRPC.

Nonmetallic Mineral Resources

Nonmetallic minerals include sand, gravel, crushed stone, building (dimension) stone, peat, clay, and asbestos. Nonmetallic mines (quarries 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 minerals are important economic resources that should be taken into careful consideration whenever land is being considered for development. If an adequate supply of stone and sand is desired for the future, wise management of nonmetallic mineral resources and access to them is important.

Chapter NR 135 of the Wisconsin Administrative Code defines a marketable nonmetallic mineral deposit as one which can be or is reasonably anticipated to be commercially feasible to mine and which 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.

NR 135 also establishes a procedure for landowners to register marketable nonmetallic mineral deposits in order to preserve these resources. 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 the Village, the County, and the Wisconsin Department of Natural Resources (DNR) 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. As of the adoption of this Plan, there are no registered nonmetallic mineral sites in the Village of Pleasant Prairie.

There are currently no active nonmetallic mining sites in the Village and no sites in the Village have been registered as a marketable non-metallic mineral deposit site pursuant to NR 135 as described above.

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 persons 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. As stated above there are no such parties in the Village.

Potential Sources of Sand, Gravel, Clay, and Peat

Map 6.9 shows the location and sets forth the acres of potential commercially workable sources of sand, gravel, clay, and peat in the Village. The Wisconsin Geological and Natural History Survey (WGNHS) identified these resources using a variety of sources, including geologic studies,⁶ data from Road Material Survey records collected by WGNHS for the Wisconsin Department of Transportation, 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.

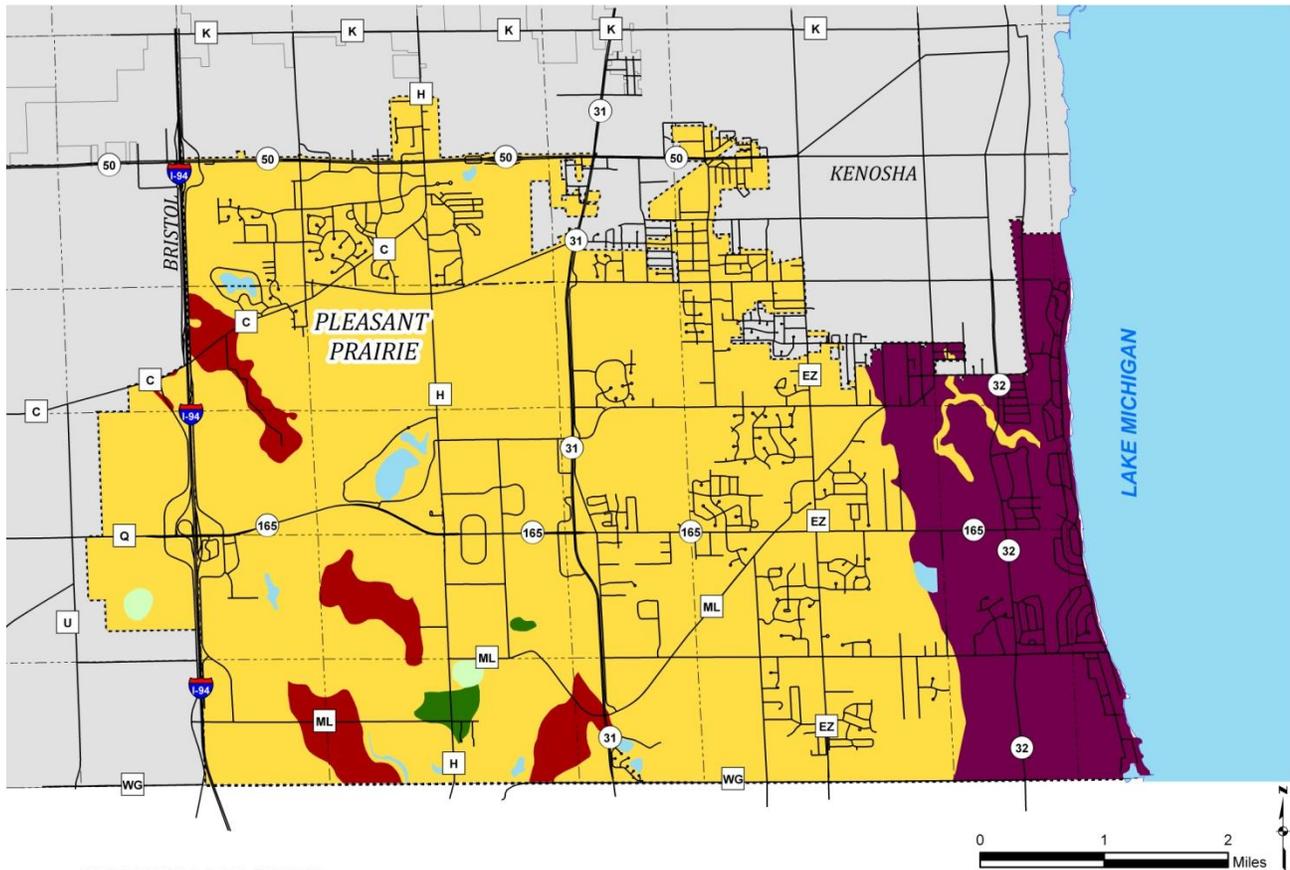
Pleasant Prairie has a moderate supply of sand and gravel deposits as a result of its glacial history. The areas categorized as "outwash deposits" have the highest potential for significant deposits of sand and gravel, and account for 859 acres, or 4% of the Village. Areas categorized as "glacial till" have medium to low potential for yielding commercial workable sources of sand and gravel, and encompass 17,134 acres, or 80% of the Village. The areas categorized as "glacial lake deposits" contain clay deposits useful for construction, and accounts for 59 acres, or 0.3% of the Village. Areas categorized as "peat and organic sediment" may contain economic deposits of peat, and account for 101 acres, or 0.5% of the Village. Although Map 6.9 shows potential areas of commercially viable clay and peat deposits, many of the areas so depicted are wetlands or environmentally sensitive areas and are unlikely to be disturbed for material extraction.



McHenry Sand and Gravel pit prior to the development of Prairie Springs Park

⁶ Bedrock geology from Preliminary Bedrock Maps of Kenosha County (WOFR 2004-13) by R.M. Peters, WGNHS.

**MAP 6.9
POTENTIAL SOURCES OF SAND, GRAVEL, CLAY AND PEAT**



- OUTWASH DEPOSITS**
Highest potential for significant deposits of gravel and coarse to medium sand
- GLACIAL TILL**
May contain locally economic deposits of sand and gravel, but generally consists of poorly sorted clayey, silty to sandy material with boulders and cobbles. Resource potential medium to low
- GLACIAL LAKE DEPOSITS**
Predominantly clay and silt. Not a potential source for sand and gravel, but may contain clay deposits useful for construction
- PEAT AND ORGANIC SEDIMENTS**
Not a potential source for sand and gravel, but may contain economic deposits of peat
- LAKE MICHIGAN BEACH SEDIMENT**
Generally thin sand and some gravel overlying till. Not considered a significant resource
- WATER**

Source: SEWRPC.

Depth to Bedrock and Potential Sources of Crushed or Building Stone

Information on depth to bedrock is not only important in terms of indicating areas where bedrock at or near the surface may pose development limitations, but also is relevant for identifying areas for potential economically viable extraction of such resources. The advances of glacial ice sheets, and the landforms they created, resulted in a wide range of thickness of glacial deposits over the bedrock. This thickness, represented as depth to bedrock on Map 6.10, ranges from 25 feet up to 250 feet. Bedrock at or near the surface may be difficult and expensive for trenching, tunneling, and constructing basements and conventional private onsite waste treatment systems (POWTS), which may also operate poorly. The NRCS rates the limitations as severe if the depth to bedrock is equal to or less than three (3) feet from the surface; no such areas have been identified in Pleasant Prairie.

Water Resources

Surface water resources consist of lakes, rivers, streams, and their associated wetlands, floodplains and shorelands that form important elements of the natural resource base of the Village. Their contribution to economic development, recreational activity, and scenic beauty is immeasurable. The number of acres of surface waters, wetlands, and floodplains in the Village is listed in Table 6.1 and additional details are further provided.

**TABLE 6.1
SURFACE WATER, WETLANDS, AND FLOODPLAINS: 2009^a**

Resource^b	Acres	% of total area
Surface Water	660.1	3.1
Floodplains ^c	3,706.8	17.3
Wetlands ^d	3,860.4	18.0

^aTotal land area of the Village of Pleasant Prairie in 2009 is 21,484.5 acres

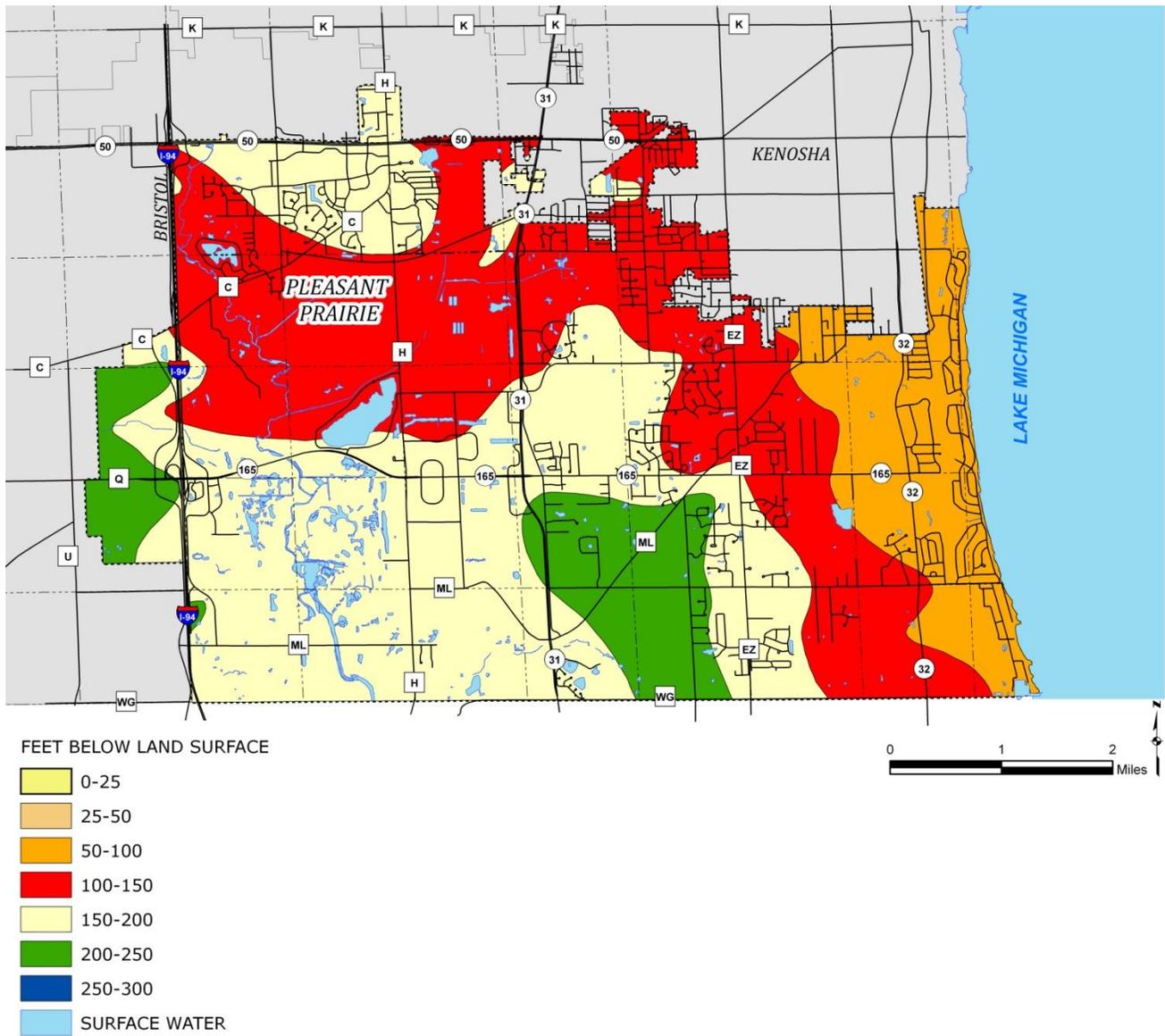
^bEach resource is not mutually exclusive.

^cAcres based on detailed floodplain delineations and FEMA approximate floodplain delineations depicted on Map 6.14..

^dAcres is based on 2005 Wisconsin Department of Natural Resources Wetland Inventory Map as revised by the Village to include detailed wetland stakings completed as of June 2009 depicted on Map 6.13.

Source: Federal Emergency Management Agency, Wisconsin Department of Natural Resources, SEWRPC and Village of Pleasant Prairie.

**MAP 6.10
GENERALIZED DEPTH TO BEDROCK AREAS
AS POTENTIAL SOURCES OF CRUSHED OR BUILDING STONE**



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

Surface water resources from Lake Michigan constitute the major source of supply for domestic, municipal, and industrial water users in the Village of Pleasant Prairie. Both surface water and groundwater are interrelated components of a single hydrologic system. The groundwater resources are hydraulically connected to the surface water resources inasmuch as the former provide the base flow of streams and contribute to inland lake levels.

Watersheds and Subwatersheds

A subcontinental divide that separates the Mississippi River and the Great Lakes – St. Lawrence River drainage basins traverses the Village, as shown on Map 6.11. The Great Lakes – St. Lawrence River drainage basin includes the Pike River watershed, which encompasses about 349 acres or 64% of the Village. An additional 7,294 acres or 34% of the Village drains directly to Lake Michigan. The Mississippi River drainage basin includes the Des Plaines River watershed, which encompasses about 13,851 acres or 64% of the Village.

The Great Lakes Charter Annex, signed by the governors of the eight (8) States bordering the Great Lakes⁷ and the premiers of the Canadian provinces of Ontario and Quebec in June 2001, banned most diversions of Great Lakes water outside the drainage basin, but made limited exceptions for communities and counties that straddle the watershed boundary. The accord was approved by the Legislature of each of the eight (8) States and by the U. S. Congress, and signed by then-President Bush in October 2008. The DNR is developing regulations to carry out the accord in Wisconsin.

The Village is permitted by the DNR to use Lake Michigan water, provided the used water (wastewater) is returned to Lake Michigan via the sanitary sewerage system. This arrangement was approved by the DNR prior to approval of the Great Lakes Charter Annex in 2001. In addition, the Village is required to abandon its two (2) sewage treatment plants (Sewer D and 173) shown on Map 6.11 that discharge to the Des Plaines River watershed and send all wastewater to the Kenosha sewage treatment plant for treatment and discharge to Lake Michigan prior to December 31, 2010.

Lakes, Rivers, and Streams

Rivers and streams are identified as either perennial or intermittent. Perennial streams are defined as those which maintain, at a minimum, a small continuous flow throughout the year except under unusual drought conditions. Intermittent streams are defined as watercourses which do not maintain a continuous flow throughout the year. There are approximately 14.6 miles of named perennial rivers and streams in the Village. Additional unnamed tributary streams draining into the named watercourses were also identified in the adopted regional water quality management plan.⁸ Major streams in the Des Plaines River watershed within the Village includes the Des Plaines River, Jerome Creek and the Kilbourn Road Ditch. There are no major streams in the Pike River watershed within the Village that that drains to Lake Michigan. The Barnes Creek is a direct tributary to Lake Michigan.

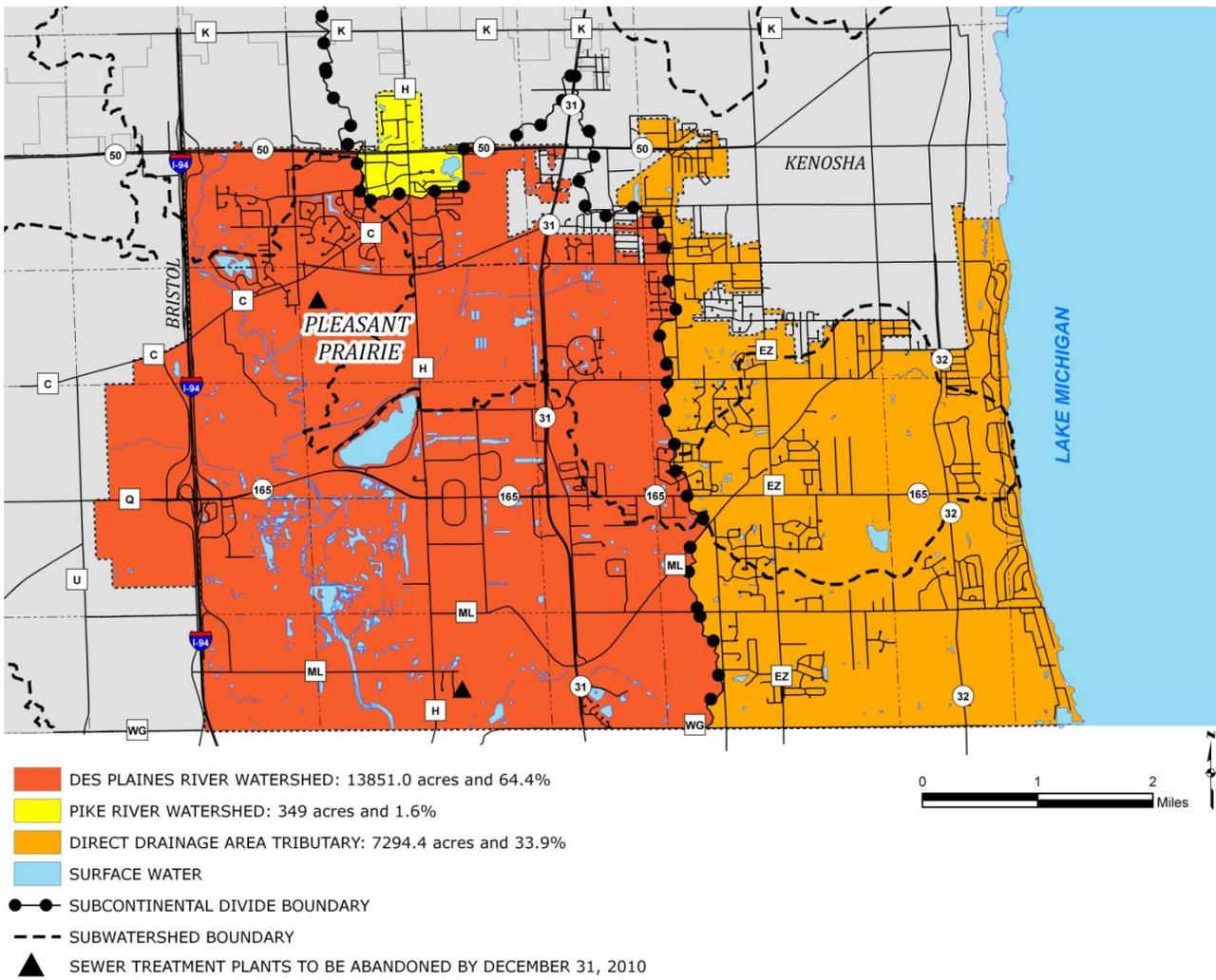


Des Plaines River

⁷ Includes the States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin.

⁸ SEWRPC Planning Report No. 30. A Regional Water Quality Management Plan for Southeastern Wisconsin: 2000, Volume One, Inventory Findings, September 1978.

**MAP 6.11
WATERSHEDS**



Source: SEWRPC.



Of the 14.6 stream miles for which data were available in 1982, within the Village, about 7.6 miles, or about 52% were reported to be of poor quality, and about 3.0 miles, or about 20.5% were reported to be of fair quality, based upon calculated biotic indices^{9,10} and/or the best professional judgment of DNR staff conducting the assessments, as shown in Table 6.2. It is likely that the water quality conditions of the perennial streams have not significantly changed since 1982. The four (4) perennial streams and the intermittent streams and watercourses in the Village are shown on Map 6.12.

**TABLE 6.2
PERENNIAL STREAM CHARACTERISTICS: 1982**

River or Stream	Length (river miles)	Watershed	Water Quality ^a
Barnes Creek	3.0	Direct Drainage to Lake Michigan	Fair
Des Plaines River	6.3 ^e	Des Plaines	Poor ^b
Jerome Creek ^c	4.0	Des Plaines	- - ^d
Kilbourn Road Ditch	1.3 ^e	Des Plaines	Poor ^b
Total	14.6 ^e	- -	- -

^a Water quality status as determined by the Wisconsin Department of Natural Resources based upon a calculated biotic index and/or the best professional judgment of staff conducting assessment.

^b The Des Plaines River and its tributary streams, excluding Brighton Creek, have had major physical modifications to their channels, are impacted by high rates of siltation, and generally have had reported water quality problems associated with low dissolved oxygen, high phosphorus, and high fecal coliform concentrations. The lower reaches of the Des Plaines River mainstream have had reported water quality problems associated with toxic contaminants (heavy metals, hydrocarbons, and the pesticide heptachlor epoxide).

^c Jerome Creek was formerly known as Pleasant Prairie Ditch, which is documented in the 1961 Department of Natural Resources plan, Surface Water Resources of Kenosha County.

^d Water quality data are not available to make an accurate assessment.

^e Includes portions of the River within the Village of Pleasant Prairie only.

Source: Wisconsin Department of Natural Resources and SEWRPC.

There are three (3) named inland lakes located within the Village including Lake Andrea, Lake Russo and Paradise Lake as shown on Map 6.12 and described on Table 6.3. Of the three (3) named lakes, Lake Andrea is the only major inland lake of 50 or more acres in area in the Village.

⁹ Wisconsin Department of Natural Resources Technical Bulletin No. 132, *Using a Biotic Index to Evaluate Water Quality in Streams, 1982*.

¹⁰ U.S. Department of Agriculture, Forest Service General Technical Report No. NC-149, *Using The Index of Biotic Integrity (IBI) to Measure Environmental Quality in Warmwater Streams of Wisconsin, April 1992*.



