

CHAPTER 7

Natural, Cultural, and Agricultural Resources

Introduction

The natural, cultural, and agricultural resources of a community combine to form part of the “green infrastructure” of a sustainable community. When combining natural resources, such as floodplains and wetlands, with cultural resources such as community design and historically significant buildings, an interconnected network of sustainable community characteristics can become apparent. In addition to the natural and cultural resources, agricultural resources can also be considered a part of the green infrastructure of a community, provided proper environmental practices are followed. In the City of De Pere, it is unlikely that large-scale agricultural production will be part of the City’s green infrastructure; however, small-scale “urban” agriculture has been experiencing extensive growth in many parts of the upper Midwest as part of the local food movement. Urban agriculture, including small, vacant lot vegetable gardens, aquaculture, and roof-top gardens are all agricultural activities that could become part of the City’s sustainable green infrastructure in the future.

In growing communities like the City of De Pere, planning often focuses on such issues as land use, transportation, and infrastructure. Issues pertaining to natural, cultural, and agricultural resources tend to receive less attention, and sometimes cohesive and consistent goals and policies regarding these features are lacking in a growing community’s plan. However, these resources are critical to the long-term health, vitality, and sustainability of every community. Since these resources also help define a community and strongly affect its quality of life (issues that were raised in the visioning session undertaken for this plan), they must be examined as part of the planning process.

Because of the vital functions performed by the natural, cultural, and agricultural resource features of the City’s green infrastructure, unplanned urban development into these areas is often inappropriate and should be discouraged. The incompatibility of urban development within natural resource areas, for instance, can be evidenced by the widespread, serious, and costly problems that are often encountered when development occurs within these areas. Examples of such problems include failing foundations of pavements and structures, wet basements, excessive operation of sump pumps, excessive clear water infiltration into sanitary sewers, and poor drainage.

Historical Background

De Pere is one of the oldest communities within and has long been an important part of northeastern Wisconsin. Wisconsin’s first permanent European settlement (the St. Francis Xavier mission) was established by Father Claude Allouez in 1671 in what eventually became the City of De Pere. The area continued to be an important trading post for the Indians and fur traders of the region after the settlement was established. By the early to mid-1800s, De Pere emerged as an important manufacturing and lumber

industry center. In 1891, the world's largest paper company, the Shattuck and Babcock Company, was established in De Pere. Two of its owners went on to found the Kimberly-Clark Corporation. Brown County's first college, St. Norbert College, was established in De Pere shortly after it was founded as a seminary in 1898.

Although De Pere has long been an important urban center for Brown County and northeastern Wisconsin, agricultural uses account for 11 percent of the City's 2009 land uses as compared to 14 percent in 2003. Due to the proximity of existing and new development to these agricultural lands, conflicts may occur. This comprehensive plan acknowledges that fact and will attempt to minimize and, where possible, resolve such conflicts. In that regard, the City will need to determine which types of agricultural uses are still appropriate as the community develops over the next 20 years and how to ensure the orderly conversion of farmland into other uses as development continues.

The City of De Pere also contains unique natural resources, such as the Fox River, as well as a number of registered historic buildings and districts. Such resources contribute to the community's identity, add to its quality of life, and provide numerous educational, recreational, and social opportunities for City residents and visitors alike.

Today, the City of De Pere can be described as a steadily growing community that provides a full range of services and faces challenges similar to other communities such as how to properly balance economic development, environmental sustainability, and cultural opportunities. This chapter, and plan in general, intend to assist in creating a vision for a balance among these three sometimes competing goals to continue toward the goal of creating a growing, sustainable City of De Pere.

Inventory and Analysis

This section of the City of De Pere Comprehensive Plan identifies the natural, cultural, and agricultural resources present within the City, notes current and future issues associated with each resource, and proposes actions and programs that the City should undertake to address those issues.

Productive Agricultural Lands



Even though both the amount of agricultural land and the number of farms within the state and the county continue to decrease, agriculture is still a vital segment of both Wisconsin's and Brown County's economies. Examples of this continuing importance include:

- Agricultural land still remains the state's and the county's largest land use category.
- Agriculture is Wisconsin's largest industry, employs 20 percent of the state's labor force, and uses nearly half of the land within the state.
- The most prevalent agricultural use in the state and county is dairy farming.
- Wisconsin ranked first in the nation in cheese production, dry whey products, mink pelts, corn for silage, cranberries, cabbage for kraut, and snap beans for processing.
- Brown County has had the greatest 5-year increase in milk production of any county in the state.
- Brown County has the highest concentration of milk cows per square mile of any Wisconsin county.
- Brown County ranks third in the state in terms of average amount of milk per cow and sixth in the state in overall milk production.

As stated in the 1974 Soil Survey of Brown County, most of the soils in Brown County are well suited to farming. According to the year 2000 Brown County Land Use Inventory, most of Brown County's agricultural lands are located within the Towns of Eaton, Glenmore, Holland, Humboldt, Morrison, New Denmark, Pittsfield, and Wrightstown. The Brown County Farmland Preservation Plan identified the best of these soils as top prime agricultural soils. The majority of these soils are located within the Towns of Green Bay, Holland, Scott, and Wrightstown. Slightly less valuable soils were identified as prime agricultural soils and essentially encompassed all but the low-lying and already developed portions of the County.

Both the Brown County Farmland Preservation Plan and the 2004 Brown County Comprehensive Plan recommend that the County's agricultural lands be preserved and protected.

More specifically for the City of De Pere and based upon previous land use inventories, while the amount of agricultural land within the City increased (from 1,060 acres in 1970 to 1,196 acres in 1980 and 1,447 acres in 1990), the amount of the community classified as agricultural remained fairly steady at about 25 percent. However, by 2003, the City's proportional share of agricultural land uses had dropped to about 14 percent, and the amount of agricultural lands within the City dropped to 1,061 acres. The trend has continued through 2009 with a total of 917 acres of agricultural lands accounting for 11.63 percent of the total land uses in the City. This is a rather significant drop in agricultural lands within the City over the past six years, likely due to development of the Trailside Estates Subdivision, Trailside South Subdivision, Altmayer Elementary School on the southeast side of the City, and continued conversion of formerly agricultural lands to industrial uses on the southwest side of the City. Areas within the City currently identified as agricultural lands are identified on Figure 7-1.

Based upon the 1974 Soil Survey of Brown County, most of the City of De Pere is comprised of prime farmland soils. However, the majority of these soils have long been developed, and the remainder is planned for development. The *Brown County Farmland Preservation Plan*, prepared by the Brown County Planning Commission in 1992, also defined much of the City as prime agricultural soils. However, the plan recognized that the entire City is located within a sewer service area as set forth in the Brown County Sewage Plan. As such, the Farmland Preservation Plan recognized that all lands within the City would be developed and, therefore, identified the agricultural lands within the City as transition areas (lands currently in farm use but are expected or planned to be converted to non-farm uses within the next 20 years).

It is recommended that those farmlands comprised of larger or numerous contiguous parcels continue to be farmed as unobtrusively as possible until such time as infrastructure can be extended in a cost-effective manner and development can be accommodated in a compact and efficient manner. Low impact, conservation-oriented farming practices within and adjacent to the City should be encouraged to help ensure a minimum of conflicts between the farm operations and adjacent urban development. It is also recommended that the City focus its development efforts upon those farmlands that are immediately adjacent to current development and infrastructure. Consistent with this recommendation and due to the inherent conflicts among urbanizing areas and large-scale livestock facilities, new large scale livestock facilities should not be located in future growth areas of the City of De Pere.

In addition to large-scale agricultural production, small-scale, urban agricultural production is experiencing a renaissance as part of the local food movement. Many communities throughout the upper Midwest have converted long-vacant lots into small food plots for neighborhood gardens. Other communities have allowed limited numbers of poultry for fresh eggs and meat. As residents become more aware of the benefits of locally produced food, there may be interest in reviewing the City's zoning code to consider allowing some limited small-scale, urban agricultural production within the

City limits. The City of De Pere should review its zoning code to determine where and when urban agricultural production should be considered.

Surface Water

Lakes, rivers, and streams offer enjoyment, peace, and solitude. These surface waters provide such opportunities to anglers, boaters, hunters, water skiers, swimmers, sailors, and casual observers alike. They also drain the land after heavy rains, provide habitat for countless plants, fish, and animals, are a source of drinking water for many communities, and are a source of process water for industry and agriculture. Lands immediately adjacent to such waters have an abundance of cultural and archeological significance because they were often the location of Native American and early European settlements. For all these reasons and more, surface waters are typically the most important natural resource a community can possess.

Because of this importance, numerous federal, state, and local laws and regulations have been created to protect surface waters. They range from the commerce clause of the United States Constitution to local floodland zoning regulations. The most heavily regulated waters are those that are classified as natural and navigable.



As shown on Figure 7-2, the City of De Pere contains significant surface water resources, the largest and most important of which is the Fox River. Other important surface water resources within the City include the East River and Ashwaubenon Creek. Remnant portions of smaller unnamed streams tributary to the Fox River, East River, and Ashwaubenon Creek are also located within the City. The only named natural pond within the City is Abbey Pond, which is located on Broadway just south of the City's boundary with Allouez. The 2009 land use inventory of the City of De Pere indicates that 484 acres, or 6.14 percent of the total area of the City, is considered to be water features. The overwhelming majority of the water area in the City of De Pere is the surface area of the Fox River.

The Fox River is the largest and most important river in northeastern Wisconsin. It is a navigable river that flows northward 155 miles from its headwaters in southern Green Lake County in east-central Wisconsin to the Bay of Green Bay. Its basin drains over 2,700 square miles of east-central and northeastern Wisconsin. In Brown County, it extends 19 miles from the Village of Wrightstown to its downstream end at the Bay of Green Bay and drains about 311 square miles or almost half of the county. Within De Pere, it extends four miles through the center of the City, is typically 800 feet wide, but reaches 2,700 feet wide just north of the Claude Allouez Bridge in downtown De Pere. The Fox River and its tributaries (including the East River and Ashwaubenon Creek) drain all of the land within and adjacent to the City.

The Fox River is historically significant because for centuries Native Americans occupied the banks of the river and used it as a source of food and drinking water, as well as for recreation, transportation, and crop irrigation. The Fox River also served as the route into the interior of the state for European explorers and was the location of many early European settlements. As such, many historical, cultural, and archeological sites are located adjacent to it. In addition, many of Wisconsin's oldest communities, including the City of De Pere, are located along its banks.

By the 1940s, however, pollution in the river had increased to the point that its fisheries were severely damaged and its scenic and recreational value was lost. With passage and implementation of the Clean Water Act in the early 1970s, the Fox River's water quality began to improve, which in turn has resulted in recovering fish populations and increased recreational use. Walleye fishing tournaments are now hosted on the Fox River and the Bay of Green Bay. However, due to over 50 years of urban development and its associated water quality impacts, fish consumption advisories still exist on the Fox River.

The Fox River's water is hard and very turbid. The river bottom is comprised mostly of sand and silt. The river itself is classified as a Warm Water Sport Fishery. The Fox River continues to be exposed to many adverse environmental impacts, including excessive sedimentation, nutrient enrichment, and turbidity, due to nonpoint source pollution, urban stormwater runoff, storm sewer discharges, and impoundment of the river. Polychlorinated Biphenyl (PCB) accumulation and fish consumption advisories due to past industrial point source discharges are also present. For these reasons, the Fox River has been identified by the Wisconsin Department of Natural Resources as an Impaired Water, which means that it does not meet federal and state water quality standards. Reduction of these impacts would improve the overall health and appearance of the Fox River.

The Fox River, including the portion within the City of De Pere is currently undergoing remediation efforts for PCBs through a combination of hydraulic dredging and armored capping. It is expected through removal of PCB "hot spots", armored capping, and natural attenuation that PCB levels will decrease over time to a level where it will once again be safe for fish consumption.

The East River is a major tributary of the Fox River. It is a navigable river that flows northward 39 miles from its headwaters in northern Calumet County to one mile upstream of the Green Bay/Fox River mouth, and it is east of and generally parallel to

the Fox River. In Brown County, it extends about 33 miles from the Brown County/Calumet County border east of STH 32/57 to its downstream end at the Fox River one mile south of the Bay of Green Bay, and it drains about 148 square miles of Brown County. Within De Pere, it extends nearly two miles along portions of the far east side of the City. The East River drains a portion of the land within the eastern half of the City.

The East River is a sluggish, hard water, and very turbid stream. The northernmost third of the river, which includes the City of De Pere's portion, is classified as a Warm Water Sport Fishery. Many of its banks have been pastured and are badly eroded. Sediments have blanketed the streambed (filling in pools and riffles), thereby degrading habitat for fish species and associated fauna. The East River continues to be exposed to many adverse environmental impacts, including sedimentation, excessive nutrient inputs, low levels of dissolved oxygen for a Warm Water Sport Fishery, loss of in-stream habitat, excessive suspended solids leading to turbidity, and fish kills due to nonpoint source pollution, cropland erosion, and barnyard runoff. For these reasons, the East River has also been identified as an Impaired Water.

Ashwaubenon Creek is another tributary of the Fox River and is part of the Apple, Ashwaubenon, and Dutchman Creek Watershed. It is a navigable river that flows northeastward 15 miles from the confluence of the north and south branches of Ashwaubenon Creek in the southwestern portion of the Town of Lawrence to its confluence with the Fox River just north of the City of De Pere in the Village of Ashwaubenon.

Ashwaubenon Creek is a sluggish, hard water, and turbid stream. The northernmost half of the creek, including the City of De Pere's portion, is classified as a Warm Water Sport Fishery. Bottom materials consist mostly of rubble, gravel, and silt. Ashwaubenon Creek continues to be exposed to many adverse environmental impacts, including stream flow fluctuations caused by unnatural conditions; sedimentation; nutrient enrichment; lack of cover, sedimentation, and scouring affecting habitat; low levels of dissolved oxygen; and extreme fluctuations of temperature due to nonpoint source pollution, stream bank pasturing, barnyard runoff, construction site erosion, cropland erosion, urban stormwater runoff, and pathogens.

The other streams within De Pere have not been studied. However, it can be inferred that many of the same environmental impacts that occur to the Fox and East Rivers and Ashwaubenon Creek occur to these other streams, as well.

Due to their overwhelming importance to the quality of life, identity, and character of the City of De Pere, the protection and preservation of the City's surface waters should be its highest natural resources priority. In addition to the general floodplain, shoreland, conservancy, park, parkway, and historic preservation recommendations that follow, the City should also incorporate the conservation by design, pedestrian-oriented transportation, architectural design standards, and landscaping recommendations set forth in this and other chapters of the comprehensive plan. One action that the City could start at minimal cost is to work with local conservation or school groups to stabilize the shorelines along the East River and Ashwaubenon Creek by planting native grasses and plants in order to reduce shoreline erosion. As the portions of the Fox River

within the City are essentially fully developed, it is assumed that such opportunities along this river would be unlikely. However, opportunities may arise and should be considered during redevelopment of lands adjacent to the river.

Efforts to showcase the Fox River as the central natural resource attraction of the community should continue and should address many of the objectives of this plan and many of the important issues raised by the public during the visioning process.

Floodplains

Floodplains are natural extensions of surface waters. They store floodwaters, reduce flood peaks and velocities, and reduce sedimentation. They also provide wildlife habitat and serve to filter out pollution from water.

Like surface waters, the importance of floodplains is also recognized and is regulated by federal, state, and local governments. The State of Wisconsin mandates floodplain zoning for all communities under Wisconsin Administrative Code NR 116. These minimum standards must be implemented in order to meet eligibility requirements for federal flood insurance programs.

For regulatory, insurance, and planning purposes, the 100-year recurrence interval flood hazard area (also referred to as the regional flood) is most often used. This is the land that has a 1 percent chance of being flooded in any given year. Although all rivers and streams possess floodplains, the only mapped floodplains within the City are those associated with the Fox River, East River, and Ashwaubenon Creek. In 2009, the Federal Emergency Management Agency (FEMA) completed new, more detailed Flood Insurance Rate Maps for Brown County, including the City of De Pere. While it appears that the floodplains associated with the Fox River and Ashwaubenon Creek are contained within their channels and do not extend far from the stream's banks, the floodplain mapped by FEMA for the East River extends hundreds of feet beyond the banks of the river.

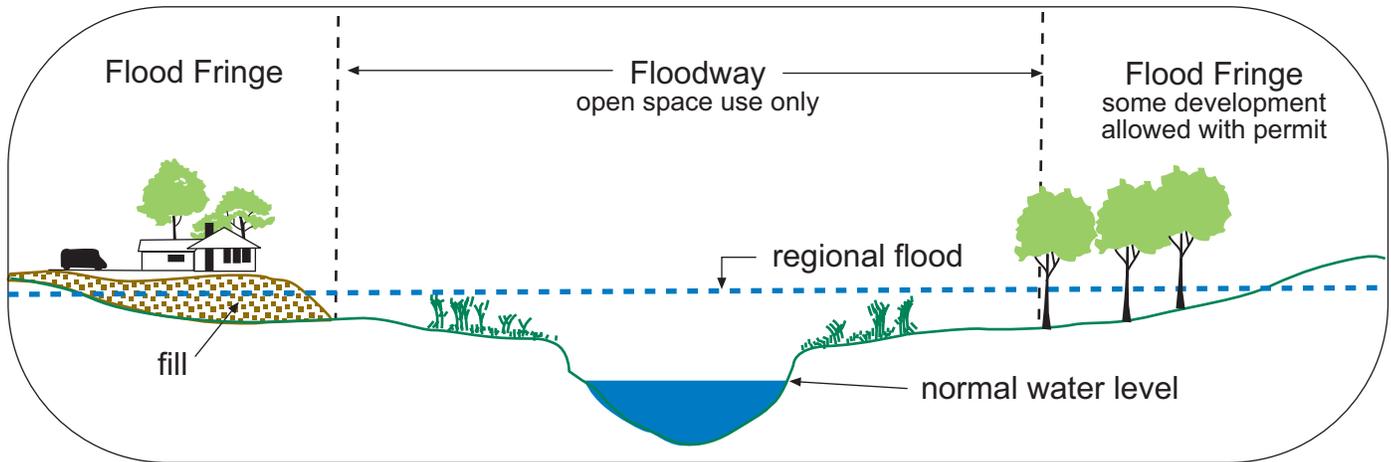
Figure 7-3 presents a diagram of a floodplain and identifies its constituent parts, including both the floodway and flood fringe.

The following are several threats to floodplains and the resource values that they represent:

- *Filling*, which might diminish the flood storage capacity of the floodplain. This could have the effect of increasing the elevation or velocity of floodwaters to the detriment of upstream or downstream properties.
- *Grading*, which can degrade the resource functions of floodplains, such as filtering pollutants or providing habitat.
- *Impediments*, which include the encroachment of buildings or the construction of undersized culverts and bridge openings in the floodplain, can adversely affect the size and proper functioning of the floodplain, and can pose potential hazards to adjacent residents and passersby.

Figure 7-3

Floodlands and Floodplain Zoning



Definitions

Floodplain - That land which has been or may be covered by floodwater during the regional flood. The floodplain includes the floodway and flood fringe areas.

Floodway - The channel of a river or stream and those portions of the floodplain adjoining the channel required to carry the regional flood discharge. The floodway is the most dangerous of the floodplain. It is associated with moving water.

Flood Fringe - The portion of the floodplain outside of the floodway, which is covered by floodwater during the regional flood. It is associated with standing water rather than flowing water.

Regional Flood - That area where large floods are known to have occurred in Wisconsin, or which may be expected to occur, at a frequency of one percent during any given year. Also referred to as the 100-year floodplain or 100-year recurrence interval flood hazard area.

Source: Wisconsin Department of Natural Resources

- *Impervious surfaces*, which can increase the velocity of the flood flows, increase the amount of pollutants, reduce the amount of natural wildlife habitat, and limit the amount of infiltration of stormwater runoff into the ground.

The City's 100-year floodplains are shown in Figure 7-4.

Any filling, grading, or land disturbing activity within a designated floodway or floodplain may require action by the WDNR, FEMA, Brown County Planning and Land Services Department, and/or City of De Pere. Therefore, prior to any development activities, including street construction or reconstruction, these agencies should be contacted to identify any potential limitations on said activities.

Shorelands and Stream Corridors

Shorelands are the areas of interface between land and water. In its natural condition, these shorelands are comprised of thick and diverse vegetation that protect lakes, rivers, and streams. If these areas are developed, this vegetation is lost, and fish, wildlife, and water quality is damaged.