Lake Andrea



Paradise Lake



Lake Russo

**TABLE 6.3
MAJOR AND MINOR INLAND LAKES WITHIN PLEASANT PRAIRIE: 2007**

Lake	Surface Area (acres)	Watershed	Lake Type ^a	Maximum Depth (feet)	Trophic Status ^b
Lake Andrea	110	Des Plaines	Seepage lake	-	- ^c
Lake Russo	23	Des Plaines	Seepage lake	- ^b	- ^c
Paradise Lake	25	Lake Michigan	Seepage lake	35	Eutrophic
Total	158	- -	- -	- -	- -

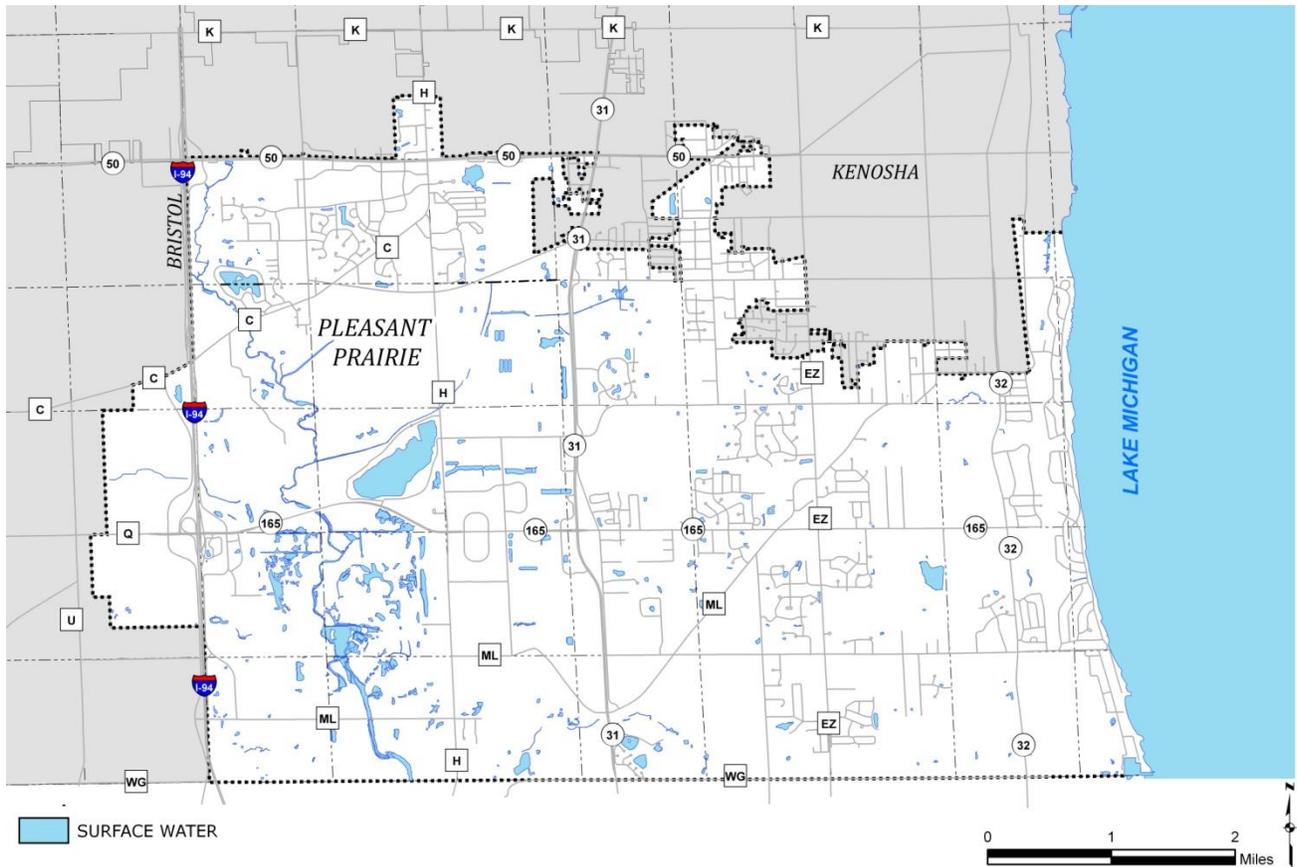
^a Seepage lakes do not have an inlet or an outlet, and only occasionally overflow. As landlocked water bodies, the principal source of water is precipitation or runoff, supplemented by groundwater from the immediate drainage area.

^b Trophic status is an indicator of overall water quality (measurements of potential and actual biological activity) as determined by SEWRPC based upon water chemistry data reported by DNR, and/or the U.S. Geological Survey, except as noted. Lakes with high concentrations of nutrients and algae, generally accompanied by low transparencies, are eutrophic ("poor" water quality) or highly productive, because the algae grow and reproduce at a high rate. Lakes with low concentrations, most often accompanied by high transparencies, are oligotrophic ("good" water quality) or low in productivity. Lakes with intermediate concentrations, or between eutrophic and oligotrophic, are mesotrophic, or in the middle. Meso-eutrophic lakes are those leaning towards or approaching a eutrophic state. Eutrophic status supports rough fish (ie carps and bullheads); mesotrophic status supports the largest range of game fish (i.e. bass and walleyes), and oligotrophic status supports few aquatic plants and productive fisheries, but are excellent for swimming and boating.

^c No data available.

Source: Kenosha County Department of Planning and Development, Village of Pleasant Prairie, and SEWRPC.

**MAP 6.12
STREAMS, LAKES AND OTHER SURFACE WATER: 2009**



Source: Village of Pleasant Prairie.

Lakes and streams are susceptible to degradation through improper land use development and management. Water quality can be degraded by either point source¹¹ or nonpoint source¹² pollution sources including 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. The trophic status of most of the lakes in Pleasant Prairie is set forth in Table 6.3. Trophic status is an indicator of overall water quality. As of 1993, Paradise Lake was classified as eutrophic and there is no data available for both Lake Russo and Lake Andrea pursuant to the regional water quality management plan update.¹³ It is likely that the trophic status of the lakes has not changed since 1993. Before humans, mesotrophic status is the likely historical natural state of these lakes.



Barnes Creek at Lakeshore Drive

Wetlands

Wetlands are generally defined as areas that have a predominance of hydric soils and that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of hydrophytic (water loving) vegetation.¹⁴ 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.



88th Ave. north of 122nd St.

¹¹ Point source pollution is defined as pollutants that are discharged to surface waters at discrete locations, such as a sanitary sewer overflow.

¹² Nonpoint source pollution, also referred to as diffuse source pollution, consists of various discharges of pollutants to the surface waters which cannot be readily identified as point sources. Nonpoint source pollution is transported from the urban or rural land areas of a watershed to the surface waters by means of direct runoff from the land via overland routes (i.e. runoff from parking lots or farmlands) and by flow during and shortly after rainfall or snowmelt events. Nonpoint source pollution also includes pollutants conveyed to surface waters via groundwater discharge, also known as base flow, which is a major source of stream flow between runoff events.

¹³ SEWRPC Memorandum Report No. 93, A Regional Water Quality Management Plan for Southeastern Wisconsin: An Update and Status Report, March 1995.

¹⁴ 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 (EPA). 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 DNR. Under the DNR 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 DNR 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.

Wetlands may, however, under certain conditions, occur on slopes and even on hilltops. Wetlands perform an important set of natural functions which include support of a wide variety of desirable, and sometimes unique, forms of plant and animal life; water quality protection; stabilization of lake levels and streamflows; reduction in stormwater runoff by providing areas for floodwater impoundment and storage; and protection of shorelines from erosion.

SEWRPC recently completed, under contract with the DNR, an updated wetland inventory map for Kenosha County based on 2005 orthophotographs. The updated wetland inventory has been approved by the DNR as the official Wisconsin Wetland Inventory maps, and includes wetlands of ¼ acre or larger in size. The new DNR wetland inventory includes a “farmed wetland” category, which has not been included in previous inventories. “Farmed wetlands” are defined by the Natural Resources Conservation Service (NRCS) as “land that is partially altered but because of wetness, cannot be farmed every year.”¹⁵ The Wetland Conservation provisions of the 1985 Farm Bill, as amended, require agricultural producers to protect the wetlands on the farms they own or operate if they want to remain eligible for farm program benefits. Normal farming practices, including plowing, harrowing, planting, cropping, fertilizing, and grazing, can be conducted on farmed wetlands; however, there may be restrictions on drainage improvements in farmed wetlands. Farmers should consult with the NRCS before making any drainage improvements. The Village has updated information provided on the 2005 Final Wetland Map based on field delineated wetlands staked by SEWRPC or approved by the DNR as of June 2009. DNR interpolated wetlands and wetlands stakings on file with the Village as conducted by SEWRPC or approved by the DNR are shown on Map 6.13.

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 area wide planning, detailed field investigations are necessary to precisely identify wetland boundaries on individual parcels. Field investigations are required at the time a parcel is proposed to be developed or subdivided.

Floodplains

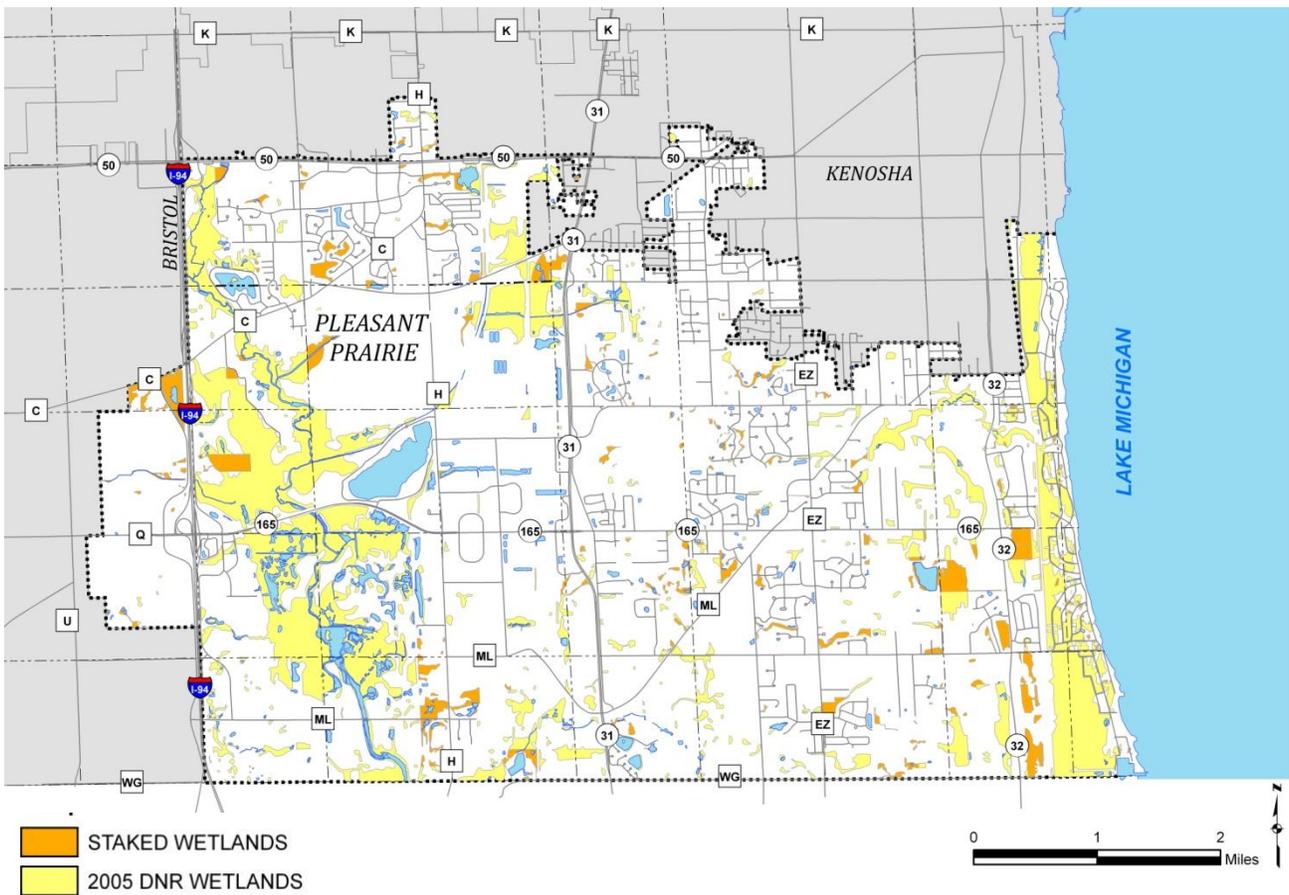
The natural floodplain of a river is a wide, flat-to-gently sloping area contiguous with, and usually lying on both sides of the river channel and the channel itself. The floodplain, which is normally bounded on its outer edges by higher topography, is gradually formed over a long period of time by the river during flood stage as that river meanders in the floodplain, continuously eroding material from concave banks of meandering loops while depositing it on the convex banks. 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 100-year recurrence interval flood event. This event has a 1% 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.



Des Plaines River

¹⁵ Definition taken from the “Wetland Restoration Handbook for Wisconsin Landowners, 2nd edition, written by Alice L. Thompson and Charles S. Luthin, DNR Publication No. PUB-SS-989, 2004.

**MAP 6.13
WETLANDS: 2009**



Source: Wisconsin Department of Natural Resources and Village of Pleasant

Floodplains in Kenosha County were identified as part of the Flood Insurance Study (FIS) and the accompanying Flood Insurance Rate Maps (FIRMS)¹⁶ produced by the Federal Emergency Management Agency (FEMA). FEMA prepared FISs and FIRMs for the Town of Pleasant Prairie in 1981. The FISs and FIRMs for the Village were updated and revised in 1996.¹⁷ In 1998, the Village adopted the floodplain maps and profiles which delineated new or updated floodplain boundaries within the Des Plaines River watershed, and, in 2003, the Village of Pleasant Prairie adopted the Des Plaines River Watershed Plan.¹⁸ Floodplains along the Lake Michigan shoreline on the east side of the Village of Pleasant Prairie were identified in the Chiwaukee Prairie-Carol Beach Land Use Plan¹⁹ in 1985. Floodplain delineations for the remaining portions of the Village draining to Lake Michigan are based on the draft FIS as part of the FEMA Map Modernization Program described below.



Des Plaines River floodplain

FEMA is currently conducting a Map Modernization Program for Kenosha County which will result in updated FEMA floodplain maps for the Village. Preliminary maps were released in the summer of 2007. A letter of final determination is anticipated to be issued in late 2009 or early 2010. Map 6.14 illustrates the floodplain information that the Village anticipates to be the same information shown on the new FEMA Maps. Upon the receipt of Final Map from FEMA the Village will amend the appropriate Section of the Village Floodplain Zoning Ordinance and Maps.

Shorelands

Shorelands are defined by the *Wisconsin Statutes* as lands within the following distances from the Ordinary High Water Mark (OHWM) 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 Village shoreland and floodplain zoning requirements restricts uses in wetlands located in the shorelands, and limits the uses allowed in the 100-year floodplain to prevent damage to structures and property and to protect floodwater conveyance areas and the storage capacity of floodplains.

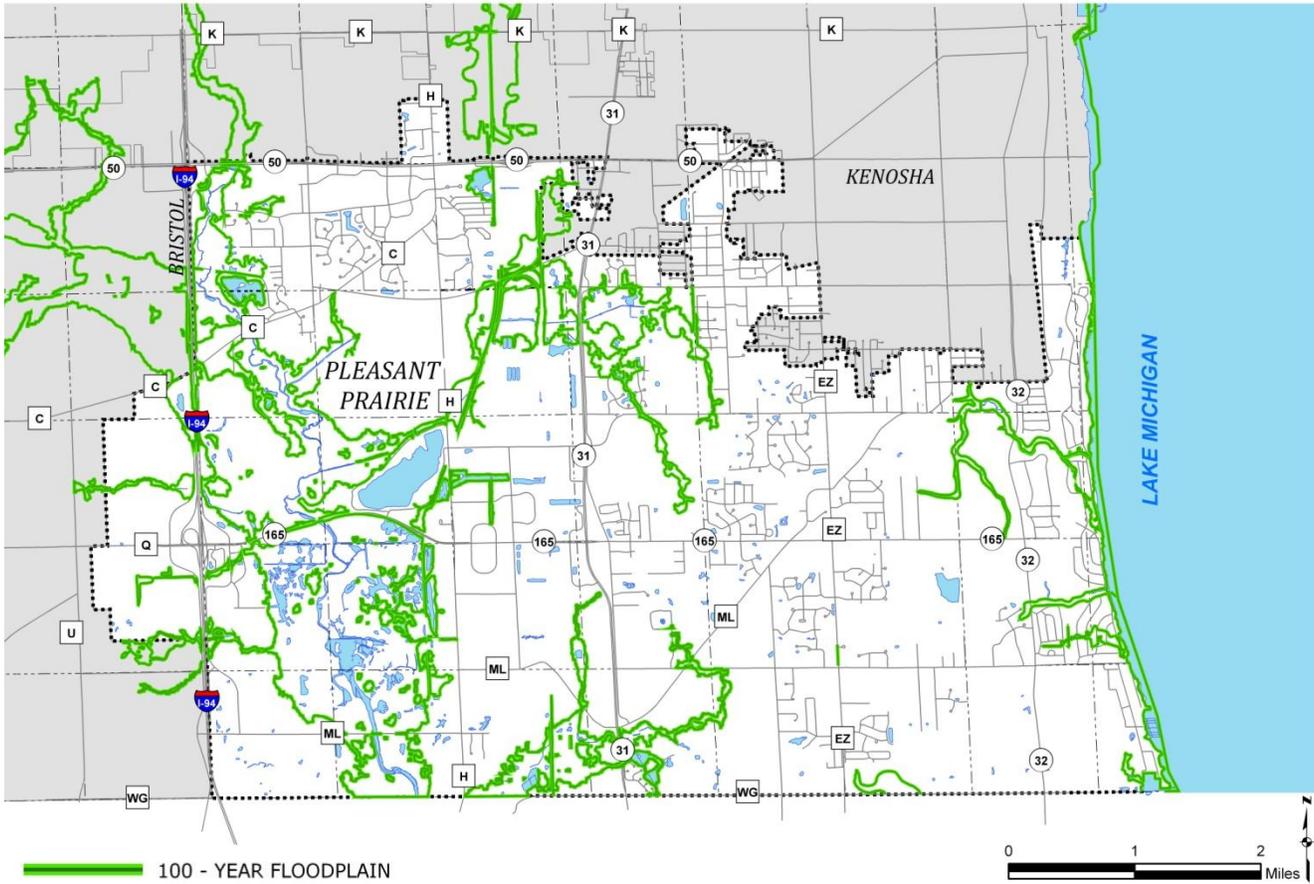
¹⁶ *Flood Insurance Studies and the accompanying Flood Insurance Rate Maps usually generate the following flood hazard information: Base Flood Elevations (100-year flood elevations) presented as water-surface elevations; water-surface elevations for the 10-year, 50-year, 100-year, and 500-year floods; boundaries of the regulatory 100-year floodway; and boundaries of the 100- and 500-year floodplains.*

¹⁷ *The 1996 Flood Insurance Rate Map revisions updated corporate limits and map format, added base flood elevations and special flood hazard areas, and changed special flood hazard areas and zone designations.*

¹⁸ *Documented in SEWRPC Planning Report No. 44, A Comprehensive Plan for the Des Plaines River Watershed, June 2003.*

¹⁹ *Documented in SEWRPC Community Assistance Planning Report No. 88, A Land Use Management Plan for the Chiwaukee Prairie-Carol Beach Area of the Town of Pleasant Prairie, 1985.*

**MAP 6.14
FLOODPLAINS: 2009**



Source: SEWRPC and Village of Pleasant Prairie.

Under Chapter NR 117 of the *Wisconsin Administrative Code*, the Village is required to restrict uses in wetlands located in the shoreland area. The provisions of NR 115, which regulate uses in unincorporated portions of the shoreland, apply to lands in the Village in shoreland areas in 1989 and any land annexed to the Village after May 7, 1982.²⁰ The same floodplain regulations set forth in NR 116 for unincorporated areas also apply within the Village. Map 6.15 illustrates the shoreland areas of the Village.

Groundwater Resources

Groundwater resources constitute another key element of the natural resource base of the Village. Groundwater sustains inland lake levels and wetlands and provides the base flow of streams.

To satisfy future water demands in southeastern Wisconsin, including Pleasant Prairie, coordinated regional water resource management is needed to optimize the use of ground and surface water. The regional water supply planning program²¹ currently being conducted by SEWRPC will provide guidance in this regard.

The subsurface units within the Village that supply useable amounts of groundwater to wells are known as aquifers, and they differ widely in their ability to store and transport water. There are three major aquifers within Pleasant Prairie. From the ground surface downward, they include: 1) the sand and gravel aquifer, 2) the Niagara dolomite aquifer, and 3) the sandstone aquifer. The first two aquifers are commonly referred to as the "shallow" aquifer, because of their proximity to the land surface and their intimate hydraulic interconnection. The latter, accordingly, is commonly known as the "deep" aquifer.

The sand and gravel aquifer consists of unconsolidated sand and gravel deposits in glacial drift and alluvium. These deposits occur over much of the Village, either at the land surface or buried beneath less permeable drift, such as glacial till.

The Niagara dolomite aquifer in Village consists of Silurian Age dolomite, which overlies Maquoketa shale. The Maquoketa shale separates the Niagara and sandstone aquifers. The shale layer has very low permeability which restricts the vertical movement of water and largely confines water within the deep sandstone aquifer. The bottom of the sandstone aquifer is the surface of the impermeable Precambrian rocks. This aquifer is continuous throughout the Village and is a part of a large regional aquifer that is used as a source of water supply for major concentrations of urban development throughout Southeastern Wisconsin and Northeastern Illinois.