Shoreland zoning is primarily intended to control the intensity of development near and to create a buffer around lakes, rivers, and streams. The buffer is intended to remain an undeveloped strip of land that protects the water from the physical, chemical, hydrological, and visual impacts of nearby development. The Brown County Zoning Department (with oversight provided by the Wisconsin Department of Natural Resources) is the agency within unincorporated communities that typically enforces these standards, while the building inspector in the City of De Pere administers the provisions of Brown County's shoreland ordinance within the annexed areas of the City.

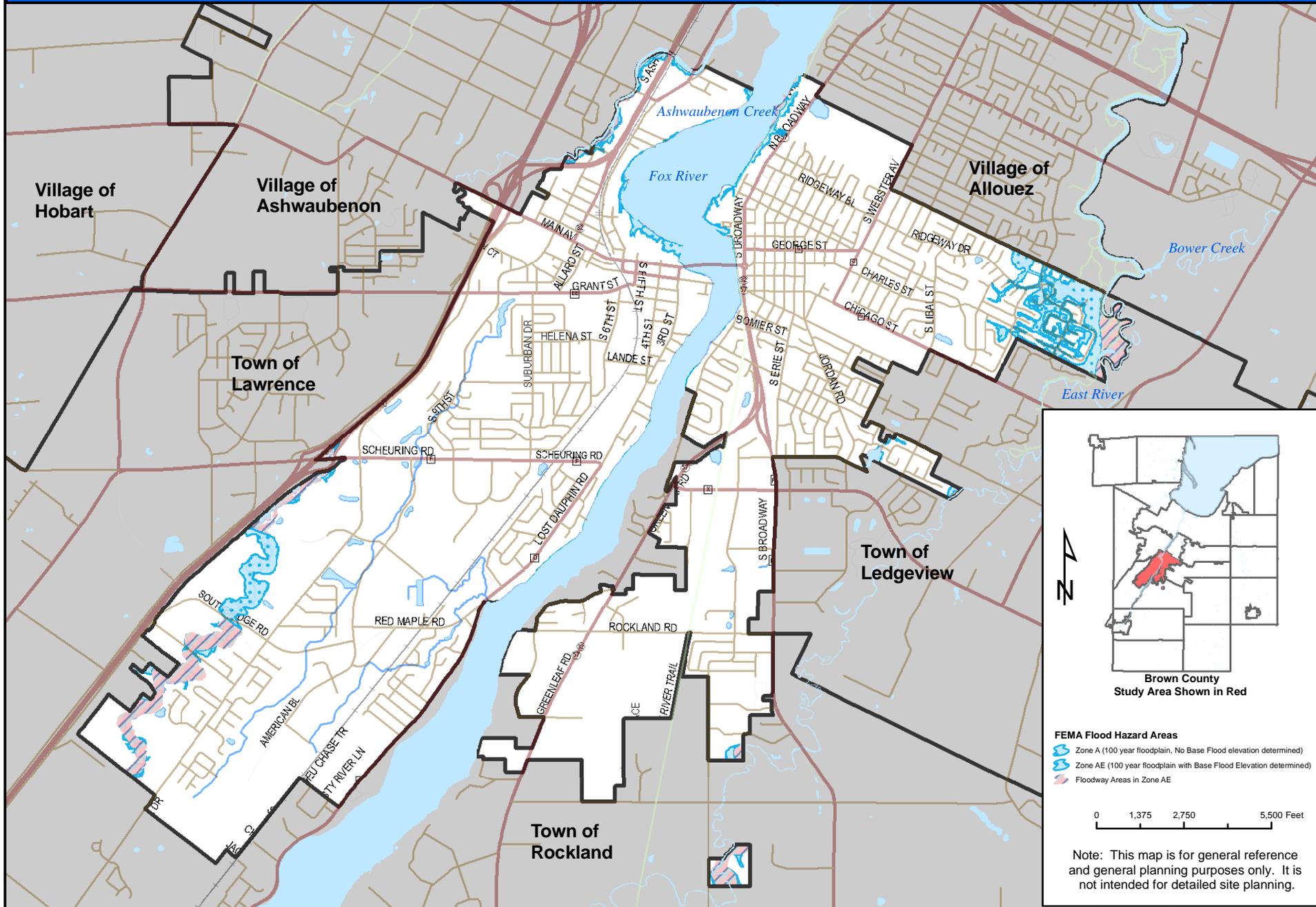
Like floodplains, the importance of shorelands is recognized by state and local governments. Wisconsin mandates shoreland zoning within 300 feet of navigable rivers and streams and within 1,000 feet of all lakes, ponds, or flowages for all unincorporated communities and areas within cities and villages annexed after May 7, 1982 as required by Wisconsin Administrative Code NR 115. Figure 7-5 presents a diagram of the current state-mandated minimum shoreland zoning requirements.

It can be reasonably expected that N.R. 115 will be undergoing a major revision within the next year. The proposed rules focus on limiting the amount of impervious surface within the shoreland zone. Impervious surfaces on a parcel proposed to exceed 15 percent to a maximum of 30 percent would require the implementation of mitigation measures to reduce the potential impact of stormwater runoff on the water body. Property owners desiring to increase impervious surfaces beyond 30 percent would need to obtain a variance to the code. The City of De Pere will need to monitor the progress of the revisions as it will mean significant changes in administration and enforcement of the program.



City of De Pere

Figure 7-4 100-Year FEMA Floodplains City of De Pere, Brown County, WI



**Brown County
Study Area Shown in Red**

FEMA Flood Hazard Areas

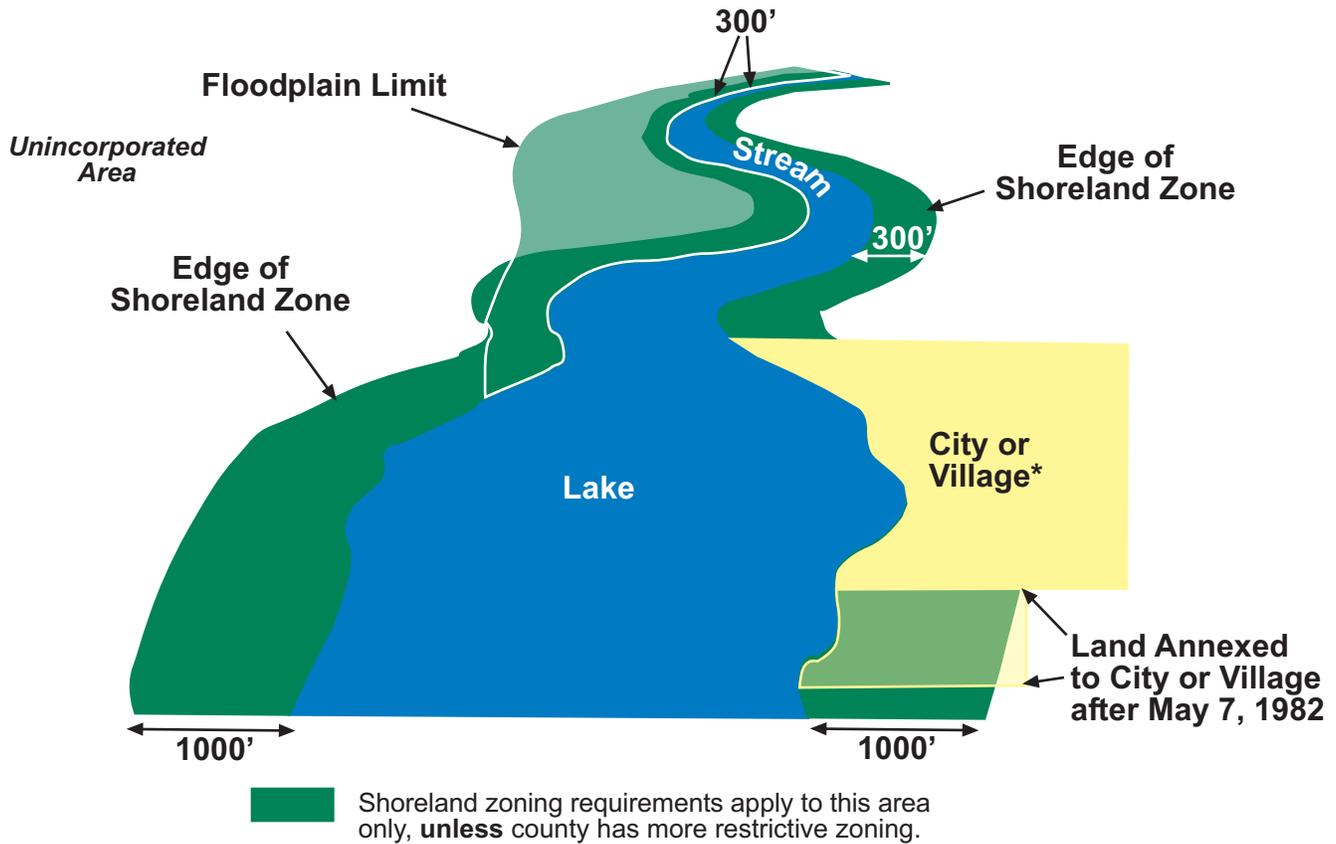
- Zone A (100 year floodplain, No Base Flood elevation determined)
- Zone AE (100 year floodplain with Base Flood Elevation determined)
- Floodway Areas in Zone AE

0 1,375 2,750 5,500 Feet

Note: This map is for general reference and general planning purposes only. It is not intended for detailed site planning.

Figure 7-5

Shorelands and Shoreland Zoning



*Cities and villages are required to zone wetlands within the shoreland.

Definitions

Shoreland Zone - The shoreland zone is located within 1,000 feet of the ordinary high water mark (OHWM) of a "navigable" lake, pond, or flowage or within 300 feet of the OHWM of a "navigable" stream or river or to the landward side of the floodplain, whichever distance is greater.

Ordinary High Water Mark - The ordinary high water mark is the boundary between upland and lake or riverbed. It is the point on the bank or shore up to which the presence and action of the water is so continuous as to leave a distinct mark either by erosion, destruction of terrestrial vegetation, or other easily recognized characteristics.

Navigable - Generally, a waterway is navigable if it has a bed and banks and can float a canoe at some time each year - even if only during spring floods. Even small intermittent streams that are seasonally dry may meet the test of navigability. Navigable lakes and streams are public waterways protected by law for all citizens.

Unincorporated Areas - Lands lying outside of incorporated cities or villages.

Source: Wisconsin Department of Natural Resources

Wetlands

Wetlands are characterized by water at or near the surface of the ground, by soils exhibiting physical or chemical characteristics of water logging, or by the presence of wetland-adapted vegetation. Wetlands are significant natural resources that have several important functions. They enhance water quality by absorbing excess nutrients within the roots, stems, and leaves of its plants and by slowing the flow of water to let suspended pollutants settle out. Wetlands help regulate stormwater runoff, which minimizes floods and periods of low flow. They also provide essential habitat for many types of wildlife and offer recreational, educational, and aesthetic opportunities to the community.

Pursuant to federal and state regulations, all communities are required to protect wetlands. In Wisconsin's Administrative Code NR 117, all cities, villages, and towns, including the City of De Pere, are required to protect through shoreland-wetland zoning all unfilled wetlands that are within their community's shoreland areas (which are five acres or larger) that are shown on the Wisconsin Wetlands Inventory Map. The City of De Pere has an ordinance which regulates all shoreland wetlands that are two acres or larger in size.

The Wisconsin Wetlands Inventory Map identifies a few scattered wetlands within the City of De Pere. The majority of these scattered wetlands are located along the East River, the Fox River, and Ashwaubenon Creek and is shown on Figure 7-6.

The primary threat to wetlands is filling. Although an array of federal, state, and local regulations help protect wetlands, wetlands (especially smaller ones) are still lost to road construction and other development activities. The draining of wetlands could also occur through tiling and rerouting of surface water. Some agricultural areas are actually former wetlands that would revert back to wetlands if left undisturbed.

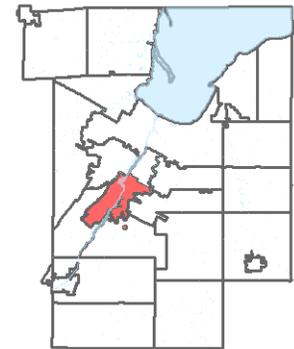
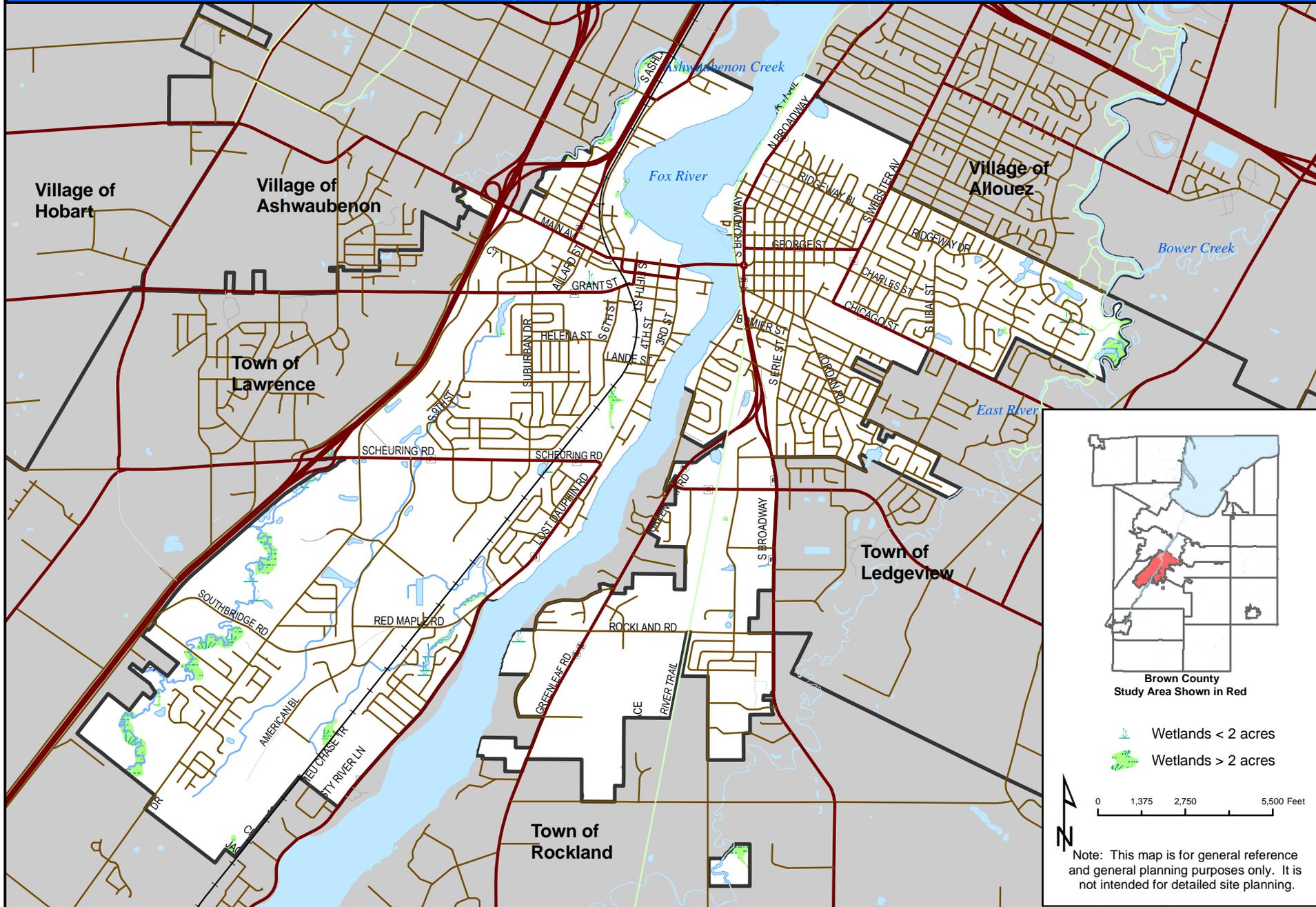
Even if wetlands are not directly filled, drained, or developed, they still could be impacted by adjacent uses. Sedimentation from erosion or pollutants entering via stormwater runoff could destroy a wetland. Under these conditions, previously healthy and diverse wetlands could be reduced to degraded "muck holes" where only the hardiest plants like cattails could survive. Invasive plant species, such as purple loosestrife, could also negatively affect wetlands. The City should consider working with the WDNR and local service groups to remove invasive species of plants from the City's wetland, shoreland, and floodplain areas.

Environmentally Sensitive Areas

Environmentally sensitive areas (ESAs) are defined by the Brown County Planning Commission as portions of the landscape consisting of valuable natural resource features that should be protected from intensive development. They include all lakes, rivers, streams, wetlands, floodways, and other locally designated significant and unique natural resource features. ESAs also include a setback or buffer from these features. In addition, they include areas of steep slopes (slopes 12 percent or greater) when located within or adjacent to any of the features previously noted (see Figure 7-7). Research and

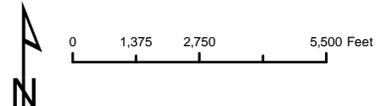


Figure 7-6
WDR Wetlands
 City of De Pere, Brown County, WI



Brown County
 Study Area Shown in Red

-  Wetlands < 2 acres
-  Wetlands > 2 acres

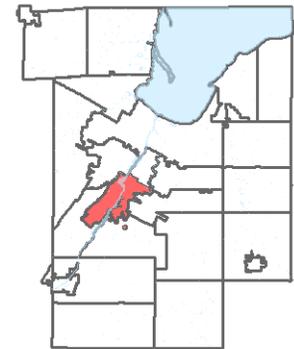
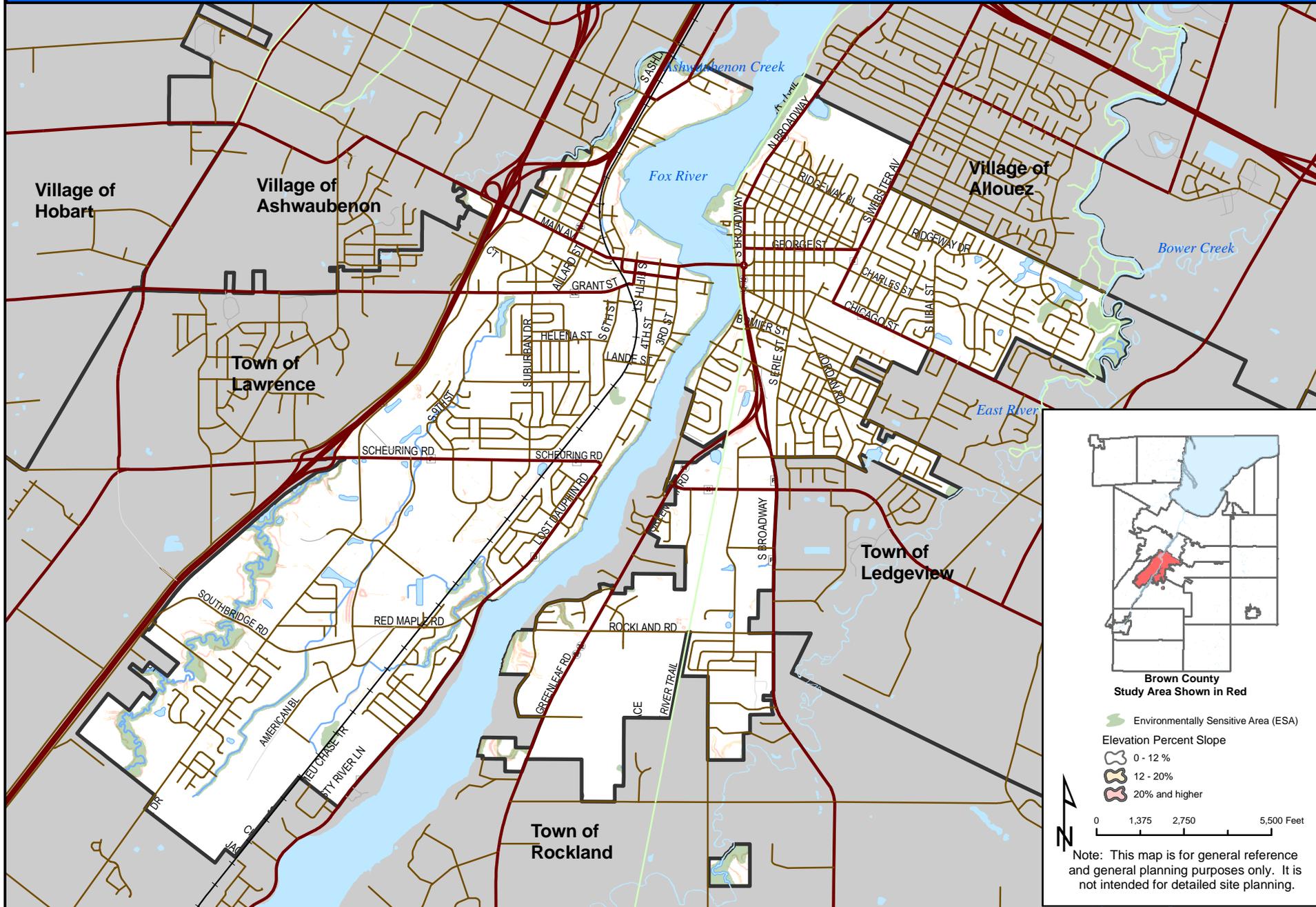


Note: This map is for general reference and general planning purposes only. It is not intended for detailed site planning.