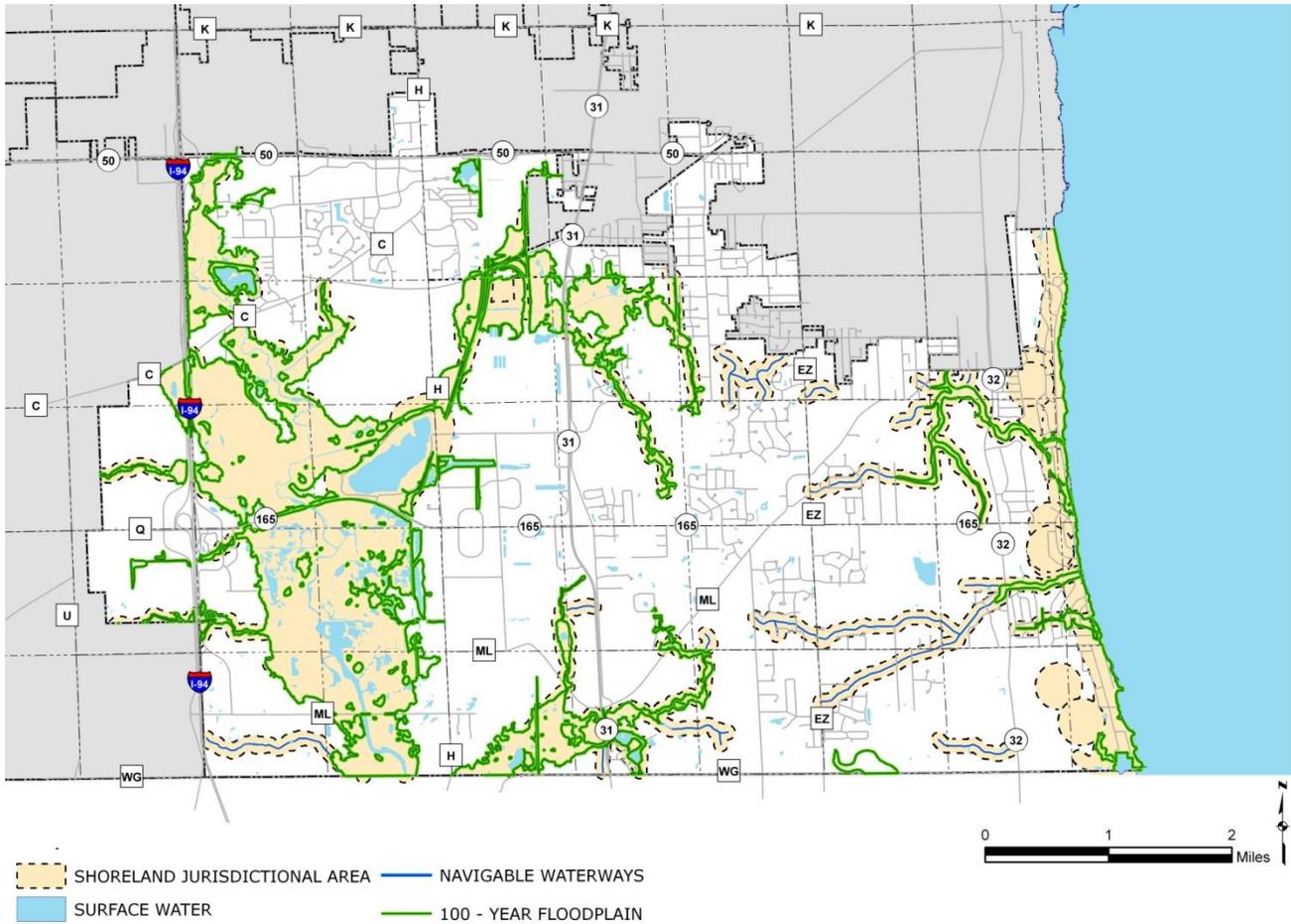
The source of most groundwater that is contained in the shallow aquifer is precipitation, which infiltrates and recharges this groundwater reservoir. The amount of infiltration largely depends on the type of soils that cover the land surface. The soils in the Village are high in clay content and have a high density, which reduces infiltration and permeability. The deep sandstone aquifer is primarily recharged west of Kenosha County, where the confining shale layer is absent. Discharge primarily occurs from pumping of wells, with limited additional discharge to surface waters directly or through wetlands.

²⁰ Following its incorporation in 1989, the Village of Pleasant Prairie included all Kenosha County shoreland zoning regulations in the Village zoning ordinance. The regulations apply to areas that were in the shoreland area at the time the Village incorporated.

²¹ Documented in SEWRPC Planning Report No. 52, *A Regional Water Supply Plan for Southeastern Wisconsin* (study underway). The plan is expected to be completed in 2009.



**MAP 6.15
SHORELAND AREAS: 2009**



Source: Wisconsin Department of Natural Resources, SEWRPC, Kenosha County and Village of Pleasant Prairie.

Two (2) of the greatest concerns of the groundwater supply include contamination and over-usage. The vulnerability of groundwater to contamination is a combination of several factors; however, two of the most important elements are soil and subsurface material characteristics and depth to groundwater levels. Since the Village is largely covered by glacial till soils with a high clay content, contamination is not as much of a concern. Map 6.16 illustrates that the areas of the Village adjacent to Lake Michigan and the Des Plaines River range from zero (0) to 25 feet to groundwater and transitions to groundwater greater than 50 feet.

Over the last century, the sandstone aquifer has seen a drawdown of its water levels. In the latter part of the 1800s and the early part of the 1900s, Racine and Kenosha Counties began to experience a decline in groundwater levels. The water levels in the sandstone aquifer are declining at a rate of up to five feet per year in some areas. The regional groundwater resources report prepared by SEWRPC²² and the initial analyses conducted under the regional water supply plan indicate that there is an adequate supply of groundwater in the aquifers which underlie the Village, provided those aquifers are properly managed and protected. This is due, in large part, to the fact that 100 percent of the water supply for the Village comes from the City of Kenosha Water Utility, which utilizes Lake Michigan as a source of supply.

Naturally occurring radioactivity in groundwater, including radium, has become a concern in Wisconsin in recent years. The source of radium in groundwater is the naturally occurring radium content of certain types of rock formations in the deep sandstone aquifer. There are no known water supply systems in the Village or within Kenosha County which currently have water supplies which exceed the current five picocuries per liter EPA and State maximum contaminant level (MCL) standard for radium (combined Radium-226 and Radium-228). However, some wells which had historically been found to produce water with radium level exceedances have been abandoned, or, in a few cases, have had treatment systems installed to reduce the radium to acceptable levels.

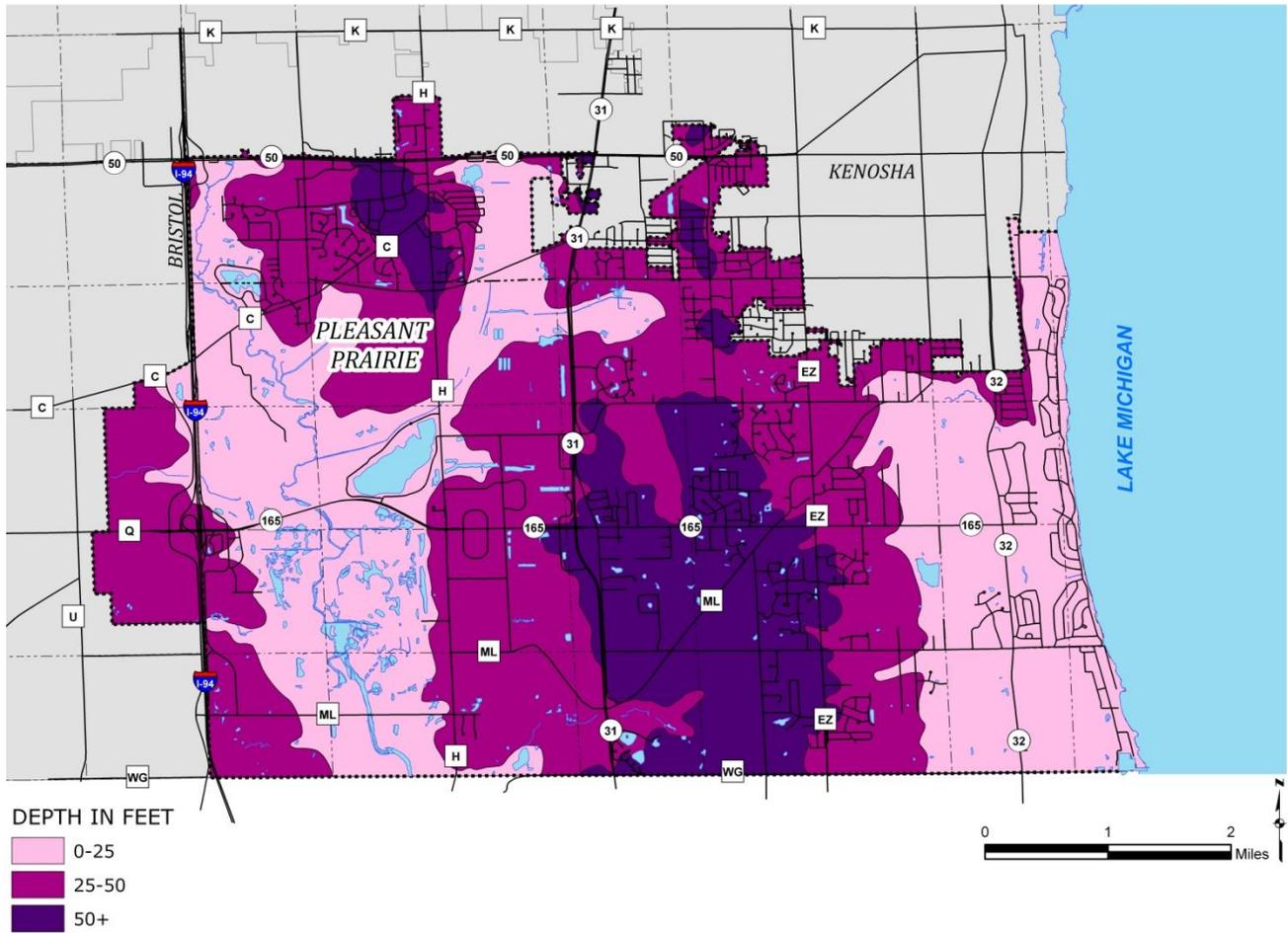
Like surface water, groundwater is susceptible to depletion in quantity and to deterioration in quality as a result of urban development. Consequently, comprehensive planning must appropriately consider the potential impacts of urban development on this important resource. Land use planning must also 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 Chapter V. Also more detailed information on groundwater conditions in the Region, including Kenosha County, is set forth in SEWRPC Technical Report No. 37, *Groundwater Resources of Southeastern Wisconsin*, June 2002; SEWRPC Technical Report No. 41, *A Regional Aquifer Simulation Model for Southeastern Wisconsin*, June 2005; and SEWRPC Planning Report No. 52, *A Regional Water Supply Plan for Southeastern Wisconsin*, in progress.

As part of the regional water supply planning program, areas within Kenosha County and the remainder of the Region were analyzed and classified based on their potential for water recharge. The analysis was based on a combination of topography, soil hydrologic groups, soil water storage, and land use. An "average" weather year of 1997 was selected for the analysis, since the amount of precipitation received also affects the amount of water that reaches (and recharges) the groundwater. Areas were placed into the following classifications: very high (more than six (6) inches of recharge per year), high (four (4) to six (6) inches of recharge per year), moderate (three (3) to four (4) inches per year), and low (less than three (3) inches of recharge per year).

²² Documented in SEWRPC Technical Report No. 37, *Groundwater Resources of Southeastern Wisconsin*, June 2002.



**MAP 6.16
DEPTH TO SHALLOW GROUNDWATER TABLE**



Source: Natural Resource Conservation Services and SEWRPC.

Areas within each of the recharge classifications are shown on Map 6.17 and the acreage within each category in the Village is shown on Table 6.4. Less than 1% of the Village is rated "very high" for recharge potential, and about 18% is rated "high" for recharge potential. About 57 % of the Village is classified as having "moderate" recharge potential, and less than 2% is classified as having a "low" potential. Areas for which no soil survey data was available (shown as "undetermined" on Map 6.17) were not classified. Areas shown as "undetermined" are largely made up of wetlands. In some cases groundwater serves as a source of water for a wetland. Because wetlands function differently, they cannot be categorized without an on-site investigation.

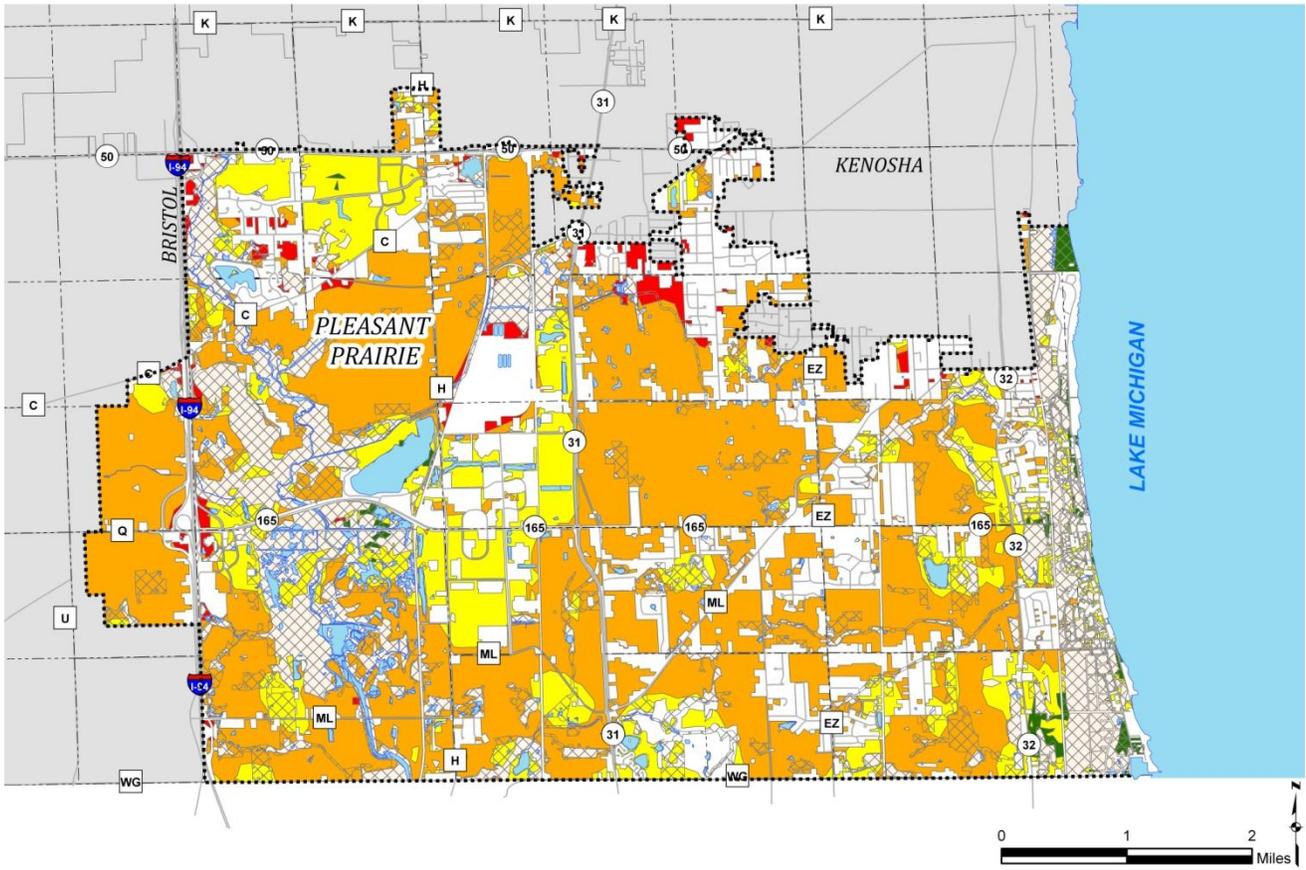
TABLE 6.4
CLASSIFICATION OF POTENTIAL WATER RECHARGE AREAS

Water Recharge Classification	Area Within Each Classification	
	Acres	% of total
Very High	136.3	0.9
High	2783.0	18.2
Moderate	8,703.6	56.9
Low	278.4	1.8
Urban Development and Undetermined ^a	3,388.7	22.2

^a Urban Development based on information from SEWRPC existing land use plan of 2000

Source: Wisconsin Geological and Natural History Survey, SEWRPC and Village of Pleasant Prairie.

**MAP 6.17
GROUNDWATER RECHARGE POTENTIAL**



 LOW: 278.4 acres 1.8%	 VERY HIGH: 136.3 acres .9%	 ENVIRONMENTAL CORRIDORS
 MODERATE: 8703.6 acres 56.9%	 UNDETERMINED: 3388.7 acres 22.2%	
 HIGH: 2783.0 acres 18.2%	 SURFACE WATER	

Source: Wisconsin Geological and Natural History Survey, SEWRPC and Village of Pleasant Prairie.

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 are defined as upland areas of one acre or more in area, having 17 or more trees per acre, each deciduous tree measuring at least four inches in diameter 4.5 feet above the ground, and having canopy coverage of 50% or greater. Coniferous tree plantations and reforestation projects are also classified as woodlands. Woodlands identified in the SEWRPC land use inventory and updated by the Village based on tree inventories completed by developers in the Village between since 2000 are shown on shown on Map 6.18. In 2009, woodlands encompassed about 929 acres, or 4% of the Village.²³



88th Ave. north of Bain Station Rd.

Natural Areas and Critical Species Habitat Sites

A comprehensive inventory of important plant and animal habitats was conducted by SEWRPC in 1994 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 and the size of each area in Kenosha County were reviewed and updated in 2006.

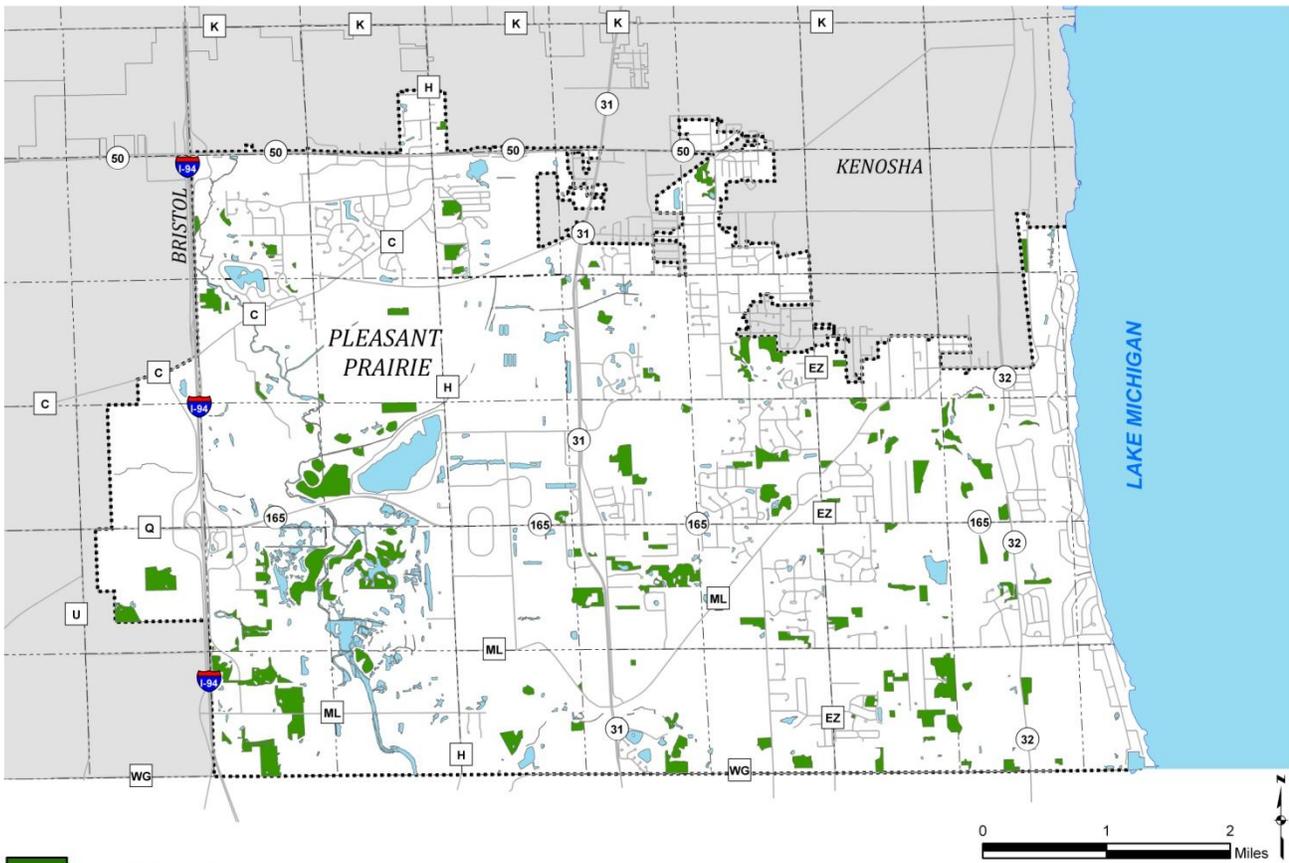
Natural Areas

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 (1) of three (3) categories:

- NA-1: Natural areas of statewide or greater significance
- NA-2: Natural areas of countywide or regional significance
- NA-3: Natural areas of local significance

²³ This data includes upland woods only, not lowland woods classified as wetlands. Lowland woods may be enrolled in the Managed Forest Law program as discussed in the following section.

**MAP 6.18
UPLAND WOODLANDS: 2009**



 UPLAND WOODLANDS: 2009

Note: Upland woods do not include lowland woods classified as wetlands, such as tamarack swamps. Lowland woods may be enrolled in the Managed Forest Land Program.

Source: SEWRPC and Village of Pleasant Prairie.

Classification of an area into one (1) of these three (3) categories is based on consideration of the diversity of plant and animal species and community type present, the structure and integrity of the native plant or animal community, the uniqueness of natural features, the size of the site, and the educational value.

A total of 12 natural areas as shown on Map 6.19, have been identified in the Village. These 12 natural areas encompass about 958 acres, or about 5% of the Village.

The three (3) NA-1 sites in the Village, as described on Table 6.5 encompass about 418 areas in the Village. These site include the Kenosha Sand Dunes and Low Prairie; the Carol Beach Low Prairie and the Panné State Natural Area; and the Chiwaukee Prairie State Natural Area. All three (3) sites have been identified by the DNR as rare species habitats, which are sites that support rare, threatened, or endangered animal or plant species. In addition the Carol Beach Low Prairie and the Panné State Natural Area; and the Chiwaukee Prairie State Natural Area sites have been identified as a State Natural Areas. A State Natural Area is officially designated by the State of Wisconsin Natural Areas Preservation Council.