City of De Pere

Figure 7-7 Environmentally Sensitive Areas City of De Pere, Brown County, WI



**Brown County
Study Area Shown in Red**

- Environmentally Sensitive Area (ESA)
- Elevation Percent Slope**
- 0 - 12 %
- 12 - 20%
- 20% and higher



0 1,375 2,750 5,500 Feet

Note: This map is for general reference and general planning purposes only. It is not intended for detailed site planning.

experience from throughout Wisconsin indicate that the potential exists for significant adverse water quality impacts if these areas are developed.

Identification and protection of ESAs are required by both state and county regulations under Wisconsin Administrative Code NR 121 and the Brown County Sewage Plan. The Wisconsin Department of Natural Resources and the Brown County Planning Commission enforce them during the review and approval of all public sanitary sewer extensions. The Brown County Planning Commission also enforces them during its review and approval of land subdivisions, which in the City of De Pere is only advisory. The intent of the ESAs is to protect water-related natural resource features from the adverse impacts often associated with development. However, due to the specifics of the Wisconsin Administrative Code that pertain to these ESAs, these rules and regulations apply only to sewered development and related activities. Development utilizing private onsite sewage disposal systems is not subject to these regulations.

In general, sewered development and associated filling, excavation, grading, and clearing are prohibited within ESAs. However, certain non-intensive uses, such as public utilities and public recreation, are often allowed within these areas. In conjunction with proper erosion control and stormwater management practices both during and subsequent to development within and adjacent to these areas, protection of the ESAs could provide numerous benefits, including:

- Recharge of groundwater.
- Maintenance of surface water and groundwater quality.
- Attenuation of flood flows and stages.
- Maintenance of base flows of streams and watercourses.
- Reduction of soil erosion.
- Abatement of air pollution.
- Abatement of noise pollution.
- Favorable modification of microclimates.
- Facilitation of the movement of wildlife and provision of game and non-game wildlife habitat.
- Facilitation of the dispersal of plant seeds.
- Protection of plant and animal diversity.
- Protection of rare, threatened, and endangered species.

Threats to ESAs are similar to those of floodplains and shorelands. In addition, the quality and effectiveness of ESAs could be severely reduced should adjacent development change drainage patterns or remove native vegetation from the lands within or immediately adjacent to the ESAs. Such disturbances can also introduce invasive plant species to the ESAs, which can result in loss of native vegetation, diversity, and habitat.

The environmentally sensitive area map can provide a base level of information related to the City of De Pere's green infrastructure network. By combining these natural resource layers with other cultural resources (such as historical districts, parks, scenic views, museums, and institutions of higher education) and potential urban agriculture areas, the City could begin compiling its own green infrastructure map.

It is recommended that the City of De Pere work proactively with the Brown County Planning Commission to identify and educate the City's residents about the importance of ESAs and begin developing a green infrastructure map

Groundwater

As shown in Figure 7-8, groundwater begins as precipitation. This precipitation (rain or snow) falls upon the land and some runs off into lakes, rivers, streams, or wetlands. Some evaporates back into the atmosphere, and plants absorb some. Groundwater is that precipitation that soaks into the ground past plant roots and down into the subsurface soil and rock. A layer of soil or rock that is capable of storing groundwater and yielding it to wells is called an aquifer. There can be a number of aquifers within an area, one above another. The top of the aquifer closest to the ground's surface is called the water table. It is the area below which all the openings between soil and rock particles are saturated with water.

Like surface water, groundwater moves from high areas to low areas. It discharges at those places where the water table intersects the land's surface, such as in lakes, streams, and wetlands.

Groundwater is the source of the City of De Pere's drinking water. It originates as precipitation that soaks into the ground south of the City, generally outside of Brown County in Calumet and Outagamie Counties. Groundwater is also used by local agriculture and industry and provides a base surface water flow to the streams and rivers within and adjacent to the City.

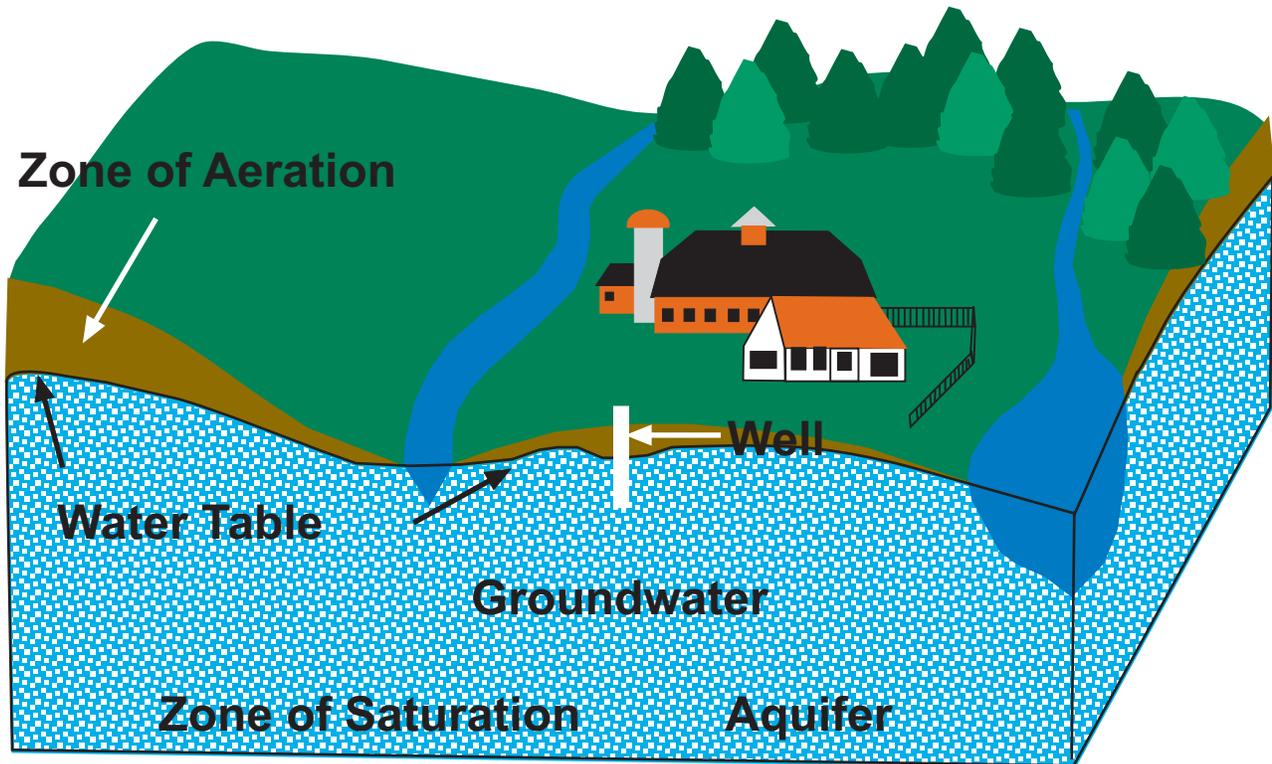
Although many communities around the state utilize groundwater to provide water for human consumption (potable water), the City of De Pere receives its potable water from Lake Michigan via an agreement with the City of Manitowoc and Central Brown County Water Authority.

Woodlands

According to the 2003 land use update, woodlands encompass 251 acres, or about 3 percent, of the City of De Pere. However, the majority of forested land in De Pere is associated with its streams, particularly Ashwaubenon Creek. As such, it is probable that many of these woodlands are actually wooded wetlands. The City's woodlands are shown in Figure 7-9.

The woodlands that remain in De Pere are typically less ecologically diverse and more disturbed than the woodlands that existed prior to settlement of the City. Although present to a limited extent within the City, valuable urban forests can and do occur and should continue to be encouraged. An urban forest includes tree-lined streets and trees

Figure 7-8
Groundwater



Definitions

Groundwater - The water below the water table contained in void spaces (pore spaces between rock and soil particles or bedrock fractures).

Water Table - The water surface in an unconfined aquifer; the level below which the pore spaces in the soil or rock are saturated with water; the upper surface of the zone of saturation.

Aquifer - A saturated geologic formation (rock or sediment) capable of storing, transmitting, and yielding reasonable amounts of groundwater to wells and springs.

Zone of Saturation - The zone in which the pore spaces between soil and rock particles are completely filled with water. The water table is the top of the zone of saturation.

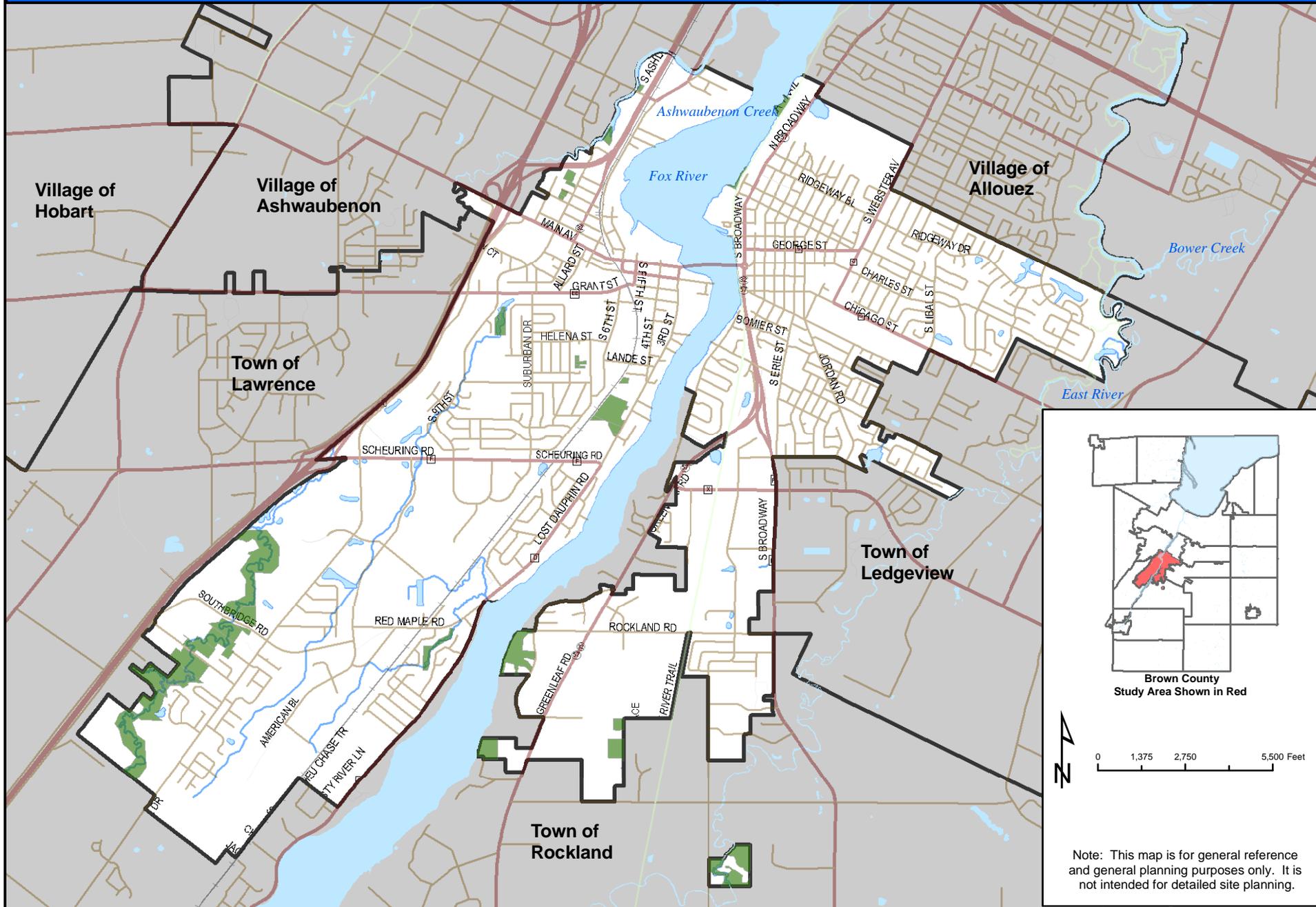
Zone of Aeration - The zone between the land surface and the water table in which the pore spaces between soil and rock particles contain water, air, and/or other gases.

Source: Portage County Groundwater Citizens Advisory Committee



City of De Pere

Figure 7-9 Woodlands City of De Pere, Brown County, WI



**Brown County
Study Area Shown in Red**

0 1,375 2,750 5,500 Feet

Note: This map is for general reference and general planning purposes only. It is not intended for detailed site planning.

in home landscapes, schoolyards, parks, stream banks, cemeteries, etc. The shrubs, flowers, and grasses often associated with these woods are also a part of the urban forest and play an important part in the community's ecosystem, as well as in its identity and appearance.

Continued development is the key threat to De Pere's remaining woodlands. Since these areas are prized as settings for residential subdivisions, they are often targeted for development. Intensive development, especially if improperly planned, could destroy the scenic and natural values of the woodland resource and could disrupt the blocks and corridors of vegetated land necessary to provide refuge and passage for wildlife. However, a well-planned and well-maintained urban forest could mitigate many of these adverse impacts and could reduce air pollution, slow stormwater runoff, and conserve energy.

The City of De Pere should maintain its designation as a Tree City USA to help preserve its more important woodlands and to help establish an urban forest. The Tree City USA designation is a voluntary program administered by the National Arbor Day Foundation and the USDA Forest Service. Currently, there are 3,310 tree cities across the country, with 177 in the State of Wisconsin. To receive the designation, a community must have a tree board, commission, or municipal department that has legal authority for the care of public trees and for developing and administering a community tree management program. The community must also have a tree ordinance, an annual budget for administering, managing, and implementing the community forestry program, and an Arbor Day observance and proclamation.

Wildlife Habitat

Wildlife habitat, as well as the other natural resources mentioned in this chapter, is part of Brown County's biodiversity. Biodiversity (or biological diversity) is the full spectrum and inter-relationships of all plants and animals (including humans), their composition and distribution, and the landscapes and functions they assume. Biodiversity provides a way of thinking that takes into account the landscape, species, communities, and systems that comprise the environment and allows the citizens of De Pere to take an integrated approach to the management of the City's natural surroundings. This approach is critical because humans depend on nature and a healthy environment, and human actions have a profound impact upon the natural environment. Thus, it is a continuing challenge to balance the needs of a growing human population with maintaining a diverse, productive, and resilient natural environment.

The greatest threats to biodiversity are the loss of natural habitats due to urban development and the introduction of non-native invasive plants and animals.

Since most of the City of De Pere is either developed or actively farmed, existing wildlife habitat is generally found along the City's streams, primarily Ashwaubenon Creek. These lands consist of both upland and lowland vegetation. Such lands, because of their location, are conducive to forming large linear tracts of open space that are essential for biodiversity and for providing wildlife corridors.

As with the woodlands noted above, much of these lands, particularly along Ashwaubenon Creek, have been protected by inclusion within conservancy zoning districts. However, continued loss of habitat due to adjacent development and the introduction of exotic species is still a possibility and should be prevented.

The floodplain, shoreland, and conservancy recommendations noted should be implemented since they would also provide more than adequate protection of wildlife habitat.

Threatened and Endangered Species

Federal and state laws protect endangered and threatened species. This protection is usually accomplished during the federal and state permit review process but includes prohibitions of the killing, harming, collecting, capturing, or harassing of protected species during many land-disturbing activities. Protection of such species is a valuable and vital component of sustaining biodiversity.

Both levels of government prepare their own separate lists of such plant and animal species but do so working in cooperation with one another, as well as with various other organizations and universities. An endangered species is one whose continued existence is in jeopardy and may become extinct. A threatened species is one that is likely, within the foreseeable future, to become endangered. A special concern species is one about which some problem of abundance or distribution is suspected but not yet proven. The main purpose of the special concern category is to focus attention on certain species before they become endangered or threatened. The Wisconsin Department of Natural Resources Bureau of Endangered Resources monitors endangered, threatened, and special concern species and maintains the state’s Natural Heritage Inventory (NHI). This program maintains data on the locations and status of rare species in Wisconsin. Because some species are very sensitive, their actual locations are kept vague in order to protect them. Data for these species is only available at the county level.

Brown County currently contains over 50 plant and animal species that the State of Wisconsin indicates are either threatened or endangered. According to the NHI and summarized in Figure 7-10, there are eight species listed as endangered, threatened, or special concern found or potentially found in the De Pere area.

Figure 7-10: Threatened, Endangered, and Special Concern Species in De Pere

Common Name	Species Type	Status
Purple False Oats	Plant	Endangered
Snow Trillium	Plant	Threatened
Longear Sunfish	Fish	Threatened
Greater Redhorse	Fish	Threatened
American Gromwell	Plant	Special Concern
Christmas Fern	Plant	Special Concern
American Eel	Fish	Special Concern
Lake Sturgeon	Fish	Special Concern

Source: WDNR – Natural History Inventory, 2003.

It is recommended that the City of De Pere contact the Wisconsin Department of Natural Resources Bureau of Endangered Resources and review the state's Natural Heritage Inventory prior to any development within and adjacent to Ashwaubenon Creek, the City's only undeveloped natural resources corridor. It is further recommended that should an endangered or threatened plant species in this area be encountered, the appropriate agencies be contacted and protection measures implemented.

Scenic Resources and Topography

The City of De Pere has a generally level topography, which very gradually rises as one moves away from the Fox River and gradually falls as one approaches Ashwaubenon Creek and the East River. The City's elevation ranges from approximately 580 feet above sea level in the north near the East and Fox Rivers and Ashwaubenon Creek to about 650 feet at its far southern limits. The Fox River's elevation is approximately 580 to 590 feet above sea level, and its higher banks begin in the southern limits of the City, which reach about 30 feet in height. The Ashwaubenon Creek ravine is approximately 15 to 20 feet deep, while the East River has a wide and flat floodplain. Thus, there is about 70 feet of elevation difference between the highest and lowest points within the City.

The topography of the City has a significant impact on its natural and scenic resources, as well as on stormwater management and erosion control. While highly subjective, scenic beauty is an important element of many successful communities. Surveys have shown that most people enjoy open spaces and vistas of unspoiled nature, while others enjoy views of more urban development and the contrasts that they can provide. To some, the most beautiful scenic resources are views of blue skies, green hills, shorelines, and woodlands, while others prefer park or golf course settings and still others prefer pastoral settings. One of the most often cited scenic views in the City is that of St. Norbert College viewed from the east side of the river at Wells Park, which incorporates elements of urban and natural settings.

The areas of varying topography within the City can be scenic resources of great value to the community. The shoreline of the Fox River, particularly the southern portion, is a significant scenic resource. However, public access is not available to this part of the Fox River, and there are no vantage points for the public to view the topography southward from the City limits. This situation is unlikely to change as the subject area is fully developed, and many of these lands are outside the City in the Towns of Lawrence, Ledgeview, and Rockland. The same potential scenic value applies to the Ashwaubenon Creek ravine and East River floodplain where the large expanse of wooded and open land and access to recreational trails provide great scenery viewing opportunities. Seeking ways to maintain these scenic characteristics of the community should be considered because of the contrast they provide from the surrounding landscape and the vistas they provide. As the Ashwaubenon Creek ravine develops, the City should continue to extend the parkways along it and the other major waterways to preserve their scenic qualities, as well as to improve their water quality. Opportunities are more limited along the Fox River due to development that is already in place. However, as redevelopment opportunities arise, providing additional public access to the shoreline would provide additional places for residents to enjoy the views of the Fox and East Rivers.

Mineral Resources

The City has no known metallic or nonmetallic mineral resources, and there are no mines, pits, or quarries located within or immediately adjacent to the City. The nearest quarries are located in the Town of Ledgeview approximately two miles east of the City limits.

Should such resources be discovered or such operations undertaken, the City should consider adoption of applicable ordinances to regulate that activity. In that regard, Brown County's nonmetallic mining ordinance (which applies to reclamation activities) does apply within the City until such time as the City adopts its own ordinance which is at least as restrictive as that mandated by the State of Wisconsin.