Shooting Star



Shooting Star

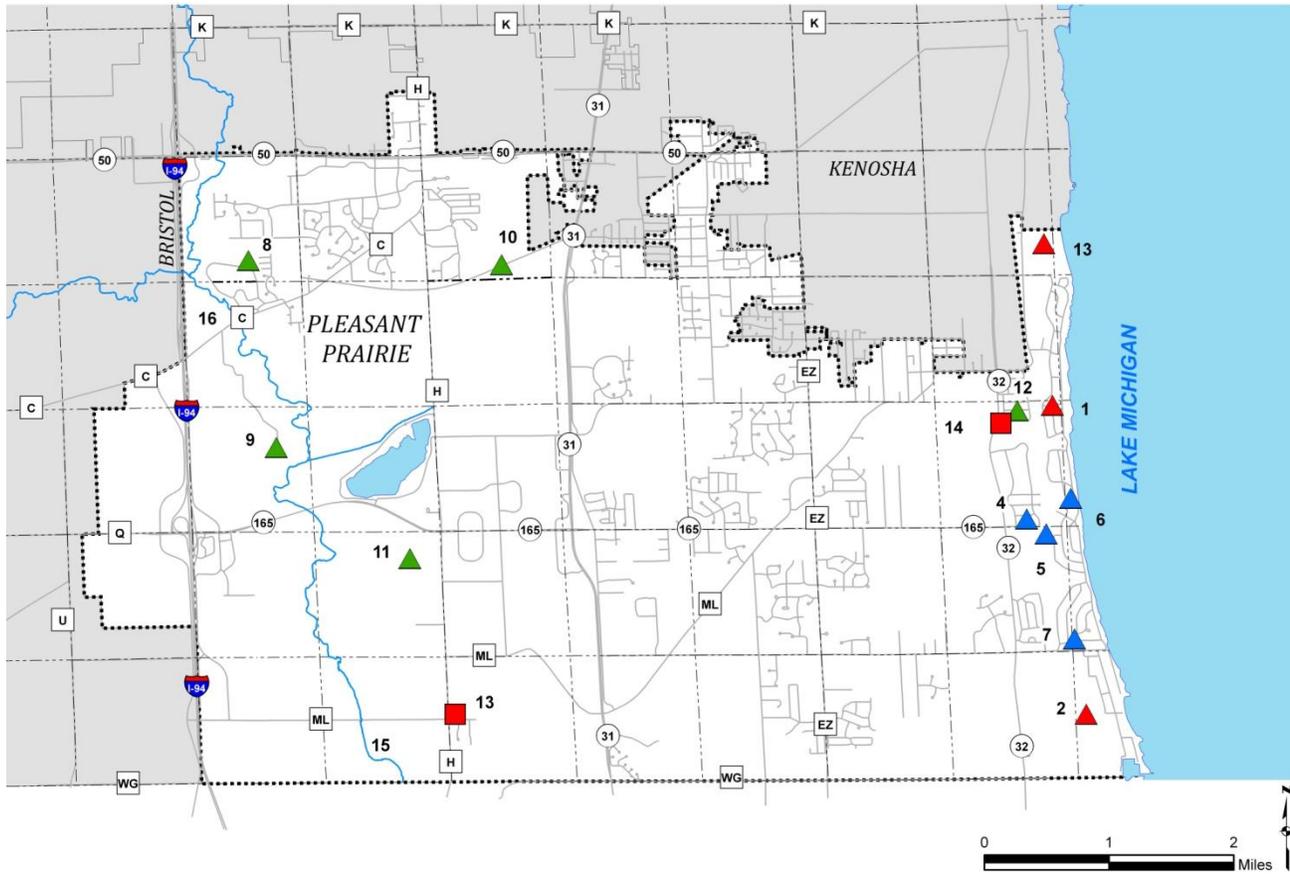
The four (4) NA-2 sites within the Village, as described on Table 6.6 encompass about 104 acres in the Village. These sites include the 104th Street Mesic Prairie, Carol Beach Prairie, Barnes Creek Dunes and Panné, and Tobin Road Prairie. All four (4) sites have been identified by the DNR as a rare species habitat, which are sites that support rare, threatened, or endangered animal or plant species.

The five (5) NA-3 sites as described on Table 6.8 encompass about 436 acres in the Village and includes the Lake Russo Prairie Remnant, Des Plaines River Lowlands, Bain Station Railroad Prairie, Pleasant Railroad Prairie, and Carol Beach Estates Prairie. All five (5) sites have been identified by the DNR to as a rare species habitat, which are sites that support rare, threatened, or endangered animal or plant species.



88th Ave. north of 122nd St.

**MAP 6.19
NATURAL AREAS, CRITICAL SPECIES SITES AND AQUATIC HABITAT SITES**



- ▲ NATURAL AREA OF STATEWIDE OR GREATER SIGNIFICANCE (NA-1)
- ▲ NATURAL AREA OF LOCAL SIGNIFICANCE (NA-3)
- ▲ NATURAL AREA OF COUNTYWIDE OR REGIONAL SIGNIFICANCE (NA-2)
- CRITICAL SPECIES HABITAT OUTSIDE A NATURAL AREA
- 13 REFERENCE NUMBER (SEE TABLE 6.8)
- AQUATIC RIVERS OR STREAMS OF LOCAL SIGNIFICANCE (AQ-3)

Source: Wisconsin Department of Natural Resources and SEWRPC.



TABLE 6.5
NA-1 NATURAL AREAS IN PLEASANT PRAIRIE: 2006^a

Number on Map 6.19	Area Name	Ownership	Size (acres)	Description and Comments
1	Carol Beach Low Prairie and Panné State Natural Area	Department of Natural Resources, Village of Pleasant Prairie, and private	40	A rich low prairie and calcareous fen on dune-and-swale topography. A number of rare plant species, including the State-designated endangered smooth phlox (<u><i>Phlox glaberrima</i></u>), are present
2	Chiwaukee Prairie State Natural Area	Department of Natural Resources, The Nature Conservancy, University of Wisconsin-Parkside, and private	308	Extremely rich prairie and marsh on gentle swell-and-swale topography created when the level of glacial Lake Michigan was lowered in stages. The resulting different micro-environments help support great species diversity. Over 400 plant species have been documented in the prairie, some of which are very rare in the State. Scattered oaks in portions of the site give it a savanna-like aspect locally. An incomparable site, it is a National Natural Landmark
3	Kenosha Sand Dunes and Low Prairie	Department of Natural Resources, and private	67 ^b	One-half mile of Lake Michigan frontage containing well-developed dunes and dune succession patterns (fore dunes to swale to wet prairie). The dunes are disturbed by off-road vehicle use, and the shore has been ripped. An ancient hardwood forest lies beneath the dunes. This is one of the few dune systems in Southeastern Wisconsin. Several uncommon species are present, including sea rocket (<u><i>Cakile edentula</i></u>), sand reed (<u><i>Calamovilfa longifolia</i></u>), seaside spurge (<u><i>Euphorbia polygonifolia</i></u>), common bugseed (<u><i>Corispermum hyssopifolium</i></u>), smooth phlox (<u><i>Phlox glaberrima</i></u>), and marsh blazing-star (<u><i>Liatris spicata</i></u>)

^a Inventory conducted in 1994; ownership and acreage information were updated in 2006.

^b An additional 27 acres is located in the City of Kenosha.

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.



TABLE 6.6
NA-2 NATURAL AREAS IN PLEASANT PRAIRIE: 2006^a

Number on Map 6.19	Area Name	Ownership	Size (acres)	Description and Comments
4	104th Street Mesic Prairie ^b	Department of Natural Resources and private	10	Good-quality patch of mostly mesic prairie, with good species diversity. Critical plant species are present
5	Carol Beach Prairie ^b	Department of Natural Resources, Village of Pleasant Prairie, and private	71	A rich complex of low to dry prairie, with fresh (wet) meadow, sedge meadow, shrub-carr, and shallow marsh communities on dune-and-swale topography. Critical plant species are present
6	Barnes Creek Dunes and Panné ^b	Village of Pleasant Prairie, Department of Natural Resources, and private	9	An unusual mixture of dry prairie and calcareous fen plant species on dune-and-swale topography, adjacent to Barnes Creek. Several critical species are present
7	Tobin Road Prairie ^b	Department of Natural Resources and private	14	A portion of the northern Chiwaukee Prairie area containing rich low and dry prairies on dune- and-swale topography

^a Inventory conducted in 1994; ownership and acreage information were updated in 2006.

^b For additional information related to the Chiwaukee Prairie-Carol Beach area in the Village see Community Assistant Planning Report No. 88 entitled "A Land Use Management Plan for the Chiwaukee Prairie-Carol Beach Area of the Town of Pleasant Prairie, prepared by the SEWRPC in 1985.

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.



TABLE 6.7
NA-3 NATURAL AREAS IN PLEASANT PRAIRIE: 2006^a

Number on Map 6.19	Area Name	Ownership	Size (acres)	Description and Comments
8	Lake Russo Prairie Remnant	Private	6	A small, moderate- to good-quality wet-mesic prairie remnant that is suffering disturbance by local residents
9	Des Plaines River Lowlands	Village of Pleasant Prairie and private	413	Extensive wetland and upland complex along the Des Plaines River, significant because of its open space and wildlife habitat. Contains xeric oak woods, mesic and wet-mesic prairie, fresh (wet) meadow, and riverine forest. The State-designated endangered prairie white-fringed orchid (<i>Platanthera leucophaea</i>) has been found here
10	Bain Station Railroad Prairie	Des Plaines Wetland Conservancy	5	A small, moderate- to good-quality mesic to wet-mesic prairie remnant along an abandoned railway right-of-way. Dominated by big bluestem, Indian grass, prairie dock, and goldenrods
11	Pleasant Railroad Prairie	Des Plaines Wetland Conservancy	5	Discontinuous remnants of the once-extensive wet-mesic prairie of southern Kenosha County, bordering double tracks. Small patches are of good quality, containing some regionally uncommon species
12	Carol Beach Estates Prairie ^b	Private	7	A rich wet to wet-mesic prairie on sandy soils that is threatened by shrub invasion. Critical plant species are present

^a Inventory conducted in 1994; ownership and acreage information were updated in 2006.

^b For additional information related to the Chiwaukee Prairie-Carol Beach area in the Village see Community Assistant Planning Report No. 88 entitled "A Land Use Management Plan for the Chiwaukee Prairie-Carol Beach Area of the Town of Pleasant Prairie, prepared by the SEWRPC in 1985.

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.



Critical Species Habitat and Aquatic Sites

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. Two (2) critical species habitat sites encompassing an area of 34 acres support rare or threatened plants shown on Map 6.19 and described in Table 6.9 include the Piela Property and Barnes Creek each supporting at least one (1) rare plant species. There are no sites identified in the Village supporting rare or threatened animal species. There are also two (2) aquatic sites in the Village designated as sites of local significance that are classified by the DNR as a Rare Species Habitat. Rare Species Habitats are areas which support rare, endangered, threatened, or "special concern" species. These two (2) sites in the Village are the Des Plaines River and Kilbourn Road Ditch as shown on Map 6.19 and described in Table 6.10.

TABLE 6.8
CRITICAL SPECIES HABITAT SITES LOCATED OUTSIDE NATURAL AREAS: 2006^a

Number on Map 6.19	Site Name and Classification Code ^b	Site Area (acres)	Ownership	Species of Concern ^c
13	Piela Property (CSH-P)	5	Private	<i>Agrimonia parviflora</i> (R)
14	Barnes Creek (CSH-P)	29	Village of Pleasant Prairie and private	<i>Trillium recurvatum</i> (R) and <i>Solidago ohioensis</i> (R)

^a Inventory conducted in 1994; ownership and acreage information were updated in 2006.

^b CSH-P identifies a critical plant species habitat site.

^c "R" refers to species designated as rare or special concern.

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.

TABLE 6.9
CRITICAL AQUATIC HABITAT AREAS: 2006^a

Number on Map 6.19	River, Stream, or Lake	Length ^b (river miles)	Description and Comments
15	Des Plaines River	6.3	Bisects a large wetland complex supporting critical herptile species habitat
16	Kilbourn Road Ditch	1.3	Sedimentation and other water quality problems exist, but this reach is an important reservoir for the pirate perch, a "special concern" fish species

^a Inventory conducted in 1994; ownership and acreage information were updated in 2006.

^b Includes portions of the waterway within the Village of Pleasant Prairie 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.



Invasive Plants and Animals

Invasive plant and animal species threaten the biodiversity of high-quality natural resources in Wisconsin. The DNR recognizes 148 species of plants and 24 species of animals as invasive to the State of Wisconsin as of 2007. Purple loosestrife and reed canary grass have been identified as significant invasive plant species present in the Village. Additional invasive plant species that can be found in Pleasant Prairie include garlic mustard and buckthorn. Certain invasive animals, such as the gypsy moth and forest tent caterpillar, pose threats to native plant species. Prevalent throughout the Midwest, and recently discovered in Wisconsin, the emerald ash borer (a type of beetle) potentially poses a threat to ash tree populations in the State. Appendix 6-2 and 6-3 list the invasive plant and animal species found in the State.²⁴



Purple loosestrife

Wisconsin Legacy Places Inventory

In 2006, the DNR completed a legacy places inventory intended to identify the sites believed to be most critical to meet the State's conservation and recreation needs over the next 50 years. The resulting report provides background information for use by landowners, nonprofit conservation groups, local governments, State and Federal agencies, and other interests in decision-making about land protection and management in the vicinity of the identified legacy places. A total of 229 such legacy places were identified statewide. The study is documented in a report entitled *Wisconsin Land Legacy Report*, dated 2006.

The report identified two (2) legacy sites located in Pleasant Prairie that are part of the Southern Lake Michigan Coastal Landscape areas including the Des Plaines River Floodplain and Chiwaukee Prairie.

The Des Plaines River Floodplain area in the western portion of the Village is 413 acres containing extensive wetland and upland complex along the Des Plaines River and is significant because of its open space and wildlife habitat. The area contains xeric oak woods, mesic and wet-mesic prairie, fresh (wet) meadow, and riverine forest. The State-designated endangered prairie white-fringed orchid (*Platanthera leucophaea*) has been found here as well. As discussed earlier this area is listed as a NA-3 area as shown on Table 6.7 and Map 6.19 for its location.



Des Plaines River



Chiwaukee Prairie

The Chiwaukee Prairie, as discussed earlier this area is listed as a NA-1 area as shown on Table 6.5 and Map 6.19. The Chiwaukee Prairie is 308 acres located on the shores of Lake Michigan. This area is extremely rich prairie and marsh on gentle swell-and-swale topography created when the level of glacial Lake Michigan was lowered in stages. The resulting different micro-environments help support great species diversity. Over 400 plant species have been documented in the prairie, some of which are very rare in the State. Scattered oaks in portions of the site give it a savanna-like aspect locally.

²⁴ Several of the plants and animals listed in Appendix 6-2 and 6-3 may not be found in Kenosha County due to the statewide scope of the DNR invasive species listing.

Environmental Corridors and Isolated Natural Resource Areas

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

Seven (7) elements of the natural resource base are considered essential to the maintenance of the ecological balance and the overall quality of life in the Region, and served as the basis for identifying the environmental corridor network.

These seven (7) elements are:

- lakes, rivers, and streams and associated shorelands and floodplains
- wetlands
- woodlands
- prairies
- wildlife habitat areas
- wet, poorly-drained, and organic soils
- rugged terrain and high relief topography



In addition, there are certain other features which, although not a part of the natural resource base, are closely related to the natural resource base and were used to identify areas with recreational, aesthetic, ecological, and natural value. These features include existing park and open space sites, potential park and open space sites, historic sites, scenic areas and vistas, and natural areas.

The mapping of these 12 natural resource and resource-related elements results in a concentration of such elements in an essentially linear pattern of relatively narrow, elongated areas that have been termed "environmental corridors" by SEWRPC.

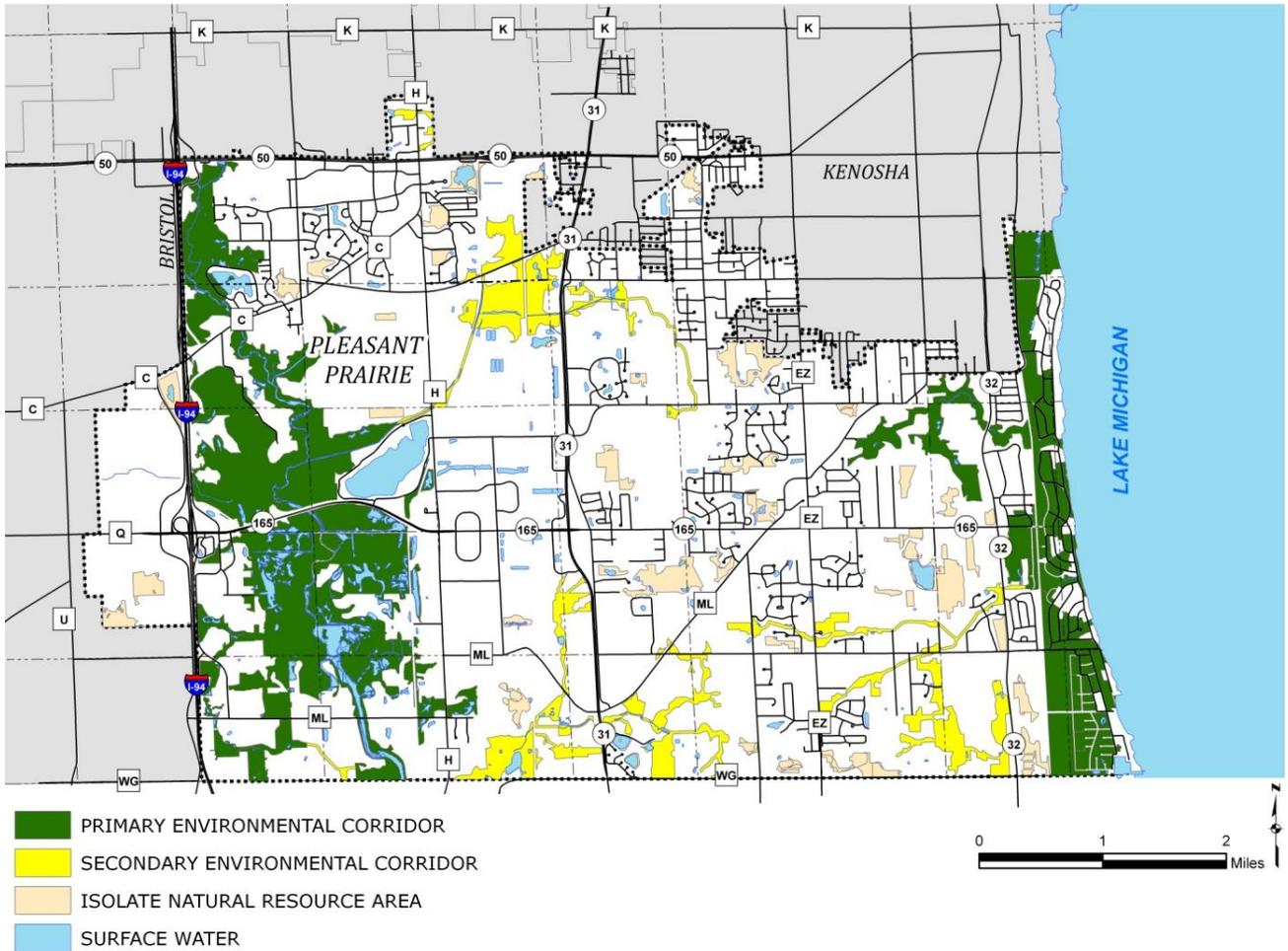
Primary Environmental Corridors include a wide variety of the most important natural resources and are at least 400 acres in size, two (2) miles long, and 200 feet wide. Secondary Environmental Corridors serve to link primary environmental corridors, or encompass areas containing concentrations of natural resources between 100 and 400 acres in size. Where secondary environmental corridors serve to link primary corridors, no minimum area or length criteria apply. Secondary environmental corridors that do not connect primary corridors must be at least 100 acres in size and one (1) mile long.

An Isolated Natural Resource Area is at least five (5) acres in size and 200 feet wide, but not large enough to meet the size or length criteria for primary or secondary environmental corridors. Environmental corridors and isolated natural resource areas in Pleasant Prairie are shown on Map 6.20 pursuant to an update prepared by SEWRPC 2000 and areas verified in the Village in 2009.



Environmental corridor in Prairie Springs Park

**MAP 6.20
ENVIRONMENTAL CORRIDORS AND ISOLATED NATURAL AREAS: 2009**



Source: SEWRPC and Village of Pleasant Prairie.



Jerome Creek

The preservation of 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. Corridor preservation is 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 deterioration

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

As shown on Map 6.20, the Primary Environmental Corridors generally lie along rivers and streams and adjacent to lakes, or are associated with woodlands, wetlands, or park and open space sites and encompass about 3,071 acres or 14% of the Village. Secondary Environmental Corridors are located chiefly along the smaller perennial streams and intermittent streams in the Village, including wetlands associated with these streams encompass about 897 acres or 4% of the Village. Isolated Natural Resource Areas within the Village include a geographically well-distributed variety of isolated wetlands, woodlands encompassing about 702 acres, or 3 % of the Village.



Environmental corridor in Prairie Springs Park

PARK AND OPEN SPACE SITES

Park and Open Space Sites Owned by the State of Wisconsin in the Village

As indicated in Table 6.10 and shown on Map 6.21, in 2006 there were five (5) State-owned park and open space sites in the Village, encompassing about 383 acres, less than 1% of the Village. Of the four (4) sites, two (2) sites encompassing 280 acres were owned by the DNR; two (2) sites, encompassing 13 acres, were owned by the Wisconsin Department of Transportation; and one (1) site, encompassing 90 acres, were owned by the University of Wisconsin.

Wisconsin Department of Natural Resources

The DNR has acquired large areas of park and open space lands in Pleasant Prairie for a variety of resource protection and recreational purposes. Sites acquired for natural resource preservation and limited recreational purposes include the Carol Beach Prairie and Kenosha Sand Dunes. .

Map 6.21 also reflects project boundaries approved by the Wisconsin Natural Resources Board for State parks, natural areas, and wildlife areas within the Village²⁵. Lands within the approved project boundaries have been identified by the Board as appropriate additions to adjacent parks, natural areas, or wildlife areas and are intended to be acquired by the DNR, on a “willing seller-willing buyer” basis, for recreational or open space purposes as funding permits.

Wisconsin Department of Transportation

In 2006, the Wisconsin Department of Transportation owned two (2) sites within the Village, including a wayside located on the east side of Sheridan Road (STH 32) at approximately 95th Street and the Wisconsin Information Tourist Center located at 10519 120th Avenue.

University of Wisconsin

As of 2006 the University of Wisconsin-Parkside owned 90 acres within the Chiwaukee Prairie as shown on Map 6.21 and Table 6.10.



Chiwaukee Prairie



Wisconsin Information Tourist Center



Wisconsin Information Tourist Center

²⁵ This boundary is not the same boundary as recommended and accepted by the Village in SEWRPC Community Assistance Planning Report No. 88, A Land Use Management Plan for the Chiwaukee Prairie-Carol Beach Area of the Town of Pleasant Prairie.”

**TABLE 6.10
EXISTING STATE-OWNED PARK, OUTDOOR RECREATION,
AND OPEN SPACE SITES: 2006**

Number on Map 6.21	Site Name	Size (acres)
Wisconsin Department of Natural Resources Sites		
1	Carol Beach Prairie	223
2	Kenosha Sand Dunes	57
Subtotal – 2 Sites		280
Wisconsin Department of Transportation Sites		
3	Wisconsin Information Tourist Center	12
4	Wayside	1
Subtotal - 2 Sites		13
University of Wisconsin Sites		
5	University of Wisconsin - Chiwaukee Prairie	90
Subtotal - 1 Site		90
Total – 5 Sites		383

Source: SEWRPC Park and Open Space Site Inventory and Wisconsin Department of Natural Resources.