Historic Sites and Buildings

As one of the oldest communities in Wisconsin, the City of De Pere has a number of buildings and sites that are significant to the history of the City, Brown County, and the State of Wisconsin. The preservation of these unique and irreplaceable resources is an important part of the City's development and redevelopment programs. The City recognizes it has a number of historic buildings and sites and protects them through the City's Historic Preservation Ordinance.



Such preservation protects important aspects of the past and provides a sense of continuity and place. It also fosters community pride and helps establish community identity, which were issues raised at the visioning session undertaken for this comprehensive plan. Successful comprehensive preservation efforts can promote increased tourism and increased reinvestment into older neighborhoods, benefits which have likely already occurred in the City of De Pere because of previous efforts in this regard.

The City of De Pere is a Certified Local Government (CLG) certified by the Wisconsin State Historic Preservation Officer and the U.S. Department of the Interior. This

designation means that the City is eligible for matching subgrants from the federal Historic Preservation Fund and is responsible for reviewing National Register of Historic Places nominations within the City before they are sent to the State Historic Preservation Review Board. The City's Historic Preservation Commission is charged with providing the initial review of potential registrants and providing a recommendation to the City Council. According to the Wisconsin Historical Society, activities that are eligible for funding through the Historic Preservation Fund include:

- Survey projects to identify and evaluate significant historic properties.
- Preparation of nominations to the National Register of Historic Places.
- Review of nominations to the National Register of properties located within the City of De Pere.
- Educational activities (such as workshops, production of slide or video programs, and preparation of booklets, brochures, or other publications) that further the goals of historic preservation.
- Development of municipal historic preservation plans.
- Administration of municipal historic preservation programs.

Historic sites, buildings, and districts that are listed in the state and national registers in the City of De Pere are subject to the regulations found in Chapter 38 (Historic Preservation) of the City's Municipal Code. The code requires obtaining a permit from the Historic Preservation Commission for all activities that may change the exterior of a registered building or structure within a registered historic district. The code also identifies minimum maintenance standards that must be upheld for registered structures or districts. Figure 7-11 identifies the districts and buildings in the City of De Pere that are listed on the State and National Registers of Historic Places, and Figure 7-12 maps the historic districts and buildings.

In addition to those properties already listed on the State and National Registers of Historic Places, the Wisconsin Historical Society maintains the Wisconsin Architecture and History Inventory (AHI). The AHI is a listing of buildings, structures, and objects by community that illustrates Wisconsin's unique history. Properties that are listed within the AHI may or may not still exist and are not conferred any special status or regulations. However, the AHI provides a good idea of additional properties that could be considered for protection and listing on the State and National Registers of Historic Places. According to the AHI, the City of De Pere contains 662 architecturally or historically significant properties that have been surveyed. The majority of the properties are in the east and west downtown areas and the nearby neighborhoods. The entire listing of properties and detailed records may be viewed at <http://www.wisconsinhistory.org/ahi/welcome.asp>.

In order to maintain a connection to the City's heritage, it is important that De Pere continue to identify historic sites and buildings that are worthy of protection for future generations. Utilizing Historic Preservation Funds to conduct a ranking of historically significant structures that should be protected would be a good way for the City and Historic Preservation Commission to prioritize their efforts and continue to preserve De Pere's unique history.

Figure 7-11: Districts and Buildings Listed on the State and National Registers of Historic Places

Historic Name	Address	Resource Type	Period(s) of Significance	Certification Date
North Michigan – North Superior Street Historic District	Generally bounded by Ridgeway, North Wisconsin, North Huron and George streets	District	1867-1954	7/19/2007
Randall Avenue Historic District	Generally bounded by Ridgeway Boulevard, Oakdale Avenue and Glenwood Avenue	District	1908-1955	4/24/2007
Union House Hotel	200 N. Broadway	Building	1883-1953	11/26/2003
De Pere Public Library	380 Main Avenue	Building	1937-1952	10/4/2002
De Pere Lock and Dam Historic District	Fox River and James Street	District	1930-1941	12/7/1993
C.A. Lawton Co.	233 North Broadway	Building	1875-1899 1900-1924 1925-1949	1/30/1992
Main Hall (St. Norbert College)	Third Street and College Avenue	Building	1900-1924 1925-1949	10/28/1988
North Broadway Street Historic District	Broadway, Ridgeway Blvd., Morris, Fulton, Franklin, Cass, Front, and Wisconsin Streets	District	1836-1923	9/8/1983

Source: State of Wisconsin Historical Society – Wisconsin National Register and State Register Database, 2009.

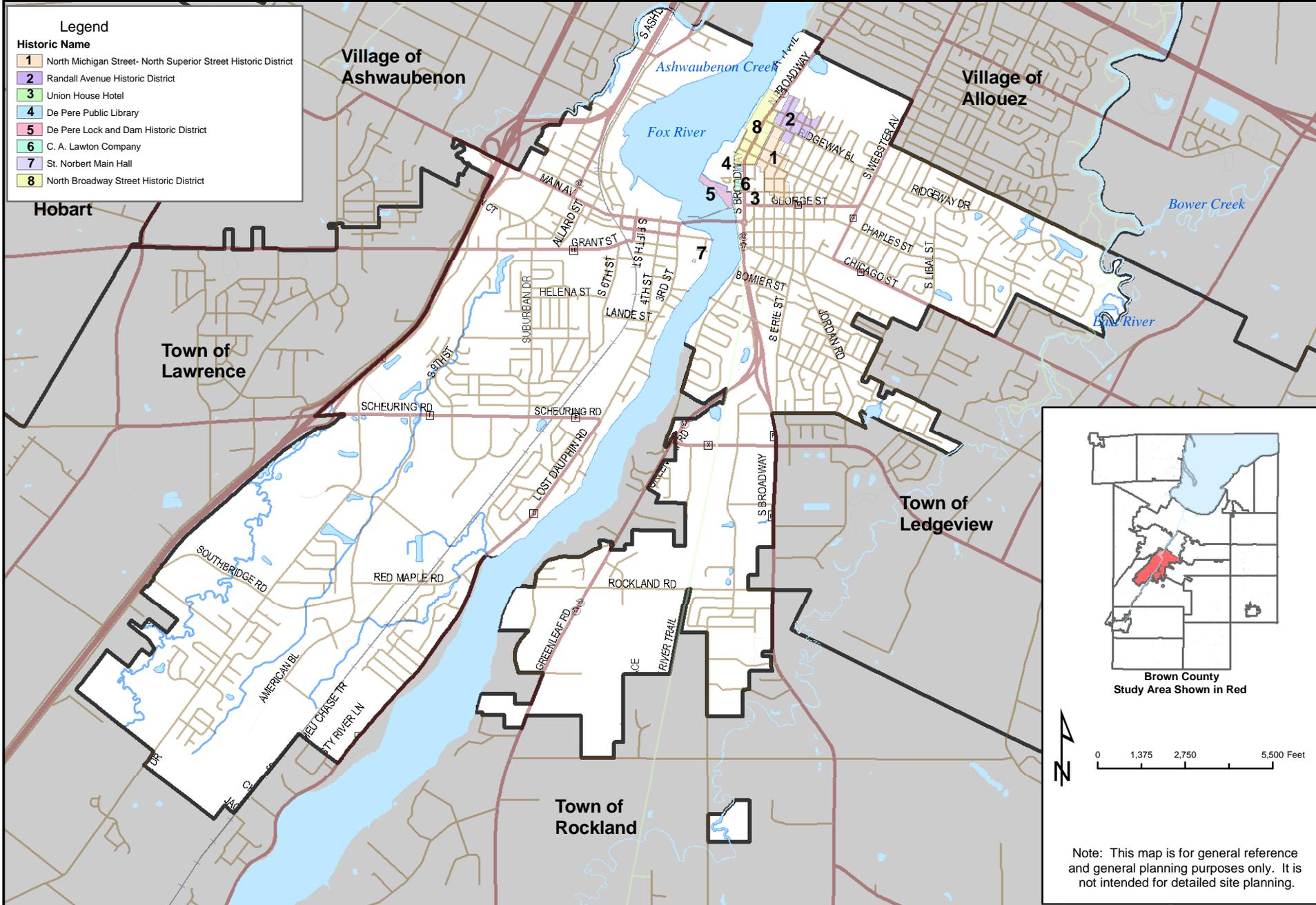


City of De Pere

Figure 7-12

Registered Historic Districts and Buildings

City of De Pere, Brown County, WI



A second project combining Historic Preservation Funds and cooperation with the De Pere Area Chamber of Commerce and De Pere Historical Society would be to create a brochure highlighting a historic walking or bicycling tour of downtown De Pere. The walking tour could be linked with advertising for the numerous businesses in downtown that the tourists could then patronize. Other possibilities include a joint exhibition/display or a more permanent arrangement with the Kress Family Branch of the Brown County Library or White Pillars Museum.

Archeological Resources

The purpose of and benefits associated with archeological preservation are similar to that of historic preservation. Such preservation protects important aspects of the past and provides a sense of continuity and place. It also fosters community pride and helps establish community identity, which were issues raised at the visioning session undertaken for this comprehensive plan.

Janet M. Speth, former Region 5 Archeologist at the Neville Public Museum, provided information regarding the archeological resources of the City of De Pere. A search of the state Archeological Site Inventory revealed 12 records of archeological sites within the City of De Pere, with all of the sites occurring near or within the present day banks of the Fox River. Prehistoric sites are located on both the east and west sides of the river near the downtown, including a very important site on the east side (based upon a collection donated to the Neville Public Museum).

More recently, De Pere is thought to be the location of the Mission of St. Francis Xavier from 1671-1687, which was possibly located in today's Voyageur Park; although, the remains of the mission have not been discovered. Additional archeological finds were identified near the intersection of George Street and Broadway, as well as on Chicago Street.

A shipwreck, the City of Stiles, is located in the Fox River within the corporate limits of the City; although, its exact location is unknown. The ship burned and sank along with its cargo of bricks in 1901.

Most of the archeological sites have been uncovered through construction or accidental finds. The five archeological surveys taken place within the City limits have been largely sewer projects, which means that the areas to be surveyed have been confined to extremely narrow corridors. Although one transportation project proceeded without an archeological survey, shovel testing of yards along Charles and Superior Streets produced debris from the manufacture of stone tools. Intact portions of other archeological sites might exist in yards and under alleys and parking lots in other parts of De Pere.