Park and Open Space Sites Owned by Kenosha County in the Village

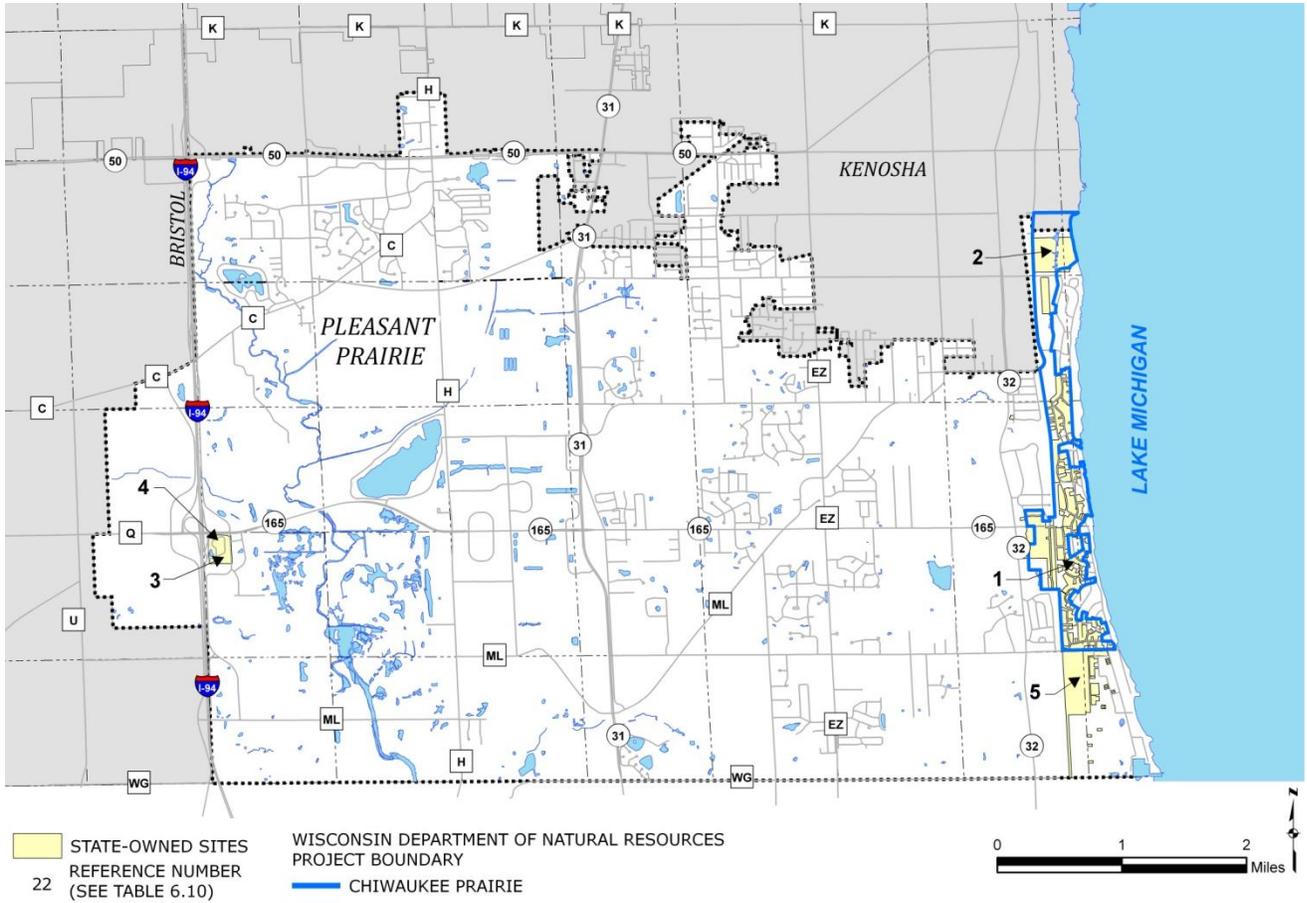
The two (2) park and open space sites owned by Kenosha County in 2009 within the Village is the Kenosha County Bike Trail as shown on Map 6.22 and identified on Table 6.11.

The trail includes approximately 3.5 miles within an abandoned railway right-of-way in the Village extending from the State line north to 89th Street. In addition on Springbrook Road adjacent to the trail is an approximate 0.8 acre property owned by Kenosha County which provides limited parking for trail users.



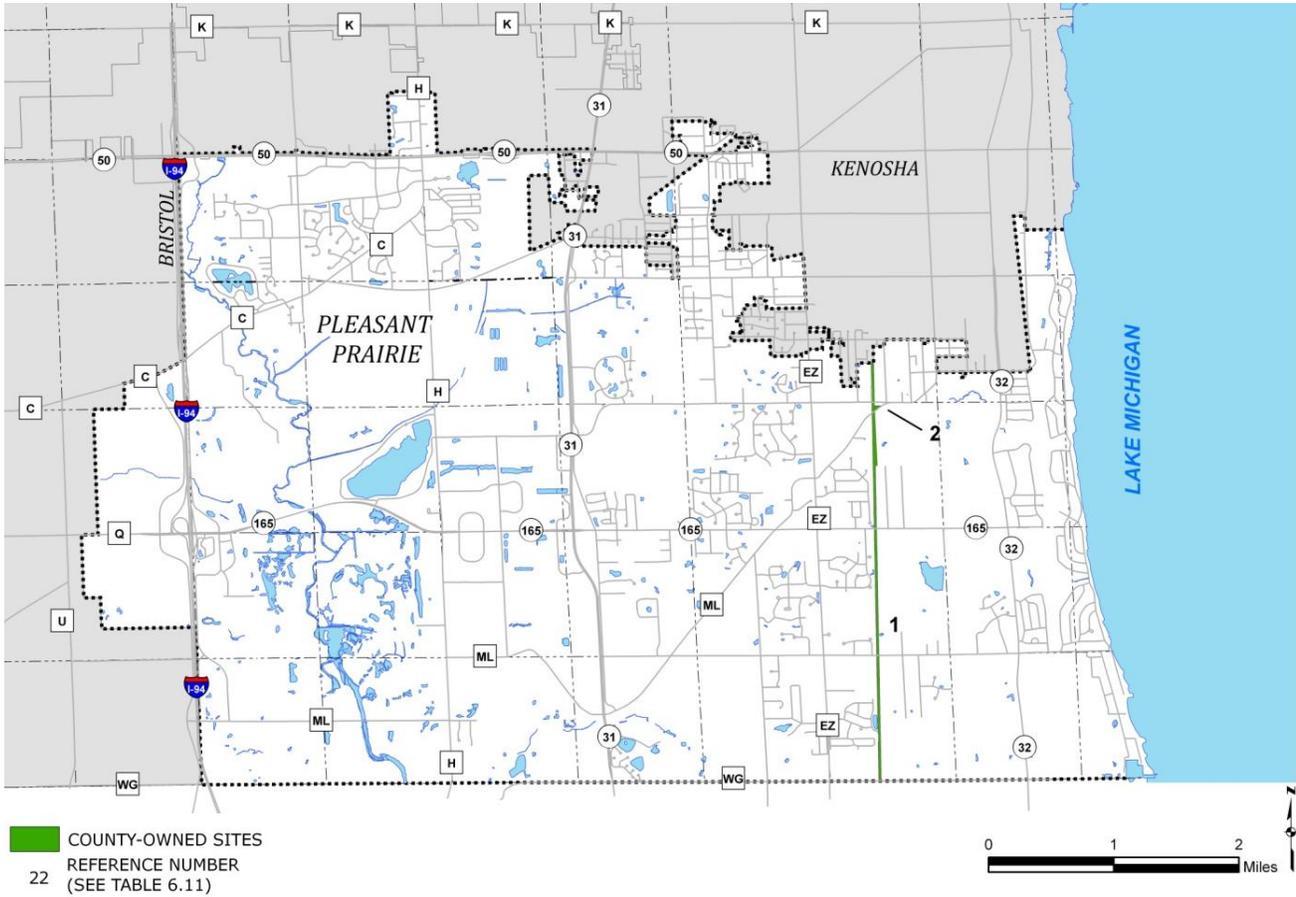
Kenosha County Bike Trail

**MAP 6.21
EXISTING STATE-OWNED PARK, OUTDOOR RECREATION,
AND OPEN SPACE SITES: 2006**



Source: Wisconsin Department of Natural Resources, SEWRPC and Kenosha County.

MAP 6.22
KENOSHA COUNTY OWNED PARK AND OPEN SPACE SITES: 2009



Source: Village of Pleasant Prairie

**TABLE 6.11
PARK, OUTDOOR RECREATION, AND
OPEN SPACE SITES OWNED BY KENOSHA COUNTY: 2009**

Number on Map 6.22	Site Name	Size (acres)
1	Kenosha County Bike Trail ^a	44.3
2	Parking Area adjacent to Kenosha County Bike Trail	0.8

^a The trail includes approximately four (4) miles within an abandoned railway right-of-way in the City of Kenosha and Village of Pleasant Prairie and approximately four miles within the Wisconsin Electric utility right-of-way in the City of Kenosha and Town of Somers. The trail also includes about a six mile portion of Pike Bike Trail within the City of Kenosha and Village of Pleasant Prairie. Altogether, the trail encompasses approximately 14 linear miles.

Source: SEWRPC Park and Open Space Site Inventory, Village of Pleasant Prairie.

Park and Open Space Sites Owned by the Village

In 2009, the Village owned 42 sites encompassing nearly 1,300 acres as shown on Map 6.23 and listed in Table 6.12. The two (2) largest Village-owned park and open space areas are Prairie Springs Park which is 758 acres and the DesPlaines River Open Space land which is 150 acres. Recently, Frank and Dorothy Ingram donated approximately 31 acres of land to the Village for the development of a park and the Village accepted through land dedications from multiple developers through subdivision platting about 29 acres for the development of Village Green Park.

**TABLE 6.12
PARK, RECREATION, AND OPEN SPACE SITES OWNED BY THE VILLAGE: 2009**

Number on Map 6.23	Public Sites	Size^a (acres)
Public Parks		
1	Becker Park	1
2	Carol Beach Park	3
3	Creekside Crossing Park	2
4	Ingram Park ^b	31
5	Lake Michigan Park	4
6	Momper's Woods ^a	27
7	Pleasant Prairie Park	9
8	Prairie Springs Park	758
9	Rolling Meadows Park	4
10	Woodlawn Park	1
11	Village Green Park ^b	29



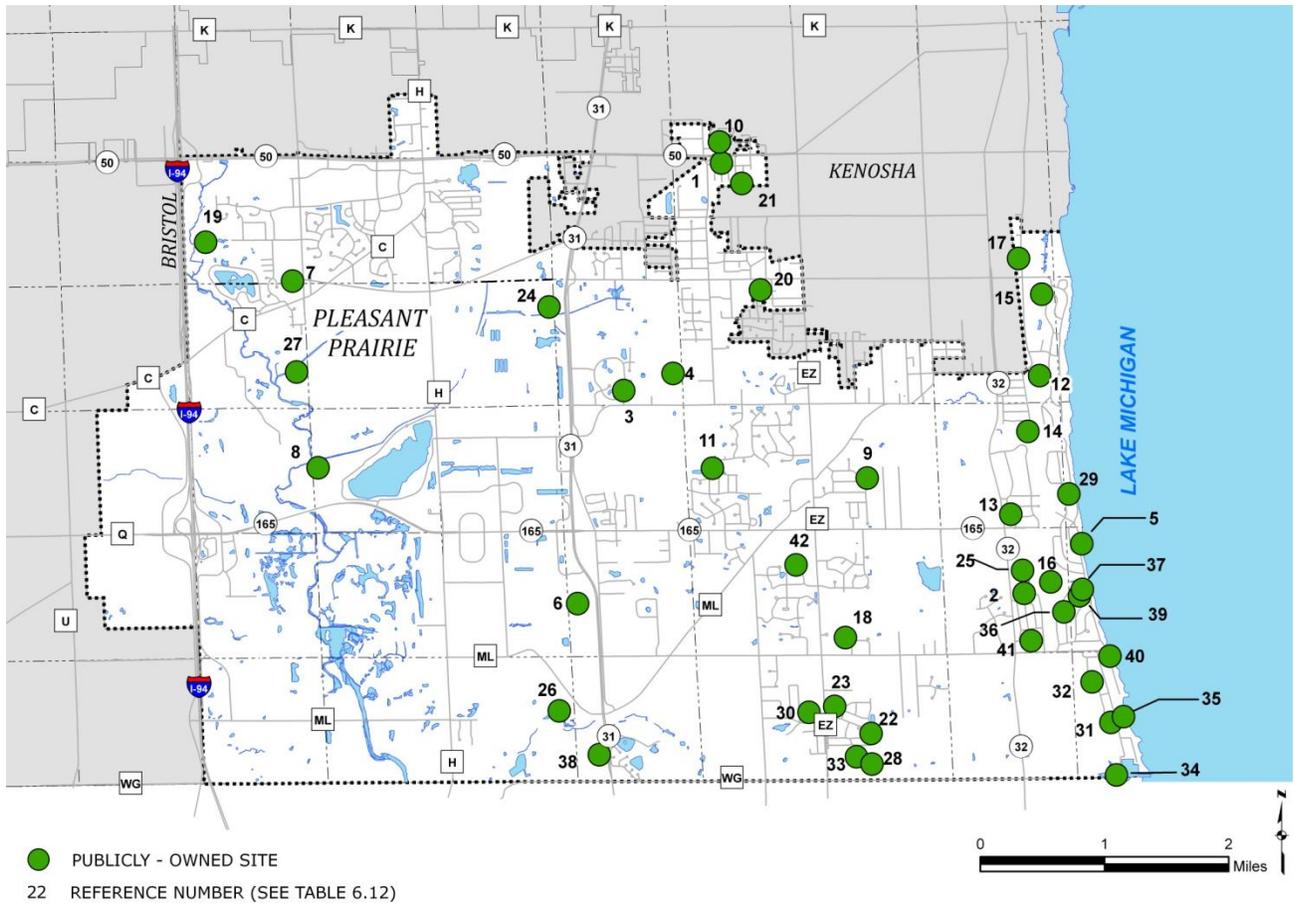
Number on Map 6.23	Public Sites	Size^a (acres)
<i>Other Open Space Areas</i>		
12	Carol Beach Open Space Lands	23
13	Carol Beach Open Space Lands	11
14	Carol Beach Open Space Lands	10
15	Carol Beach Open Space Lands	10
16	Carol Beach Open Space Lands	5
17	Carol Beach Open Space Lands	5
18	Country Corner – Tobin Creek Open Space Land	12
19	Des Plaines River Open Space Land	150
20	Open Space – Retention Area	6
21	Open Space – Retention Area	5
22	Open Space – Retention Area	2
23	Prairie Trails West Open Space Land	8
24	Village Land – Open Space	49
25	Village Land – Open Space	37
26	Village Land – Open Space	32
27	Village Land – Open Space	27
28	Village Land – Open Space	10
29	Village Land – Open Space	5
30	Village Land – Open Space	4
31	Village Land – Open Space	3
32	Village Land – Open Space	2
33	Village Land – Open Space	2
34	Village Land – Open Space	1
35	Village Land – Open Space	1
36	Village Land – Open Space	1
37	Village Land – Open Space	1
38	Village Land – Open Space	1
39	Village Land – Open Space	1
40	Village Land – Open Space	1
41	Village Land – Open Space	1
42	Village Land – Open Space	1
Subtotal – 42 Sites		1,296

^a Area is rounded to the nearest acre.

^b Sites to be developed as public parks.

Source: Village of Pleasant Prairie

**MAP 6.23
PARK, RECREATION, AND OPEN SPACE SITES OWNED BY THE VILLAGE: 2009**



Source: SEWRPC and Village of Pleasant Prairie.



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

There are a number of conservation organizations active in Pleasant Prairie, including the Kenosha/Racine Land Trust, Des Plaines Wetlands Conservancy, The Nature Conservancy of Wisconsin, and other non-profit conservation organizations including the Chiwaukee Prairie Preservation Fund. These organizations acquire lands for resource protection purposes. As shown on Map 6.24 and Table 6.13, such organizations owned three (3) sites encompassing 803 acres in 2006. As shown on Table 6.13, the Des Plaines Wetlands Conservancy owns 644 acres for resource protection purposes. The Nature Conservancy of Wisconsin owns two (2) sites in portions of Chiwaukee Prairie and Barnes Prairie, together encompassing 159 acres.

**TABLE 6.13
PRIVATELY-OWNED RESOURCE PROTECTION SITES: 2006**

Number on Map 6.24	Site Name	Owner	Size (acres)
1	Barnes Prairie	The Nature Conservancy of Wisconsin	4
2	Chiwaukee Prairie	The Nature Conservancy of Wisconsin	155
3	Des Plaines Wetlands Conservancy (Halter Wildlife, Inc.)	Des Plaines Wetlands Conservancy, Inc.	644
Total			803

Source: SEWRPC Park and Open Space Site Inventory.

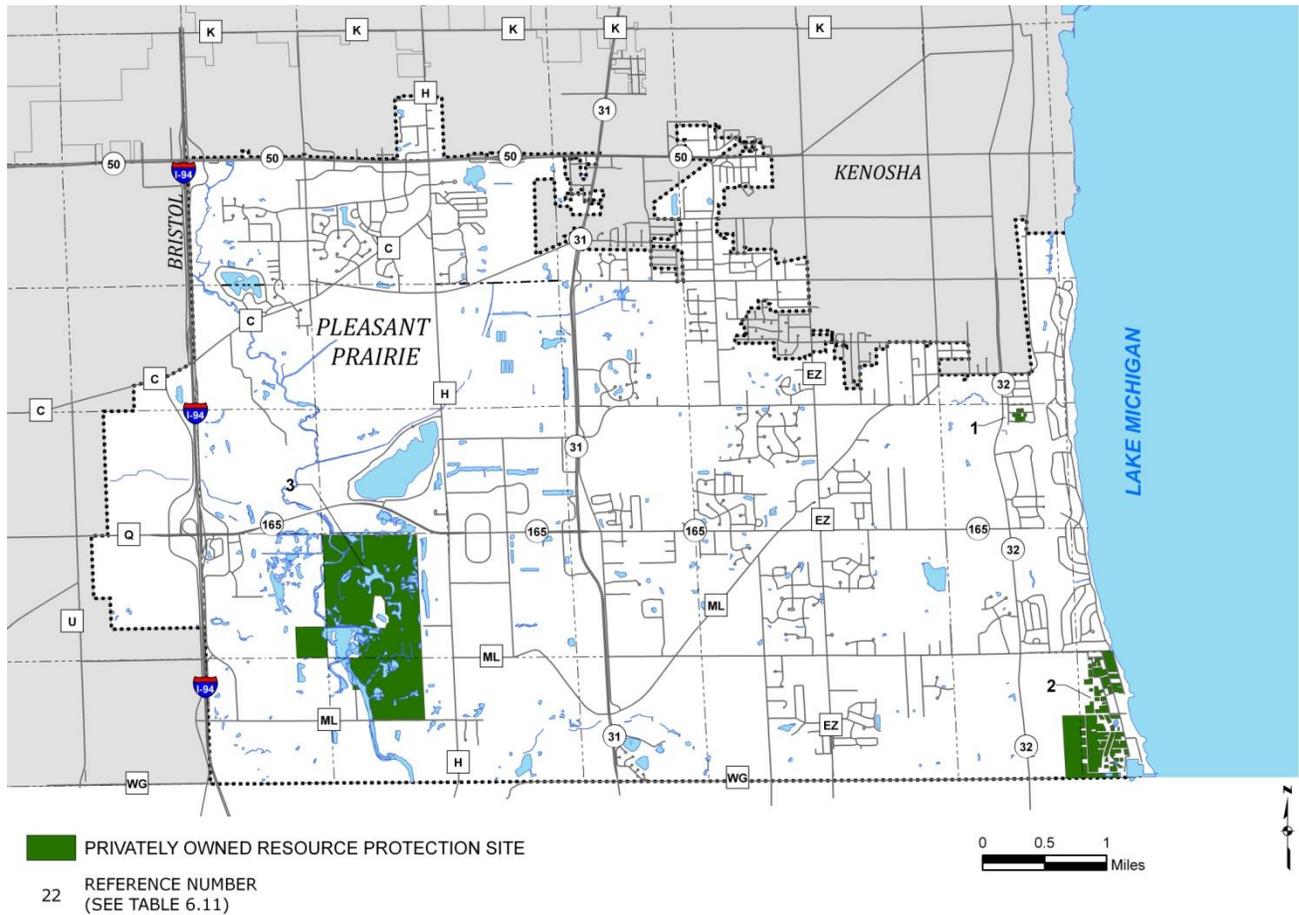


Chiwaukee Prairie



Des Plaines River floodplain

**MAP 6.24
PRIVATELY-OWNED RESOURCE PROTECTION SITES: 2006**



Source: Village of Pleasant Prairie.

Lands Under Protective Easements

Several open space and environmentally sensitive sites in the Village are protected under conservation easements. These easements are typically voluntary contracts between a private landowner and a land trust or governmental body that limit, or in some cases prohibit, future development of the parcel. With the establishment of a conservation easement, the property owner sells or donates the development rights for the property to a land trust or governmental agency, but retains ownership. The owner is not prohibited from selling the property, but future owners must also abide by the terms of the conservation easement. The purchaser of the easement is responsible for monitoring and enforcing the easement agreement for the property. Conservation easements do not require public access to the property, although public access is generally required if Wisconsin stewardship funds or other DNR grant funds are used to acquire the property. Conservation easements located in the Pleasant Prairie are shown on Map 6.25 and listed in Table 6.14. There are three (3) conservation easements in the Village, including an easement on 445 acres held by The Nature Conservancy of Wisconsin as part of Prairie Springs Park in the Village.



U.S. ACOE easement south of CTH C

**TABLE 6.14
LANDS UNDER PROTECTIVE EASEMENTS: 2009**

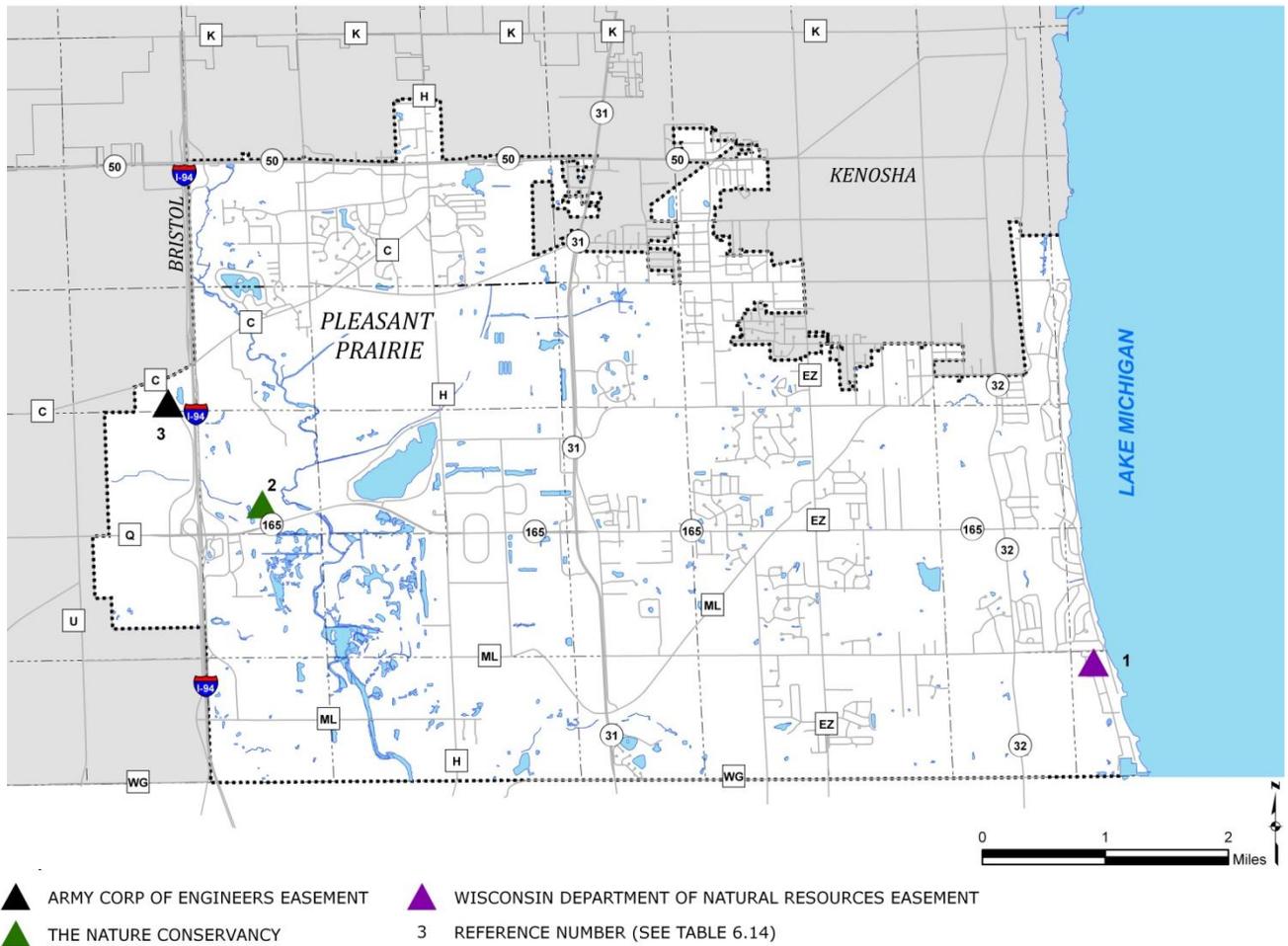
Number on Map 6.25	Holder of Easement	Size (acres)
1	DNR Easement	1
2	The Nature Conservancy Easement	445
3	U.S. ACOE Easement	9
Total- 3 Sites		455

Source: Kenosha/Racine Land Trust, DNR, SEWRPC, and the Village of Pleasant Prairie.

DNR and Land Trust Focus Areas

The Wisconsin Natural Resources Board has approved project boundaries for State forests and wildlife areas in the Chiwaukee Prairie-Carol Beach area. The project boundaries and land currently owned by the DNR are shown on Map 6.21. As noted in a previous section, lands within the approved project boundaries are intended to be acquired by the DNR on a “willing seller-willing buyer” basis. The DNR has identified other priority areas with important natural resources in addition to the areas described in this paragraph.

**MAP 6.25
LANDS UNDER PROTECTIVE EASEMENT: 2009**



Source: Kenosha/Racine Land Trust, U.S. Army Corp of Engineers, Wisconsin Department of Natural Resources Village of Pleasant Prairie.

Other Park and Open Space Sites in the Village²⁶

In addition to State, County, and Village-owned park and open space sites in the Village, there were 121 acres of other park and open space sites in the Village in 2009 that are owned by other public agencies including the City of Kenosha, the Kenosha Unified School District #1 (KUSD); privately-owned sites for commercial purposes and other open space areas owned by Residential Homeowners or Commercial/Industrial Owner’s Associations.

City of Kenosha

The City of Kenosha owns a 12-acre parcel in the Village. This property is regional retention basin as shown on Map 6.26 and listed in Table 6.15.

Kenosha Unified School District

There are six (6) sites in the Village owned by the KUSD that provide 109 acres of park and open space. Two (2) of the sites are currently undeveloped sites for future school and park development. All six (6) sites are shown on Map 6.26 and listed in Table 6.15



Park area at Pleasant Prairie Elementary School

**TABLE 6.15
OTHER PUBLIC PARK AND OPEN SPACE SITES: 2009**

Number on Map 6.26	Other Public Sites	Size^a (acres)
City of Kenosha Site		
1	Open Space Site – Detention Basin	12
Kenosha Unified School District Sites		
2	Lakeview Technology Academy	3
3	Pleasant Prairie Elementary School	6
4	Prairie Lane Elementary School	16
5	Undeveloped Kenosha Unified School District Site	15
6	Undeveloped Kenosha Unified School District Site	67
7	Whittier Elementary School	2

^a The acreage includes only those portions of the site used for recreational purposes or in “natural” open space including any wetlands and floodplain areas.

Source: *Village of Pleasant Prairie*.

²⁶ Publicly-owned sites and/or easements containing human-made ditches/swales and lift/pump stations are not included in the data since these site features serve primarily utility purposes.

Privately-Owned Recreation Sites

There are also four (4) private sites including privately-owned golf courses, hunting clubs, and boat access sites encompassing 845 acres as shown on Map 6.26 and listed in Table 6.16.

**TABLE 6.16
PRIVATE PARK, RECREATION, AND OPEN SPACE SITES: 2009**

Number on Map 6.26	Site	Size^a (acres)
8	Big Oaks Golf Course	168
9	Des Plaines Wetland Conservancy, Inc. (Halter Wildlife, Inc.)	644
10	Prairie Harbor Yacht Club	19
11	Transcendental Driving Range	14
Total – Four (4) Sites		845

^a The acreage includes only those portions of the site used for recreational purposes or in "natural" open space including any wetlands and floodplain areas.

Source: Village of Pleasant Prairie.



Halter Wildlife

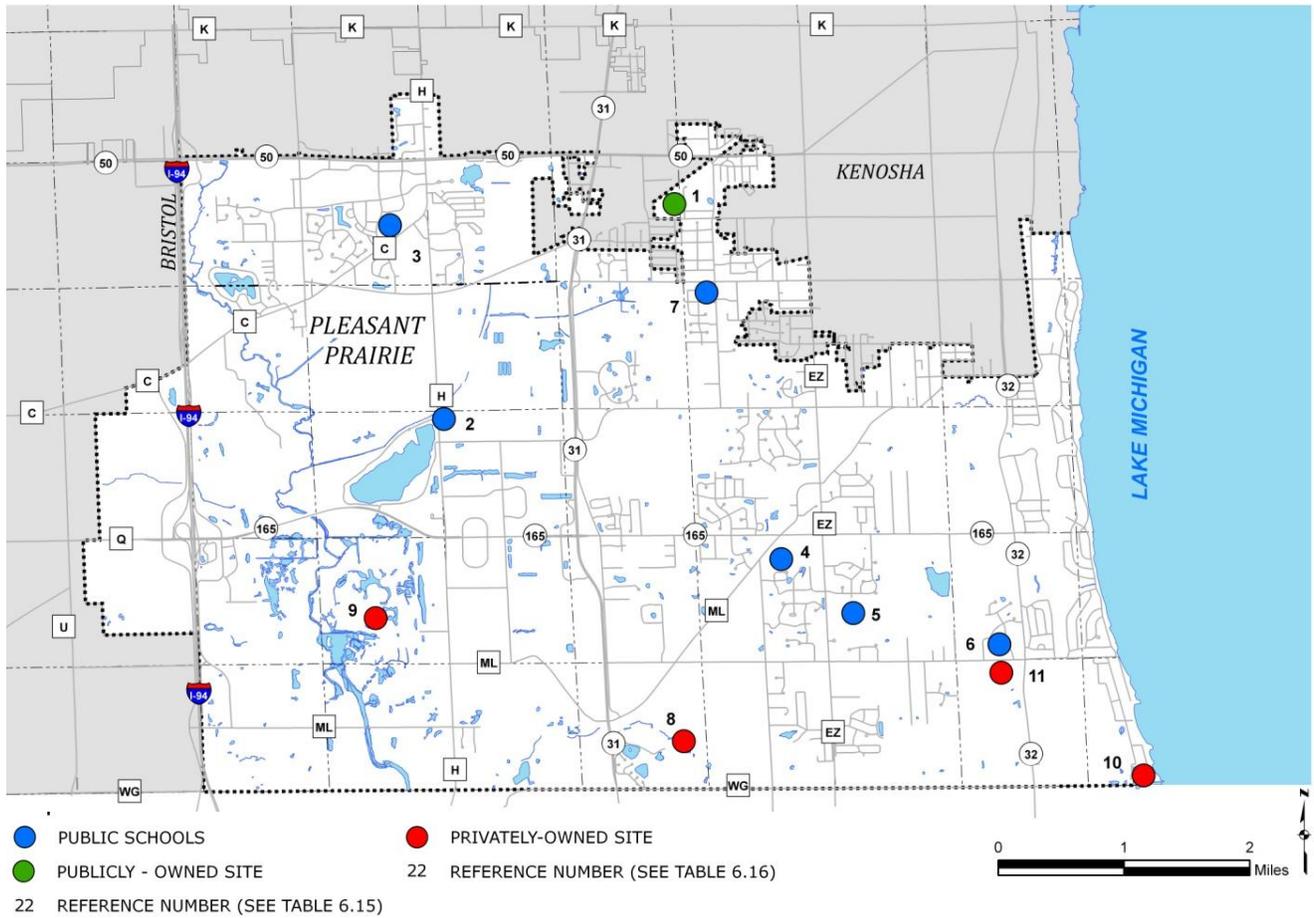


Big Oaks Golf Course



Prairie Harbor Yacht Club

**MAP 6.26
OTHER PUBLIC OR PRIVATE PARK, RECREATION, AND OPEN SPACE SITES: 2009**



Source: SEWRPC and Village of Pleasant Prairie.

Privately-owned Open Space Sites Owned by Residential Homeowner's and Commercial/Industrial Owner's Association

Map 6.27 and Table 6.17 provides other privately-owned private park and open space owned by Residential Homeowner's and Commercial/Industrial Owner's Association for stormwater retention and detention facilities and limited open space and recreational areas with residential, commercial and industrial development in the Village. Table 6.17 and Map 6.27 do not include open spaces areas within Developments that are located in easements maintained by the Association.



Private Park in River Oaks Subdivision

**TABLE 6.17
PRIVATELY-OWNED OPEN SPACE SITES OWNED BY RESIDENTIAL HOMEOWNERS AND
COMMERCIAL OWNERS ASSOCIATIONS: 2009**

Number on Map 6.17	Owner	Subdivision or Corporate Park	Site Area (acres)
1	Ashbury Creek Homeowners Association	Ashbury Creek	8.1
2	Ashbury Creek Homeowners Association	Ashbury Creek	1.3
3	Ashbury Creek Homeowners Association	Ashbury Creek	0.2
4	Bentz Estates Neighborhood Association	Bentz Estates	0.4
5	Country Lane Homeowners Association	Country Lane	0.4
6	Country Lane Homeowners Association	Country Lane	0.2
7	Country Lane Homeowners Association	Country Lane	0.3
8	Creekside Crossing Homeowners Association	Creekside Crossing	2.1
9	Devonshire Homeowners Association	Devonshire	9.8
10	Devonshire Homeowners Association	Devonshire	1.5
11	Foxmoor Estates Homeowners Association	Foxmoor Estates	1.3
12	Homeowners Association	Meadowdale Estates	4.9
13	Homeowners Association	Meadowdale Estates	1.5
14	Isetts Meadowdale Farms Owners Corporation	Meadowdale Farms	1.1
15	Kings Cove Homeowners Association	Kings Cove	1.3
16	LakeView Corporate Park Owners Association	LakeView Corporate Park	8.1
17	LakeView Corporate Park Owners Association	LakeView Corporate Park	17.7
18	LakeView Corporate Park Owners Association	LakeView Corporate Park	2.1
19	LakeView Corporate Park Owners Association	LakeView Corporate Park	1.9
20	LakeView Corporate Park Owners Association	LakeView Corporate Park	9.6
21	LakeView Corporate Park Owners Association	LakeView Corporate Park	3.1
22	LakeView Corporate Park Owners Association	LakeView Corporate Park	2.3
23	LakeView Corporate Park Owners Association	LakeView Corporate Park	3.5
24	LakeView Corporate Park Owners Association	LakeView Corporate Park	4.3
25	LakeView Corporate Park Owners Association	LakeView Corporate Park	14.2
26	LakeView Corporate Park Owners Association	LakeView Corporate Park	1.0

Number on Map 6.17	Owner	Subdivision or Corporate Park	Site Area (acres)
27	LakeView Corporate Park Owners Association	LakeView Corporate Park	0.2
28	LakeView Corporate Park Owners Association	LakeView Corporate Park	3.6
29	Meadowdale Estates Homeowners Association	Meadowdale Estates Add #1	3.7
30	Meadowlands Condominium Owners Association	Meadowlands Condominiums	2.3
31	Meadowlands Homeowners Association	Meadowlands	0.2
32	Mission Hills Homeowners Association	Mission Hills	0.8
33	Mission Hills Homeowners Association	Mission Hills Add. #2	2.6
34	Mission Hills Homeowners Association	Mission Hills Add. #2	1.2
35	Mission Hills Homeowners Association	Mission Mills Add. #2	1.0
36	Mission Hills Homeowners Association	Mission Hills Add. #3	0.8
37	Prairie Ridge Commercial Owners Association	Prairie Ridge	2.8
38	Prairie Ridge Commercial Owners Association	Prairie Ridge	2.3
39	Prairie Ridge Commercial Owners Association	Prairie Ridge	2.1
40	Prairie Ridge Homeowners Association	Prairie Ridge	0.6
41	Prairie Ridge Homeowners Association	Prairie Ridge	0.7
42	Prairie Ridge Homeowners Association	Prairie Ridge	0.3
43	Prairie Ridge Homeowners Association	Prairie Ridge	0.3
44	Prairie Trails West Subdivision Property Owners Association	Prairie Trails West	3.5
45	River Oaks Neighborhood PUD	River Oaks	5.4
46	Springbrook Meadows Homeowners Association.	Springbrook Meadows	0.6
47	Springbrook Meadows Homeowners Association.	Springbrook Meadows	10.6
48	Sunny Prairie Property Owners Association	Sunny Prairie	1.1
49	Tobin Creek Homeowners Association	Tobin Creek	6.7
50	Tobin Creek Homeowners Association	Tobin Creek	12.1
51	Tobin Creek Homeowners Association	Tobin Creek	3.9
52	Village Green Homeowners Association	Village Green Heights	7.1
53	Village Green Homeowners Association	Village Green Heights	8.7
54	Village Green Homeowners Association	Village Green Heights Add. #1	0.8
55	Village Green Homeowners Association	Village Green Heights Add. #1	8.7
Total 55 sites			196.5

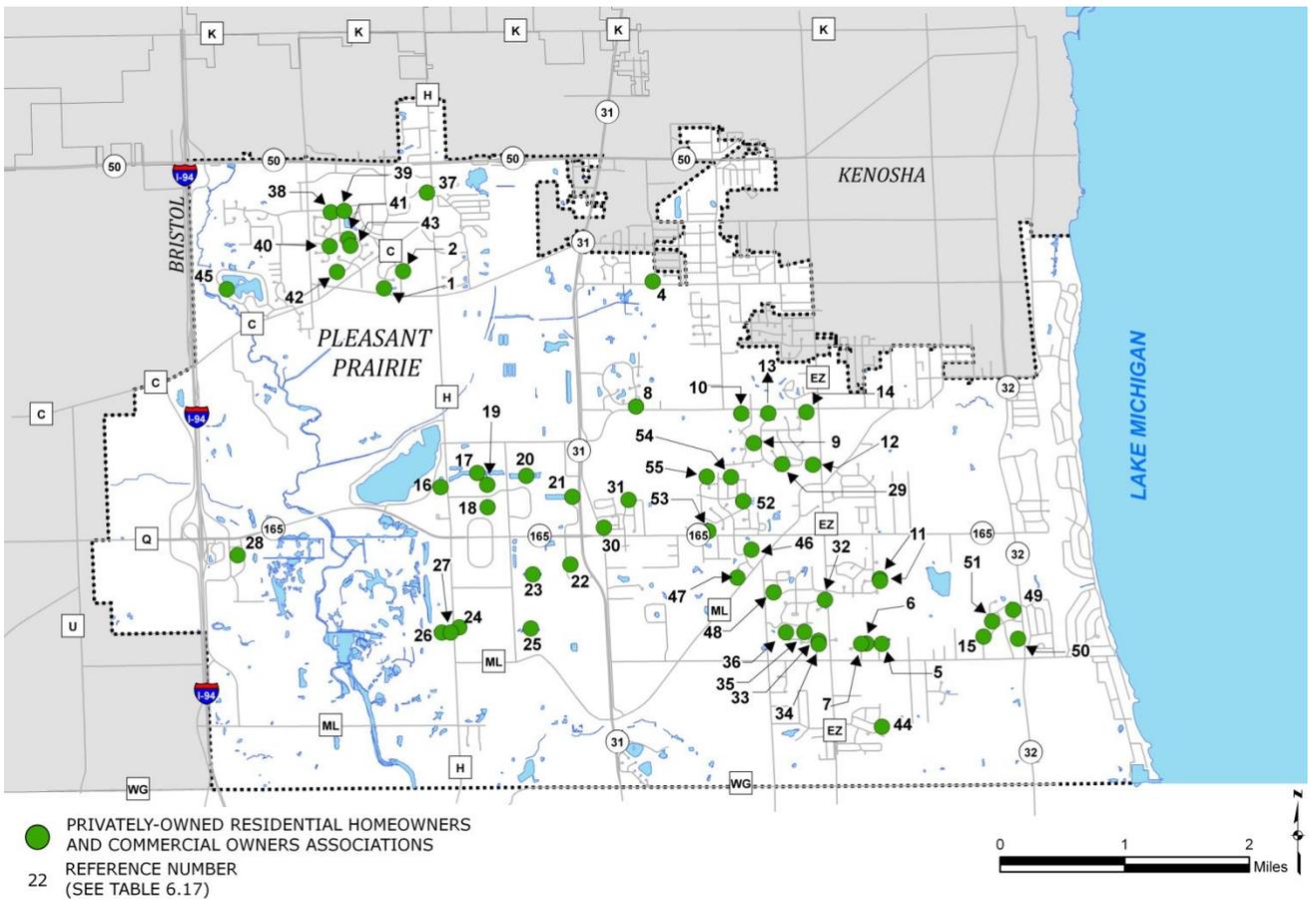


Retention Basin in Prairie Ridge Development



Retention Basin in LakeView Corporate Park

**MAP 6.27
PRIVATELY-OWNED OPEN SPACE SITES OWNED BY RESIDENTIAL HOMEOWNERS AND
COMMERCIAL OWNERS ASSOCIATIONS: 2009**



Source: Village of Pleasant Prairie.

CLIMATE AND AIR QUALITY

Climate

Its midcontinental location gives Pleasant Prairie a continental climate that spans four (4) seasons. Summers generally occur during the months of June, July, and August. They are relatively warm, with occupation periods of hot, humid weather and sporadic periods of cool weather. Lake Michigan often has a cooling effect on the Village during the summer. Winters are cold and generally occur during the months of December, January, and February. Winter weather conditions can also be experienced during the months of November through March in some years. Autumn and spring are transitional weather periods in the Village when widely varying temperatures and long periods of precipitation are common. The median growing season, the number of days between the last freeze in the spring and the first freeze in the fall, is 170 days and can range from 150 to 192 days.



Jerome Creek



Des Plaines River



Barnes Creek Bridge



Prairie Springs Park

Precipitation in the Village can occur in the form of rain, sleet, hail, and snow and ranges from gentle showers to destructive thunderstorms. The more pronounced weather events, such as severe thunderstorms and tornadoes, can cause major property and crop damage, inundation of poorly drained areas, and lake and stream flooding.

Air Quality

The Clean Air Act requires the U.S. Environmental Protection Agency (EPA) to set national ambient air quality standards (NAAQS) for six (6) criteria pollutants (carbon monoxide, lead, nitrogen dioxide, particulate matter, ozone, and sulfur oxides) which are considered harmful to public health and the environment. Areas not meeting the NAAQS for one or more of the criteria pollutants are designated as nonattainment areas by the EPA. In areas where observed pollutant levels exceed the established NAAQS and which are designated as "nonattainment" areas by the EPA, growth and development patterns may be constrained. For example, major sources of pollutants seeking to locate or expand in a designated nonattainment area, or close enough to impact upon it, must apply emission control technologies. In addition, new or expanding industries may be required to obtain a greater than one-for-one reduction in emissions from other sources in the nonattainment area so as to provide a net improvement in ambient air quality. Nonattainment area designation may therefore create an economic disincentive for industry with significant emission levels to locate or expand within or near the boundaries of such an area. In order to eliminate this disincentive and relieve the potential

constraint on development, it is necessary to demonstrate compliance with the NAAQS and petition EPA for redesignation of the nonattainment areas.

The EPA has designated a single six (6) county ozone nonattainment area within the Region which is made up of Kenosha, Milwaukee, Ozaukee, Racine, Washington, and Waukesha Counties. Ozone is formed when precursor pollutants, such as volatile organic compounds and nitrogen oxides, react in the presence of sunlight. The ozone air quality problem within the Region is a complex problem because ozone is meteorologically dependant. In addition, the ozone problem in the Region is believed to be attributable in large part to precursor emissions which are generated in the large urban areas located to the south and southeast and carried by prevailing winds into the Region. The ozone problem thus remains largely beyond the control of the Region and State and can be effectively addressed only through a multi-state abatement effort.