Archeological sites are windows to the past. They provide information and insight as to the culture of the previous residents of De Pere. Current state law gives protection to all human burial sites. There are programs and restrictions relating to other archeological sites. Developing these sites before they can be catalogued and studied is the major threat to this resource.

De Pere should capitalize on the value of these resources, perhaps through including these sites within public neighborhood parks and educating citizens about pre-European settlement life in the De Pere region. The City should work with the Wisconsin Historical Society and the Neville Public Museum to identify these sites. Processes for dealing with these sites during construction of new development should then be established, particularly for burial sites.

Community Identity and Design

Issues related to community identity and community design were raised during the public visioning sessions that were conducted early in the planning process. Residents were particularly concerned about maintaining the City's small town atmosphere.



Therefore, these issues became a foundation for this plan's vision statement and for many of its objectives.

The City's cultural landmarks (especially public gathering places, its older and more architecturally interesting buildings, and its greenspaces and landscaping) contribute to the establishment of De Pere's identity. Churches, libraries, dance halls, and similar institutions are what often spring to mind when one thinks of a place. Within De Pere, these sites serve as cultural landmarks due to their central location, architectural scale and design, and status as a focal point for residents during much of the history of the community.

The City of De Pere has undertaken many efforts to capitalize upon its own distinctive identity. For instance, the City has a Historic Preservation Commission that has been very active in the identification and preservation of historic buildings and districts within the downtown and near downtown portions of the City. In addition, significant efforts to create a more attractive and pedestrian-friendly downtown have been initiated with the establishment of period street lighting, signage, and landscaping. Furthermore, the City has recently completed studies which reiterate the importance of maintaining and improving the City's identity and character, including the *City of De Pere West Side Redevelopment District, Development Design Guidelines*, prepared by the City of De Pere and Performa, and the *Southwest De Pere Development Plan*, prepared by the Brown County Planning Commission. The efforts at historic preservation and promotion of a unique community design are critical in an age when it is often difficult to discern one community from another. De Pere has taken a further step toward preserving its unique character by promoting not only historic architecture, but with regard to the new Claude Allouez bridge design, a nod to the present and future as well. It is important that De Pere continue to promote quality design and architecture whether it is of private buildings or public infrastructure.

Because of the success of past efforts, the importance of community identity and community design to the City's quality of life, its role in fostering community pride, and

its value in attracting and retaining industry, business, and residents, it is recommended that not only should these efforts be continued, but they should also be expanded upon. More specifically:

- The suggestions and recommendations of the City of De Pere Downtown Design Plan, prepared by RDg, City of De Pere West Side Redevelopment District, Development Design Guidelines, and the Southwest De Pere Development Plan should be implemented.
- The City's entrance corridors and downtown should continue to be a focal point of efforts to achieve a good design and a distinct identity. However, similar efforts should also be extended to all portions of the City. In this regard, it is recommended that the City undertake an effort to identify all of the neighborhoods, districts, and special areas within the City to recognize and foster not only their own unique identities but also their ties to the rest of the City. Detailed suggestions and recommendations about their development and design should be articulated in reports similar to the redevelopment and development plans previously noted.
- Nonprofit groups, neighborhood associations, business associations, etc. should be utilized to assist the City in the establishment of design, architectural, building, and landscaping criteria to revitalize, beautify, and restore the character of the City's neighborhoods, districts, etc.
- Planting street trees should be continued as a means of beautifying the built environment and providing neighborhood character. In the older neighborhoods of De Pere where street trees were originally planted, the now mature trees are a significant amenity. De Pere should require the planting of street trees for new subdivisions. In addition, the City should seek to preserve selected existing trees either by working with developers to design around such trees or through a tree preservation ordinance. The City should also consider the establishment of a Tree Board.
- Even small areas of greenspace within residential developments are cultural resources that add value to neighborhoods. New development should contain small active neighborhood parks through the use of conservation by design subdivisions or by setting aside small areas as neighborhood greenspace or recreation areas. Where smaller lots are allowed by the City there should be a public benefit in terms of neighborhood park or greenspace dedication.
- Where public acquisition is appropriate or a larger setback/buffer adjacent to surface water is desired, establishment of natural corridors or parkways should be considered as has been done with the East River and Ashwaubenon Creek. By keeping intensive development out of the stream corridors, water quality is improved, habitat is maintained, and recreational opportunities are preserved. While such parkways are already established and/or underway along the East River and Ashwaubenon Creek, it is recommended that such a parkway be considered along the Fox River when redevelopment opportunities arise. Parkway along the other tributaries of these surface waters should be considered where appropriate. The parkways should, at a minimum, include the floodway/shoreland buffer portion of the corridor and should ideally contain additional lands. These parkways would allow the corridors to remain mostly undeveloped as wildlife corridors, preserve natural beauty, provide

stormwater management areas, and link parts of the City together. The parkways would also enhance public access and allow the City to capitalize on the intrinsic value of its most notable natural features. Acquisition of parkways could occur any time that an opportunity arises. Generally, it could occur at the time adjacent lands are developed or redeveloped and could be accomplished either through dedication or purchase. If public acquisition is not feasible, private ownership subject to conservation easements could be considered.

- Because parkways are typically publicly-owned and used only for passive recreational uses, such as trails, and due to the amount of development that has already occurred along the Fox River, a “green infrastructure” approach may be more appropriate. Green infrastructure is a strategically planned and managed network of various landscape elements that are linked together to sustain air and water resources and contribute to the health and quality of life for communities and people. These landscape elements typically include natural areas, public and private conservation lands, public and private working lands (such as farms), and outdoor recreation. However, to ensure connectivity of the green infrastructure across political boundaries and diverse landscapes, other features, such as gardens, boulevards, and plazas, may be included.
- Low-impact development approaches, such as conservation by design subdivisions, should continue to be encouraged near environmentally sensitive areas. New subdivisions could be designed to preserve natural drainage patterns, reduce fragmentation of wildlife habitat, and limit the amount of impervious surfaces, such as roads. By clustering development on a site, large blocks of environmentally sensitive areas could be left as preserved open space.
- Natural, cultural, and agricultural resources education should be encouraged. Spreading knowledge of the importance of the City’s natural, cultural, and agricultural resources and ways to maintain them are essential implementation tools. For example, educating property owners along the Fox River about nonpoint source pollution and providing tips on landscaping and buffering to prevent this pollution could help to achieve improved water quality. Periodic newsletters could be mailed to De Pere residents to provide information on topics, such as not dumping pollutants down storm sewers, tree trimming, and other issues relating to natural resource protection. Water resource educational materials are available from the WDNR and the UW-Extension.

Recommended Policies, Programs, and Actions

It is important to note that many of the policies, programs, and actions identified in this chapter have been specifically formulated to also address recommendations within the Land Use and Utilities and Community Facilities Chapters of this plan. Not only is such an approach economical and efficient for the City, but such considerations are also required under the Smart Growth legislation.

Agricultural Resources Recommendations

- Rezone lands from exclusive agriculture when annexed into the community.

- Work with the landowners to ensure the orderly and timely conversion of agricultural lands to other uses and to maximize the compatibility and minimize the conflicts between agriculture and adjacent land uses.
- Do not permit the development of new large-scale livestock facilities within future growth areas of the City of De Pere.
- Review the City's zoning code and land uses to determine where and when urban agricultural activities should be encouraged.

Natural Resources Recommendations

- Preservation and protection of the East River, Fox River, and Ashwaubenon Creek should be the City's highest natural resources priority. This would include preservation and protection of the cultural and scenic resources associated with these stream corridors.
- Periodically review and revise, when necessary, the City's Shoreland-Wetland Floodplain Zoning Ordinance to ensure continued protection for shoreland wetlands.
- Review potential changes to NR 115 Shoreland Zoning and its potential impact on applicable shorelands within the City.
- Continue stormwater management to minimize and mitigate impacts upon adjacent streams and wetlands.
- Work with school or local conservation groups to utilize natural shrubs, grasses, and trees to stabilize the shoreline, improve the filtration of pollutants, and improve the aesthetics of the East River, Fox River, and Ashwaubenon Creek.
- Work with the WDNR and local conservation or school groups to remove invasive plant species, such as phragmites, from the City's wetlands, shorelands, and floodplains.
- Support an update of the *Brown County Sewage Plan* to ensure that it is consistent with the recommendations of this comprehensive plan, particularly as it applies to the environmentally sensitive area designations.
- Coordinate with SEEDs to develop a map of De Pere's green infrastructure.
- Support Brown County's "time of sale" program of inspecting private onsite sewage treatment systems.
- Promote and maintain De Pere's Tree City USA designation and its urban forestry efforts.
- Contact the DNR to determine the presence and location of any threatened, endangered, or special concern species to facilitate their protection and preservation when possible.
- Consider adoption of De Pere's own nonmetallic mining ordinance should such resources ever be found within the community.
- Continue to preserve opportunities to expand parkways along the East and Fox Rivers and Ashwaubenon Creek.

Cultural Resources Recommendations

- Continue to identify historic sites and buildings that are worthy of protection for future generations.
- Utilize Historic Preservation Funds to conduct a ranking of historically significant structures that should be protected.
- Combine Historic Preservation Funds and cooperation with the De Pere Area Chamber of Commerce and De Pere Historical Society to create a brochure highlighting a historic walking or bicycling tour of downtown De Pere.
- Include a historic and/or archeological exhibition at the Kress Family Branch of the Brown County Library or White Pillars to display De Pere's past.
- Periodically review and revise the City's Historic Preservation Ordinance to ensure its continued viability.
- Work with the DNR and the Neville Public Museum to identify and preserve archeological sites and artifacts.
- Promote the City's uniqueness through educational efforts focused on its citizens, businesses, and tourists. Topics that should be addressed include its special natural, cultural, and historical aspects.
- Focus the City's design and beautification efforts first upon its downtown and entrance corridors and then by similar efforts upon its neighborhoods and major natural resources. Specific actions should include:
- Implementation of the recommendations of the Downtown De Pere Master Plan.
 - Street tree requirements.
 - Establishment of small neighborhood parks, areas of greenspace, plazas, etc.
 - Increase the involvement of the De Pere Area Chamber of Commerce and other civic and nonprofit organizations in the planning and designing of the City.
 - Establishment of parkways, walkways, trails, etc. along major natural resource, recreation, or pedestrian corridors.
 - Promotion of alternative development methods, including conservation by design subdivisions, traditional neighborhood designs, and mixed use developments.