In 1987, an Ozone Monitoring Station in Chiwaukee Prairie was installed less than a mile north of the State line about a block west of Lake Michigan. The sample inlet is 5 meters above ground level and 19 feet from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G. The monitoring objectives of this facility are to determine compliance with NAAQS to detect elevated pollutant levels of Ozone and to provide pollutant levels for daily air quality index reporting. Daily monitoring and additional information related to this station and other stations in the State of Wisconsin can be viewed at the following website <http://dnrmaps.wisconsin.gov/imf/imf.jsp?site=wisards>.



Ozone Monitoring Station in Chiwaukee Prairie

In March 2008, the EPA revised the eight-hour ozone standard from 85 parts per billion (ppb) to 75 ppb. Non-attainment designations based on 2007 through 2009 air quality data, and the new standard, are expected to take effect in 2010.

In December 2008, the EPA designated six counties in Wisconsin as nonattainment areas for the 24-hour fine particulate matter air quality standard. The nonattainment counties are Milwaukee, Racine, and Waukesha Counties in southeastern Wisconsin, and Brown and Dane Counties and a portion of Columbia County outside the Region. Per Federal regulations, the DNR will develop and submit a State Implementation Plan by December 2011 which will outline the necessary steps to ensure that those counties identified as not attaining the particulate standard will be in attainment by 2013.

Over the past decade, the combination of local controls and offsets implemented within and outside the Region, along with national vehicle emissions control requirements, have resulted in a significant improvement in ambient air quality within the Region as well as nationally, and projections of future emissions indicate a continued decline in precursor emissions and a continued improvement in air quality.

CULTURAL RESOURCES

The term cultural resource encompasses historic buildings, structures and sites; archaeological sites; and museums. Cultural resources in Village have important recreational and educational value and help to provide the Village 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.

Historical Resources

In 2009 there were three (3) historic places and districts in the Village listed on the National Register of Historic Places as displayed on Maps 6.28 and listed in Table 6.18. The three (3) historic places and districts in the Village are prehistoric archeological sites and include the Barnes Creek Site, the Chesrow Site²⁷, and the Lucas Site.

**TABLE 6.18
HISTORIC SITES AND DISTRICTS LISTED
ON THE NATIONAL REGISTER OF HISTORIC PLACES: 2009**

Number on Map 6.28	Site Name	General Information	Year Listed
1	Barnes Creek Site	Little information was found related to this site other than this a prehistoric site with the following periods of significance 0 AD to 1499 AD	1977
2	Chesrow Site ^a	The Chesrow site in the Village has a least two known activities areas, one atop and one along the lakeward flank of a former beach. The southern excavation site provided evidence of chert processing in the form of heat alteration and subsequent bifaces productions. Other tools associated with the chert processing included perforators and hammerstones. The northern location produces many bifaces associated with the complex from surface contexts were found, but excavation recovered Paleoindian cultural debris, failed to provide evidence of any artifacts of features other than in contests disturbed by contemporary agricultural practices.	1978
3	Lucas Site ^a	A small amount of debitage for an erosional cut made by trail bikes was found. This site also appeared to be once a part of a large composite of wet and dry prairie. The Lucas site is situated on either a sandy terrace or an old lake plain.	1995

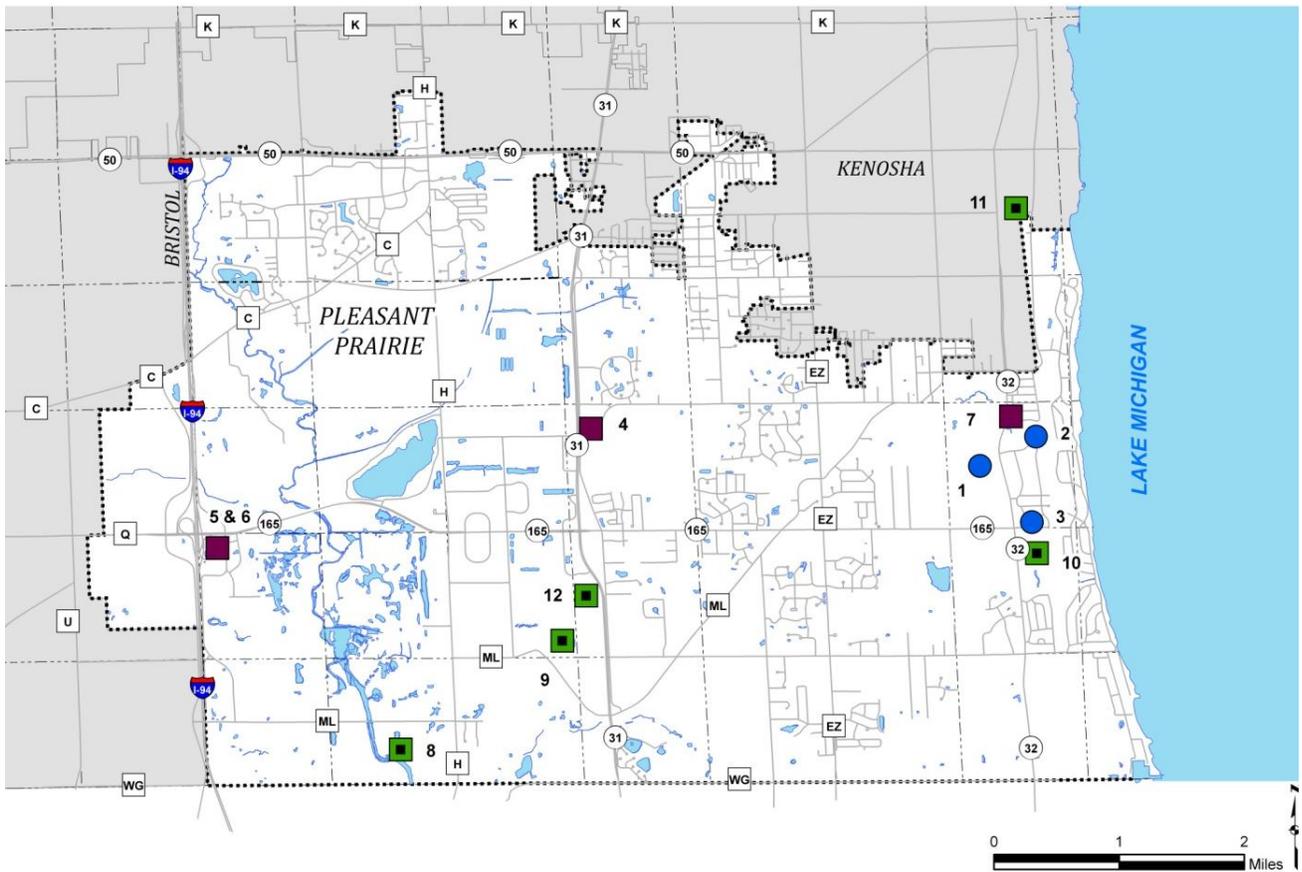
^a For more detailed information related to the Chesrow and the Lucas sites is found in the book entitled. "Chesrow A Paleoindian Complex in the Southern Lake Michigan Basin" by David Overstreet published in 1993.

Source: The State Historical Society of Wisconsin, Kenosha County, SEWRPC and the book entitled, "Chesrow A Paleoindian Complex in the Southern Lake Michigan Basin" by David Overstreet published in 1993.

²⁷ For more detailed information related to the Chesrow Site refer to the Case Studies in Great Lakes Archaeology Number 2 entitled "Chesrow A Paleoindian Complex in the Southern Lake Michigan Basin" by David Overstreet published in 1993.



**MAP 6.28
HISTORIC SITES AND DISTRICTS LISTED ON THE NATURAL REGISTER OF HISTORIC PLACE AND WISCONSIN HISTORICAL MARKERS: 2009**



- | | | |
|---|---|---|
| WISCONSIN HISTORICAL MARKERS | OTHER HISTORICAL SITES | SITES LISTED ON THE NATIONAL OR STATE REGISTERS OF HISTORIC PLACES: 2006 |
| HISTORICAL MARKERS | ARCHEOLOGICAL SITES | NATIONAL OR STATE SITE |
| 5 REFERENCE NUMBER (SEE TABLE 6.19) | 10 REFERENCE NUMBER (SEE TABLE 6.28) | 3 REFERENCE NUMBER (SEE TABLE 6.18) |

Source: SEWRPC.



In most cases, historic places or districts listed on the National Register are also listed on the State Register; however the three (3) sites in the Village are not listed on the State Register²⁸ since they were registered prior to 1991. Sites and districts listed on the National and State Registers of Historic Places have an increased measure of protection against degradation and destruction. Listing on the National or State Register requires government agencies to consider the impact of their activities, such as the construction or reconstruction of a highway, or a permit which they issue, on the designated property. If the property would be adversely affected, the agency must work with the State Historic Preservation Officer to attempt to avoid or reduce adverse effects.

The Village is also home to four (4) Wisconsin State Historical Markers through a program administered by the Wisconsin Historical Society's Division of Historic Preservation. These historical markers are intended to identify, commemorate, and honor the important people, places, and events that have contributed to the State'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 Village are identified on Maps 6.28 and listed in Table 6.19.

**TABLE 6.19
WISCONSIN HISTORICAL MARKERS**

Number on Map 6.28	Marker Site Address/ Historic Name
4	Green Bay Ethnic Trail located at STH 31 and 95 th St.
5	History of the Word "Wisconsin" located at the Wisconsin Welcome Center 10519 120 th Ave.
6	Cordelia A.P. Harvey located at the Wisconsin Welcome Center, 10519 120 th Ave.
7	Thirty-Second Division Memorial Highway located at STH 32 and 95 th St.

Source: Wisconsin Historical Society, City of Kenosha, and SEWRPC.



Green Bay Ethnic Trail Marker

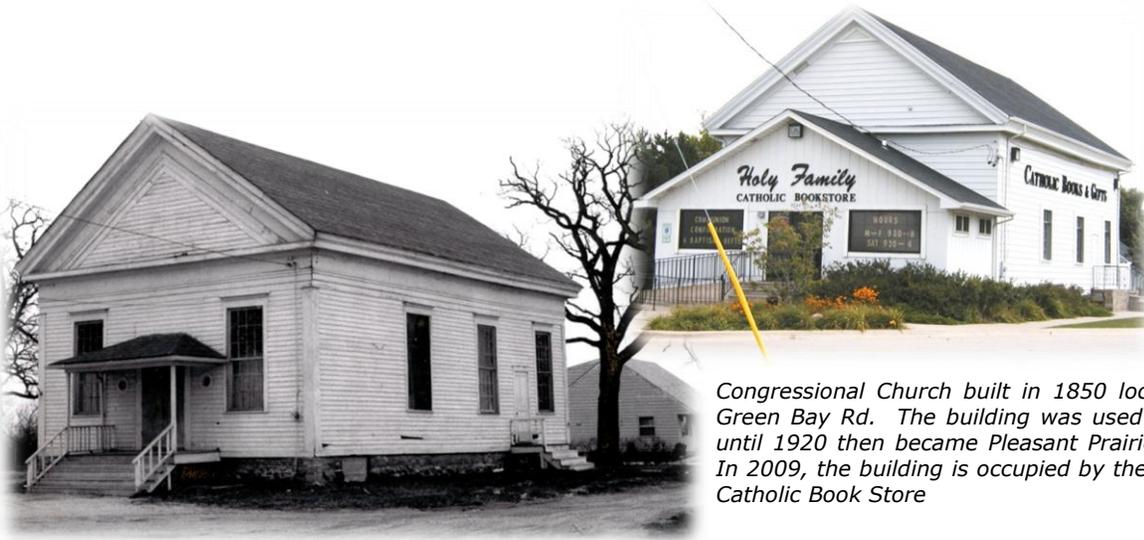
History of the Word "Wisconsin" Marker

Cordelia A.P. Harvey Marker

Thirty-Second Division Memorial Highway Marker

²⁸ Since the State Register was created in 1991, all properties nominated for the National Register must first go through the State Register review process. Upon approval by the State review board, a site is listed on the State Register of Historic Places and recommended to the National Park Service for review and listing on the National Register of Historic Places. The only exceptions to this process are federally-owned properties, which may be nominated for the National Register directly by the National Park Service.

The three (3) historic places and districts listed on the National Registers of historic places are only a small fraction of the buildings, structures, and districts listed in the Wisconsin Architecture and History Inventory. The Wisconsin Architecture and History Inventory is a database administered by the State Historical Society of Wisconsin that contains historical and architectural information on approximately 120,000 properties statewide. The listed sites have architectural or historical characteristics that may make them eligible for listing on the National and State registers of historic places. According to the survey there were 43 properties in the Village included in the Wisconsin Architecture and History Inventory²⁹. The inventory can be accessed through the State of Wisconsin Historical Society website at www.wisconsinhistory.org/ahi.



Congressional Church built in 1850 located on Old Green Bay Rd. The building was used as a School until 1920 then became Pleasant Prairie Town Hall. In 2009, the building is occupied by the Holy Family Catholic Book Store



The Dexter Home located on Springbrook Rd was built in 1910



The Dublin School located on 116th St was built in 1920



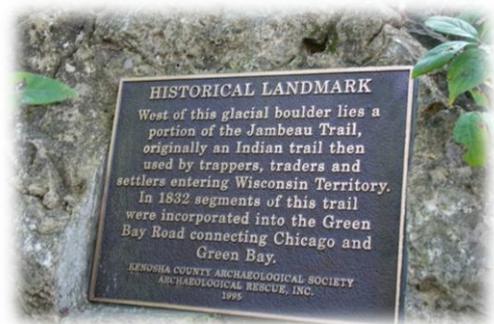
Octagonal Barn located on Green Bay Rd.

²⁹ *The Wisconsin Architecture and History Inventory is not a comprehensive list of all old Wisconsin buildings and structures. The inventory has been assembled over a period of more than 25 years from a wide variety of sources. In many cases, the information is dated. Some properties may be altered or no longer exist. The majority of properties included in this inventory are privately owned and not open to the public. Inclusion in this inventory conveys no special status, rights or benefits to owners of these properties.*

Archaeological Resources

Preservation of archaeological resources is also important in preserving the cultural heritage of the Village. Like historical sites and districts, significant prehistoric and historic archaeological sites provide the Village with a sense of heritage and identity, which can provide for economic opportunities through tourism if properly identified and preserved. Archaeological sites fall under two categories: prehistoric sites and historic sites. Prehistoric sites are defined as those sites which 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).

As of 2006, there were 438 known prehistoric and historic archaeological sites in Kenosha 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. The Barnes Creek, Chesrow, and Lucas Sites as discussed above are prehistoric archaeological sites listed on the National Register of Historic Places in the Village. Other known archaeological sites³⁰ in the Village but not listed on the State or National Register are shown on Map 6.28 and listed in Table 6.20 include the Scott Site, Wispark XXX1 Site, Cabbage Patch Site, the Hasting Site and the Jambeau Trail.



Jambeau Trail glacial boulder in Mommers Woods

Local Historical Societies and Museums

There are two (2) local historical societies affiliated with the State Historical Society of Wisconsin in the County. These include the Kenosha County Historical Society and the Western Kenosha County Historical Society. Both of the historical societies in Kenosha County maintain facilities that contain items of historical or archaeological significance as well as historical records for Kenosha County as well as the Village.

The Kenosha County Historical Society maintains the Southport Lighthouse and the adjacent Kenosha Water Utility Pumping Station, which together form the campus of the Kenosha History Center on Historic Simmons Island in the City of Kenosha. The Kenosha History Center is the headquarters of the Kenosha County Historical Society.

The Western Kenosha County Historical Society maintains two facilities in the unincorporated hamlet of Trevor, including a World War I era army barracks relocated from Fort Sheridan, which today serves as the Society's headquarters, and a 1890s era schoolhouse relocated from the Town of Brighton. Kenosha County operates the Durkee Mansion and Anderson Arts Center, both located on the grounds of the Kemper Center.

The City of Kenosha owns and operates the Kenosha Public Museum, a natural history and fine and decorative arts museum located on HarborPark; and the Dinosaur Museum located in Civic Center. A third facility, the Civil War Museum located in HarborPark opened in 2008.



Civil War Museum

³⁰ These other sites are discussed in the Case Studies in Great Lakes Archaeology Number 2 entitled "Chesrow A Paleoindian Complex in the Southern Lake Michigan Basin" by David Overstreet published in 1993.

**TABLE 6.20
OTHER HISTORIC ARCHEOLOGICAL SITES**

Number on Map 6.28	Site Name	General Information
8	Scott Site ^a	The Scott site is known only from surface collections. Complete projectile points, drills, broken tops and bases of bifaces and at least two (2) bifacial knives, either reworked from former projectile points or simply extensively resharpened were recovered from a discrete concentration. The concentration is coincident with a low knoll or ridge that likely is an old point bar deposited by the Des Plaines River situated a short distance west of the Scott Site.
9	Wispark XXX1 Site ^a	A single Chesrow point was found along with a small collection of lithic debris adjacent to a perched bog. The projectile point and associated debitage all reflect local raw materials and the debitage; however, the wetland setting may have been the attraction for occupation here, but the items found are not sufficient to interpret site function.
10	Cabbage Patch Site ^a	Survey and excavation work at the Cabbage Patch site indicated multiple components, all or which had been mingled in the AP horizon. A single heat-treated Chesrow Point was found on the surface.
11	Hastings Site ^a	The Hasting site was reported by Phil Sander ^b in 1961. During the development of the site Phil Sander recovered a large number of artifacts from a sandy knoll. Among the Archaic and Woodland specimens is a single lanceolate point with small projecting ears and basal thinning. Drills and scraper in the Hasting site collection may have been contemporaneous with the Chesrow point, by Sander's work at this site, which was terminated by earth moving equipment, did not allow for much more than surface collection and a test excavation.
12	Jambeau Trail ^c	Field investigations by Great Lakes Archaeological Research Center Inc. in 2000 revealed additional sections of the Jambeau Trail within the Momper's Woods property. This trail has also been designated by others as the Potawatomi Trail. The 2000 investigation identified that the Trail is bifurcated and another piece of the trail was discovered. In addition these three (3) prehistoric sites and two (2) isolated finds were also recorded.

^a For more detailed information related to the Chesrow and the Lucas sites is found in the book entitled. "Chesrow A Paleoindian Complex in the Southern Lake Michigan Basin" by David Overstreet published in 1993.

^b Phil Sander was a noted conservationist, author, and historian from Kenosha (1906 – 2006).

^c For more detailed information related to the 2000 Investigation related to the Jambeau Trail see "Archeological Studies at the 120 Acre Tract in Pleasant Prairie, Kenosha County Wisconsin, October 2000 Addendum prepared by the Great Lakes Archaeological Research Center, Inc. Reports of Investigations No. 474.

Source: "Chesrow A Paleoindian Complex in the Southern Lake Michigan Basin" by David Overstreet published in 1993, and Archeological Studies at the 120 Acre Tract in Pleasant Prairie, Kenosha County Wisconsin, October 2000 Addendum prepared by the Great Lakes Archaeological Research Center, Inc. Reports of Investigations No. 474.

AGRICULTURAL, NATURAL AND CULTURAL RESOURCES RECOMMENDATIONS

This section sets forth the Village's Agricultural, Natural and Cultural Resources primary goal along with objectives and recommendations, including policies or programs recommended to be taken to achieve the Agricultural, Natural and Cultural Resources primary goal and objectives. This chapter along with the other chapters in the Plan assisted in preparing the Village of Pleasant Prairie 2035 Land Use Plan Map provided in the Land Use Element (Chapter 9).

Goal:

Protect the many natural, historical, archeological and cultural resources in the Village that contribute to the Village's history and its quality of life. Promote a healthy environment, including land and water that promotes the health, safety, and welfare of Village residents. Preserve and enhance Village's natural resources, parks and open space sites. Provide a comprehensive system of parks and open spaces to enhance the quality of the environment and life and to allow residents with adequate opportunities to participate in resource and non-resource-oriented outdoor recreation activities.

The objectives and recommendations are presented under the following categories:

- **Agricultural Resources**
- **Natural Resources**
- **Cultural Resources**

AGRICULTURAL RESOURCES

Objectives:

- Allow agricultural uses to continue within the Village until such time as urban development is proposed in accordance with the Village's 2035 Land Use Plan Map.
- Encourage safe agricultural practices to minimize impact on the natural resources base.
- Encourage soil conservation practices to reduce farmland erosion.
- Encourage wise soil management practices to protect farmland for continued agricultural use.
- Encourage the use of Best Management Practices by farmers.

Recommendations:

- Existing farmlands in planned urban (sewer) service areas are encouraged to remain in agricultural use until such time as the owner wants to develop their land with urban land uses pursuant to the Village's 2035 Land Use Plan Map and public sewer and water services are extended to the properties.
- As appropriate, implement strategies regarding soil sustainability and sedimentation as recommended in *A Land and Water Resource Management Plan for Kenosha County: 2008-2012* and subsequent updates.
- As appropriate, support the Kenosha County Planning and Development Department in its efforts to protect and improve land and water resources and implement recommendations set forth in the County Land and Water Resource Management Plan.
- Support County or State educational programs that distribute educational materials regarding farming techniques that promote soil conservation such as no till and zone tilling farming, contour stripping, grass waterways, terracing, crop rotation, and nutrient management through soil sampling. Information and application assistance for Federal and

State programs to implement farming practices that promote soil conservation should continue to be provided to farmers through the County educational program.

- Encourage Kenosha County to continue to support the land and water conservation educational program that outlines the soil conservation and Best Management Practices resources and grants available through State agencies such as the DATCP and DNR. The Kenosha County Planning and Development Department should continue to act as a liaison between those interested in State agency assistance and State agencies as part of program implementation.
- Continue to serve as a liaison between farmers and County, State, and federal governments to disseminate information and assistance with government soil conservation programs and Best Management Practices.
- Continue to participate in and support the Wisconsin Farmland Preservation Program which provides income tax credits to eligible farmland owners in the Village.
- Support County programs that promote locally grown agricultural products to restaurants and stores within the community.

NATURAL RESOURCES

Objectives and recommendations related to Natural Resources have been further categorized as follows:

- Environmental Corridors, Natural Areas, and Critical Species Habitats
- Surface and Groundwater Resources and Watersheds
- Floodplain, Wetlands, and Severe Structural and Severe Wet Soils
- Lake Michigan
- Nonmetallic Mineral Resources
- Invasive Species
- Environmental Health
- Parks, Outdoor Recreation, and Open Space Preservation

Environmental Corridors, Natural Areas and Critical Species Habitats.

Objectives:

- Encourage the preservation of primary environmental corridors, secondary environmental corridors, and isolated natural resource areas.
- Encourage the preservation of natural areas in Village.
- Encourage the preservation of critical species habitat sites and critical aquatic sites located outside of natural areas in the Village.
- Encourage the preservation of habitat for native plants and wildlife by protecting environmental corridors, isolated natural resource areas, and wetlands and surface waters located outside such corridors and isolated natural areas.
- Encourage the preservation of significant geological areas in the Village.
- Encourage the preservation of the “natural” prairie character and vistas in the Village.
- Encourage the preservation of open spaces and natural resources as part of future development proposals in the Village.
- Encourage the preservation of natural resources outside the environmental corridor network.

- Discourage incompatible land uses in environmental corridors, isolated natural resource areas, natural areas, floodplains, wetlands, and critical species habitat sites.

Recommendations:

- Prior to the development of land for urban purposes all environmental features shall be field verified and approved by appropriate authorities (DNR, SEWRPC, ACOE, FEMA or other governmental units or agency) prior to development. All field delineated environmental features incorporated into the Village's 2035 Land Use Plan Map.
- Continue to protect lowland portions of environmental corridors and other lowland areas, including wetlands, through enforcement of C-1, Lowland Resource Conservancy District regulations set forth in the Village Zoning Ordinance.
- Continue to protect upland portions of environmental corridors and other upland areas through enforcement of C-2, Upland Resource Conservancy District regulations set forth in the Village Zoning Ordinance.
- Continue to protect scientific and natural resources through the enforcement of the C-3, Natural and Scientific Resource Conservancy District regulations set forth in the Village Zoning Ordinance.
- Incorporate field delineated natural resources on the Village's 2035 Land Use Plan Map.
- Consider amendments, where appropriate, to the Village Ordinances that require the permanent protection of primary environmental corridors, secondary environmental corridors, isolated natural resource areas, natural areas, and critical species habitat and aquatic sites outside of natural areas.
- Consider updating the Zoning Ordinance to further protect primary environmental corridors in accordance with the guidelines set forth in Table 2-1a in Appendix 2-1 and consider applying the same guidelines when reviewing development proposals in secondary environmental corridors and isolated natural resource areas.
- Work to implement strategies regarding the preservation and protection of woodlands, environmental corridors, natural areas, and critical species habitat sites
- Encourage the Kenosha County Planning and Development Department to protect and improve land and water resources and implement recommendations set forth in the County Land and Water Resource Management Plan.
- Consider applying grants and other State and federal funding resources to preserve natural resources.
- Continue to work with the Kenosha/Racine Land Trust and other nonprofit conservation organizations to protect environmental corridors, natural areas, and critical species habitat sites through fee simple acquisitions and/or conservation easements.
- Promote land use patterns that are sensitive to natural resource conservation such as Planned Unit Developments (PUD).
- Study the potential establishment of a Village purchase of development rights (PDR) program or Transfer of Development Rights (TDR) programs to protect environmental corridors, natural areas, and critical species habitat sites.
- Encourage Kenosha County Planning and Development Department to develop an educational program and distribute educational materials regarding techniques to protect environmental corridors, natural areas, and critical species habitat sites through fee simple acquisitions and conservation easements.

- Develop a public educational program and distribute materials to the public regarding the natural resources in the Village including area such as the Chiwaukee Prairie and the Des Plaines River.
- Develop a public educational program and distribute educational materials to the public regarding the benefits of natural resources and the need to protect them from degradation.
- Develop a fact sheet outlining the impact of the loss and degradation of the Village’s natural resource base.

Surface and Groundwater Resources and Watersheds

Objectives:

- Encourage integrated water resource management of surface water, groundwater and water dependent natural resources.
- Develop ways to reduce sedimentation, pollution, and eutrophication³¹ of lakes, rivers, and streams.
- Ensure surface water resources, including Lake Michigan, remain a recreational focal point.
- Protect groundwater quality and quantity from the loss of recharge areas, excessive or overly concentrated pumping, inappropriate onsite waste treatment systems, surface water pollution, and careless agricultural practices.
- Encourage the conservation of groundwater and surface water resources for water supply.

Recommendations

- Examine and implement strategies, as appropriate, regarding protection of natural systems, pollution reduction and control, and protection of public safety and public recreation and access recommended in the County Land and Water Resource Management Plan.
- Support the development of land use patterns and water quality control facilities, programs, and operational improvements, including non-point pollution controls and sewage and stormwater management systems, to effectively meet the wastewater disposal and stormwater runoff control needs.
- Encourage recreational use of public surface water resources located in the Village by residents and tourists.
- Encourage eco-tourism in the Village.
- Support the development of land use patterns, water supply infrastructure, including operational improvements, and water consumption methods to effectively meet the water supply needs of the Village.
- Develop a program to identify thermal threats to cold water streams and methods to reduce or eliminate such threats.
- Support and, where applicable, implement sanitary sewer and stormwater management standards recommended in the regional water quality management plan update and subsequent amendments.
- Study the creation and potential participation in a regional water resource authority.

³¹ *Eutrophication is caused by the increase of chemical nutrients, typically compounds containing nitrogen or phosphorus, in an ecosystem. Eutrophication typically occurs when nutrient pollution is released into water bodies and results in enhanced growth of phytoplankton (an algal bloom), which disrupts normal functioning of the ecosystem.*

- Develop a public educational program and distribute educational materials to the public regarding non-point and point source pollution.
- Encourage Kenosha County to continue the newly created pharmaceutical collection program.
- Continue to cooperate with Waste Management/Pheasant Run Landfill to conduct the countywide hazardous household waste collection program.
- Encourage Kenosha County to develop methods to collaborate with the U.S. Environmental Protection Agency (EPA) and the DNR to remove PCB's in 303 (d) listed waters.³² This effort should include a public education component.
- Encourage Kenosha County to develop methods to reduce the amount of winter spread manure on 50 percent of the critical areas in 303 (d) list waters and waters within the Great Lakes Watershed.
- Encourage Kenosha County to target priority farms by identifying sediment delivery fields, and phosphorus runoff sites in 303 (d) list waters³³ areas.
- Ensure Compliance with NR 215 of the *Wisconsin Administrative Code* through plat and zoning reviews, including construction site pollutant control (including plan review and compliance inspections) and post-construction stormwater management (including plan review and compliance inspections).
- Assist SEWRPC and other government agencies with implementation of the Regional Water Quality Management Plan.
- Develop methods to promote water resources to tourists and area residents.
- Continue to support efforts of the Kenosha Area Convention and Visitors Bureau.
- Provide required public access to applicable water resources as required under Chapter 236 of the Wisconsin Statutes as part of the land division review process.
- Continue to monitor public beach water quality.
- Encourage Kenosha County to continue to implement the Sanitary Code and Private Sewage System Ordinance of the Kenosha County Code of Ordinances.
- Encourage the use of conservation subdivision design that provides more open space than a conventional subdivision design.
- Develop methods to inventory existing abandoned wells and ensure that they are properly abandoned.
- Support and, where applicable, implement desirable objectives, principles, and standards recommended by the regional water supply plan.³⁴
- Encourage Kenosha County to continue to implement the Wisconsin Fund to improve failing septic systems that meet program requirements.
- Develop a public educational program and distribute educational materials to the public regarding well water safety information and well monitoring.

³² Section 303 (d) of the Federal Clean Water Act requires the State to develop a list of impaired waters, commonly referred to as the "303 (d) list." A documented methodology is used by the DNR to list waters in Wisconsin.

³³ Designated 303(d) waters in Kenosha Co are located in Fox River, Pike River, and Lake Michigan Direct watersheds.

³⁴ A Water Supply Plan will be completed for the Region in 2009.

Floodplain, Wetlands, and Severe Structural and Severe Wet Soils

Objectives:

- Encourage integrated water resource management of surface water, groundwater, and water dependent natural resources.
- Protect floodplains from incompatible lands uses.
- Protect high quality wetlands from destruction and degradation.
- Encourage urban development to be located on soils suitable for such development.

Recommendations:

- Continue to restrict urban land uses and other incompatible land uses and structures in areas identified as wetlands. Support the filling of low quality wetlands provided all State and federal requirements are met. Continue to support mitigation (creation of new wetlands or enhancement of existing wetlands) requirements of the DNR if wetlands are destroyed as part of a development project in accordance with State and federal requirements.
- Discourage urban land uses in areas identified as severe structural or severe wet soils.
- Upon the receipt of Final Map from FEMA as part of the Map Modernization Program for Kenosha County, amend appropriate Section of the Village Floodplain Zoning Ordinance and Maps to reflect the new maps.
- Continue to prohibit urban land uses within the 100-year floodplain pursuant to the requirements in the Village FPO, Floodplain Overlay District.
- Ensure compliance with NR 116 of the Wisconsin Administrative Code and the Village Floodplain Zoning Ordinance requirements through plat and zoning reviews.
- Continue to require compensatory flood storage areas when floodplain areas are filled.
- Support the development of land use patterns and water quality control facilities, programs, and operational improvements, including non-point pollution controls and sewage and stormwater management systems, to protect wetlands from pollution.
- Study and implement, as appropriate, strategies regarding the protection and restoration of wetlands, stream corridors, floodplain areas, and protection of natural systems recommended in the County Land and Water Resource Management Plan.
- Continue to administer and enforce floodplain and shoreland regulations in the Village Zoning Ordinance.
- Identify stream corridor and floodplain areas to be preserved and/or restored.
- Continue to apply for available Federal and State flood mitigation grant funds.
- Continue to implement recommendations in the Community Assistant Planning Report No. 88 entitled "A Land Use Management Plan for the Chiwaukee Prairie-Carol Beach Area of the Town of Pleasant Prairie, prepared by the SEWRPC in 1985.
- Continue to partner with the NRCS, DNR, U.S. Fish and Wildlife Service (USFWS), and non-profit organizations such as Ducks Unlimited to promote wetland creations, enhancements, and restorations.
- Encourage Kenosha County to continue to implement the CRP, SWRM, TRM, UNPS&SW, and WRP programs as outlined in Appendix 6-1.

- Consider participation in the Potentially Restorable Wetlands (PRW) Planning and Prioritization Program.
- Consider the acquisition of properties with habitable structures in the floodplain or properties in the floodplain without “buildable” areas as funding becomes available.

Lake Michigan

Objectives:

- Encourage integrated water resource management of surface water, groundwater, and water dependent natural resources.
- Protect Lake Michigan’s water quality and shoreline, including Lake Michigan bluffs.

Recommendations:

- Study and implement, as appropriate strategies regarding water resources including protecting and enhancing Lake Michigan water quality as recommended in the County Land and Water Resource Management Plan.
- Restrict urban land uses and other incompatible land uses and structures in bluff areas.
- Encourage eco-tourism.
- Support the Wisconsin Coastal Management Program’s (WCPM) coastal erosion webpage and market it to the public (<http://www.geography.wisc.edu/coastal/viz3d/index.html>).
- Study and implement as appropriate, programs, recommended under the “Surface Water and Groundwater Resources Issue and Recommendations” to protect Lake Michigan water quality.
- Work with the City of Kenosha and Kenosha County to establish boat cleaning stations to limit the spread of invasive aquatic species (see related programs in “Invasive Species Issue and Recommendations” section).
- Encourage the Wisconsin State Legislature to enact ballast water treatment requirements to limit the introduction of invasive aquatic species by ocean-going ships.
- Encourage beach clean-up events with the Kenosha County Public Health Department.
- Continue beach monitoring.
- Work with Kenosha County and other agencies to research and identify the causes of Cladophora algae along the Lake Michigan shoreline.
- Work with private and public groups on programs designed to control and eradicate invasive species associated with Lake Michigan.
- Develop methods to promote Lake Michigan to tourists and the Kenosha Area Convention and Visitors Bureau.
- Promote public access sites and canoe/kayak launches and landings along Lake Michigan.
- Continue to implement recommendations in the Community Assistant Planning Report No. 88 entitled “A Land Use Management Plan for the Chiwaukee Prairie-Carol Beach Area of the Town of Pleasant Prairie, prepared by the SEWRPC in 1985.

Nonmetallic Mineral Resources

Objectives:

- Preserving sources of aggregate for building material relatively close to construction project lessens the overall cost of construction significantly; however such use should be discouraged within lands located within Urban Sewer Service or within environmentally sensitive areas.
- Promote the reclamation of inactive non-metallic mining sites in the Village.

Recommendations:

- Continue to enforce Chapter 270, Quarries and Nonmetallic Mining Operations, of the Village of Pleasant Prairie Code of Ordinances.
- Provide written notice of public meetings and hearings to owners and operators of nonmetallic mining operations and to persons who have registered a marketable nonmetallic mineral deposit under Section 295.20 of the *Wisconsin Statutes* in which the allowable use or intensity of use of a property is proposed to be changed by the Comprehensive plan. Those who would like to be notified of these meeting must request the Village to send notification. (There were no active owners/operators of non-metallic facilities in the Village in 2009).
- Maximize the use of recycled asphalt and other building materials in Village projects to conserve limited nonmetallic resources. Encourage public use of recycled asphalt and other building materials.

Invasive Species

Objectives:

- Promote the protection of the Village's naturally occurring bio-diversity.
- Promote the control and reduction of the spread of invasive species, including both terrestrial and aquatic species.

Recommendations:

- Develop programs to control and reduce the spread of invasive species.
- Study and implement, as appropriate, strategies regarding invasive species as recommended the County Land and Water Resource Management Plan.
- Consider developing a landscaping ordinance that restricts landscaping with invasive plant species on private property.
- Consider developing a public educational program to discourage the use of invasive plant species in landscaping.
- Continue to support the Kenosha County Gypsy Moth Suppression program.
- Work with nonprofit conservation organizations to support implementation of methods to control invasive species, with a focus along major transportation routes and corridors through the Village, such as I-94; the Des Plaines River watershed, Chiwaukee Prairie, Kenosha Sand Dunes, Carol Beach natural areas and Village parks.
- Consider developing public/private landscaping construction and facilities maintenance guidelines to ensure transported soil, fill, and rock do not contain invasive plants or seeds, and use the guidelines for Village projects.

- Encourage Kenosha County to provide for an invasive plant education and outreach program in Kenosha County through a partnership with the UW-Extension, the Invasive Plant Association of Wisconsin, and other partners such as the Southeastern Wisconsin Cooperative Weed Management Area.
- Consider requiring vegetation management plans for land divisions and developments.

Environmental Health

Objectives:

- Reduce the risk of disease, injury, or premature death associated with or caused by hazardous environmental.
- Reduce the human and environmental risks posed by hazardous waste.
- Reduce human health hazards and health nuisances for residents of the Village.
- Provide cost effective ways for Village residents to dispose of unused hazardous waste.
- Increase awareness on the hazards of dioxins and other toxins/carcinogens emitted by open burning.

Recommendations:

- Support State and County programs to identify and reduce public health hazards related to environmental factors.
- Implement programs to reduce the human and environmental risks posed by hazardous waste.
- Investigate methods to collect and safely dispose of unused pharmaceuticals.
- Encourage Kenosha County to continue enforcement of the Kenosha County Environmental Health/Food Ordinance (Chapter 16 of the County Code of Ordinances) in compliance with Chapter 254³⁵ of the *Wisconsin Statutes*.
- Encourage Kenosha County to provide education and assistance to citizens on potential environmental problems that may impact human health, including home health hazards such as mold, lead, and asbestos; indoor and outdoor air quality; solid and hazardous waste; and pest control.
- Encourage Kenosha County the development of a pharmaceutical collection program in the County.
- Encourage Kenosha County to continue to support Kenosha County Health Department's capacity to offer health and environmental safety programs.
- Continue to monitor and test private well water and ponds.
- Continue and expand, as appropriate, monitoring and testing of publicly-owned beaches.
- Promote intergovernmental agreements for evaluation and enforcement of human health hazards.
- Investigate potential human health hazards, and take appropriate follow-up actions.
- Cooperate with DNR in implementing the Wisconsin Mercury Reduction program.

³⁵ Section 254.01 of the Statutes defines a "Human Health Hazard" as "a substance, activity or condition that is known to have the potential to cause acute or chronic illness or death if exposure to the substance, activity or condition is not abated."

- Continue to assist the EPA and DNR to identify and manage sites contaminated by PCBs and Superfund sites.
- Continue to cooperate with Waste Management/Pheasant Run Landfill to conduct the countywide hazardous household waste collection program, and incorporate other recycling efforts and awareness into the program.
- Provide educational materials outlining the hazards of dioxins and other toxins/carcinogens emitted by open burning and consider amendment to ordinances to reduce or eliminate such hazards.
- Encourage continued sulfur monitoring of ground water surrounding the Pleasant Prairie Power Plant.

Parks, Outdoor Recreation, and Open Space Preservation

Objectives:

- Preserve and enhance Village owned open space land and natural resources.
- Encourage the preservation of the “natural” character and vistas in Village.
- Provide a wide range of outdoor recreational opportunities to all citizens of Village.
- Preserve and enhance the system of parks, trails, and open space within the Village.
- Improve access to recreational opportunities.

Recommendations:

- Ensure that adequate areas are identified on the Village’s 2035 Land Use Plan Map to meet the future park and recreational needs for the Village.
- Implement, as funding allows, the recommendations of the *Village of Pleasant Prairie Park and Open Space Plan: 2006-2011*, a component of this Comprehensive Plan and update the Park and Open Space Plan as necessary to ensure consistency with this Plan and to maintain eligibility for DNR Stewardship funding.
- Complete and adopt the *Village of Pleasant Prairie Bicycle and Pedestrian Path Plan* as a component of this Comprehensive Plan.
- Implement, as funding allows, the recommendations of the *Village of Pleasant Prairie Bicycle and Pedestrian Path Plan*.
- Provide an integrated system of public parks, trails, and related open space areas that will provide Village residents with adequate opportunity to participate in a wide range of outdoor recreation activities.
- Preserve high-quality open space lands for protection of the underlying natural resource base and enhancement of the social and economic well being and environmental quality of the Village.
- Provide an interconnecting system of trail-oriented facilities, such as bikeways, hiking trails, in the Village and where possible, to adjacent communities.
- Encourage the protection of high-quality open space lands through public and nonprofit conservation organization fee simple purchase and conservation easements.
- Study the establishment of a dedicated funding source for park and open space acquisition.
- Apply for DNR Stewardship funds, WCMP grants, and other State and federal funding.

- Work to protect significant environmental corridors and natural areas through the Village plat review process.
- Continue the development, enhancement, and management of recreational trail facilities to ensure connectivity of such facilities.
- Provide adequate land for community and neighborhood parks during the plat and development review process.
- Continue to review implementation mechanisms such as impact fees and subdivision dedication requirements for park and open spaces areas during the platting and development review process.
- Support partnerships between the County, other government agencies, and nonprofit conservation organizations in the effort to protect high-quality open space sites through fee simple purchases, conservation easements, and educational efforts.
- Conservancy zoning districts that provide for natural resource protection should be continued to be included in the Village Zoning Ordinance and Zoning Map if the planned land use includes high-quality open space sites such as environmental corridors, natural areas, and critical species habitat sites.

CULTURAL RESOURCES

Objectives:

- Encourage the preservation and enhancement of historic, archeological and cultural resources and character that contribute to Village's heritage.
- Encourage development and redevelopment that is sensitive to the preservation of significant natural, historic, archeological and cultural features, and is compatible with such uses.
- Encourage an attractive and healthful physical and social environment with ample opportunities for high-quality education, cultural activities, and outdoor recreation.
- Preserve historical and cultural resources that attract tourists to the Village.
- Promote cultural resource and heritage related tourism in the Village.
- Preserve historic structures and sites that have been listed on the National and/or State Registers of Historic Places.
- Encourage the preservation of local landmarks.
- Encourage the preservation of historical resources that contribute to the heritage and economy of the Village, but have not yet been recognized or designated by a Federal or State agency.
- Support the efforts of local historical societies to provide a greater understanding of the Village's history and heritage to the public.
- Promote cultural resource and heritage related tourism in the Village.
- Support the efforts of local historical societies to research and display the Village's history and heritage to the public.
- Encourage a wide range of artistic performances, art exhibits, displays, fairs, and educational programs available to the Village.
- Encourage the development and maintenance of cultural venues in the Village and County.

Recommendations:

- Observe Section 66.1111 of the *Wisconsin Statutes*, which requires local governments to consider how a project may affect historic properties and archaeological sites listed on the National or State Registers of Historic Places. In 2009 there were three (3) archaeological sites in the Village listed on the National or State Registers, and there are many sites of significant value that should be considered in the same manner.
- Preserve archaeological sites inventoried in the Chapter or identified through various surveys, studies, and reports prepared for the Village or areas within the Village.
- Encourage land use and development patterns that conserve land where archaeological features are located.
- Review Village Ordinances, and make appropriate changes to ensure they are consistent with archaeological preservation goals. The Village Zoning Ordinance allows for the use of a Planned Unit Development (PUD) that allow flexibility to allow for site and subdivision design that effectively protect archaeological resources, as well as historical and natural resources, by maintaining these sensitive areas in open space. Consider developing an archaeological ordinance.³⁶
- Study the use of methods such as land trust programs for archaeological preservation purposes.
- Study the development and funding of an archaeological preservation easement program to protect archaeological sites.
- Obtain records from the State Division of Historic Preservation regarding all State inventoried archaeological sites and lands that have been surveyed. Consider conducting additional archaeological survey work in areas that have not yet been surveyed. The UW-Milwaukee Archaeological Research Laboratory may be contacted to assist in this effort.
- Preserve and maintain sites owned by the Village that have significant archaeological value.
- Consider developing and distributing educational materials to property owners regarding the archaeological tax exemption available under Section 70.11 of the *Wisconsin Statutes*. This exemption may prompt owners of significant archaeological sites in the Village to nominate the site for the State and National Registers of Historic Places (only sites listed on the State and National Registers are eligible for the exemption).
- Consider developing methods to promote archaeological sites located in Village to tourists as appropriate.
- Encourage the development and maintenance of facilities such as museums and research centers in the County.
- Continue to support to the efforts of the Kenosha Area Convention and Visitors Bureau and the Kenosha County Historical Society.
- Consider a cooperative effort with developing and distributing educational materials to local historical societies and the public regarding agencies, such as the State Historical Society Office of Local History, and funding sources that may support the work and facilities of local historical societies in Kenosha County.
- Support methods to promote museums, cultural venues and events located in Kenosha County to tourists.

³⁶ *The City of La Crosse has adopted an archaeological preservation ordinance that may serve as a model.*

- Support the development, maintenance, and expansion of local historical society facilities.
- Consider cooperative efforts to develop methods to promote museums, cultural venues and events located in the Village and Kenosha County to Village residents and tourists.
- Consider the creation of a non-profit historical society for the Village of Pleasant Prairie.
- Consider and plan for the construction of a Village history center at the Mompers Woods site.
- Consider promoting the installation of historical markers for additional archeological or cultural resources in the Village. For example an Historical Marker for the Jambeau Trail that discusses the ethnic trail of our ancestors.