

Agricultural, Natural and Cultural Resources

1. Introduction

This chapter provides an inventory of existing agricultural, natural, and cultural resources in the Village of Richfield.

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2. Agricultural Resources

Agriculture was the largest land use category in the Village in 2010 – accounting for nearly 35 percent of the total area (Map 9). Productive farm soils are located throughout the community (Map 5). The greatest concentrations are located in the central and southwestern portions of the Village.

However, this figure has steadily decreased as residential development has occurred. While farmland still covers a significant amount of land, the reality is that a few families own the remaining farms. Much of the cropland that does exist is being rented out to farmers in other communities or being used as small hobby farms. As area farmers age, they are likely to consider selling their land to finance their retirement.

A variety of factors combine to make these areas a likely target for future development, including:

- The prevalence of existing residential uses;
- The desire for large-lot residential development;
- The ring of wetlands and surface waters surrounding the area; and,
- The development barrier formed by the Canadian National rail corridor.

In terms of Village's tax base, agricultural parcels account for only 2 percent of the total.



3. Natural Resources

The natural environment is a key indicator in enhancing positive 'quality of life' attitudes among local residents. A correlation often exists between the presence and prevalence of open space and the positive feelings people have about their community. Woodlands, wetlands, grasslands, and surface waters provide important wildlife habitat and recreational opportunities for residents. They improve the visual appeal of the community and can function as development buffers, both within the Village, and between Richfield and its municipal neighbors. In many respects, the natural landscape determines where development can and can't happen. Diverse topography (as in the Kettle Moraine area) limits the type and density of development that can occur. Certain soils types have limitations that preclude development upon them. Construction activities within wetlands and flood plains are strictly regulated by local, state, and federal agencies. Woodlands and grasslands, however, are afforded little state or federal protection. They, along with agricultural lands, tend to experience the greatest amount of development pressure and, therefore, require a greater level of local protection...at least for those communities intent upon preserving them. Preservation of natural resources (wetlands, surface and groundwater, woodlands, shorelines) is an important priority in

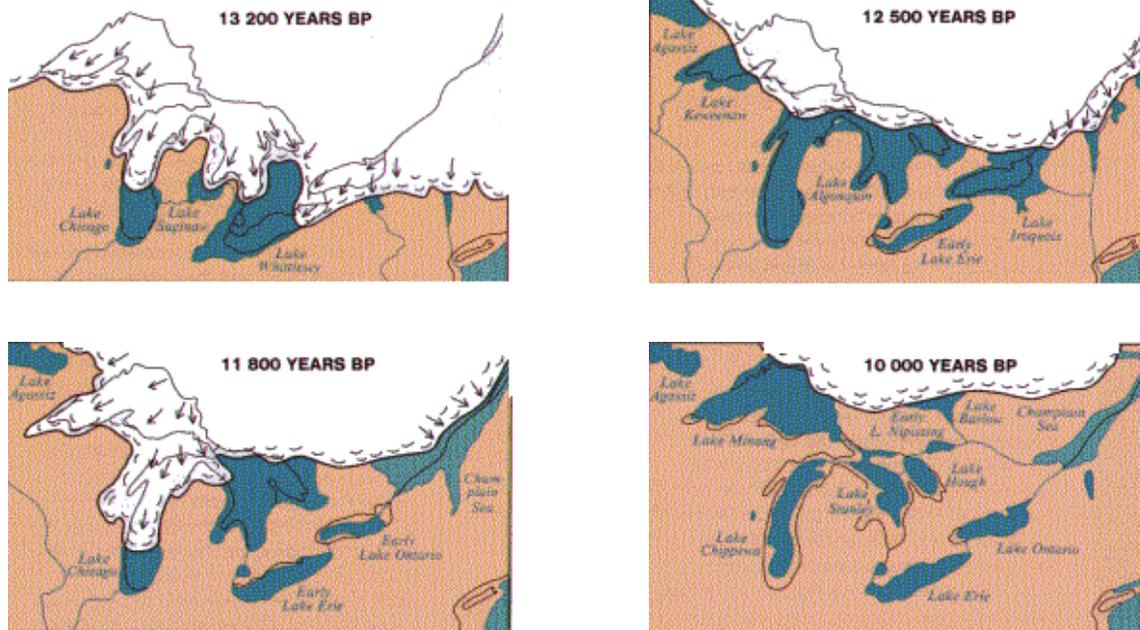


Richfield. Local residents value the benefits provided by a healthy and diverse natural environment. Many of Richfield's natural features are illustrated on Map 8.

Geology and Topography

Richfield, like most of Wisconsin, owes its unique landscape to the last ice age. The Wisconsin Glacial stage began approximately 65,000 years ago and lasted about 54,000 years. The last glacier in Wisconsin began receding about 11,000 years ago (Exhibit 7-1).

Exhibit 7-1 Glaciation in Wisconsin



Source: Original source unknown.

Elevations in the Village of Richfield range from 850 feet above sea level in the eastern portion of the Village to 1200 feet above sea level in its center. The most significant natural features in Richfield are its kettles and moraines. The unique landscape that is the Kettle Moraine was formed during the last ice age. The Friess Lake Hogsback Crevasse Filling Geological Area in the northwestern portion of the Village has been identified as a geological area of statewide significance.

Kettles As glaciers advanced southward from Canada, large blocks of ice and glacial debris were often forced into the ground underneath the ice flows. When the climate warmed and the glaciers receded, these smaller ice masses melted leaving depressions in the ground known as kettles. As demonstrated by the illustration below, kettles come in three common forms: kettle holes, kettle lakes, and kettle bogs. Kettle holes are formed in well-drained soils and remain relatively dry over time. Kettle lakes occur when the chunk of ice forming the kettle was deposited in poorly drained soil. Finally, kettle bogs are the result of eutrophication. As sediments and nutrients are deposited in a kettle lake, water is displaced and wetland plant species begin to flourish. The three types of kettles are found throughout the Kettle Moraine area of Wisconsin.

Moraines Like kettles, moraines are created during the recession of glaciers. However, unlike kettles, the glacial debris that forms the moraine comes not from the 'bottom up' but the 'top down.' Debris inside and on top of the glacier is deposited to the ground as the glacier melts. The two most common moraine types in Washington County are ground moraines and lateral moraines. Ground moraine is glacial till deposited over the valley floor. It has no obvious features and is to be found where the glacier ice meets the rock underneath the glacier. It may be washed out from under the glacier by melt-water streams, or left on site when the glacier melts and retreats. Lateral moraines

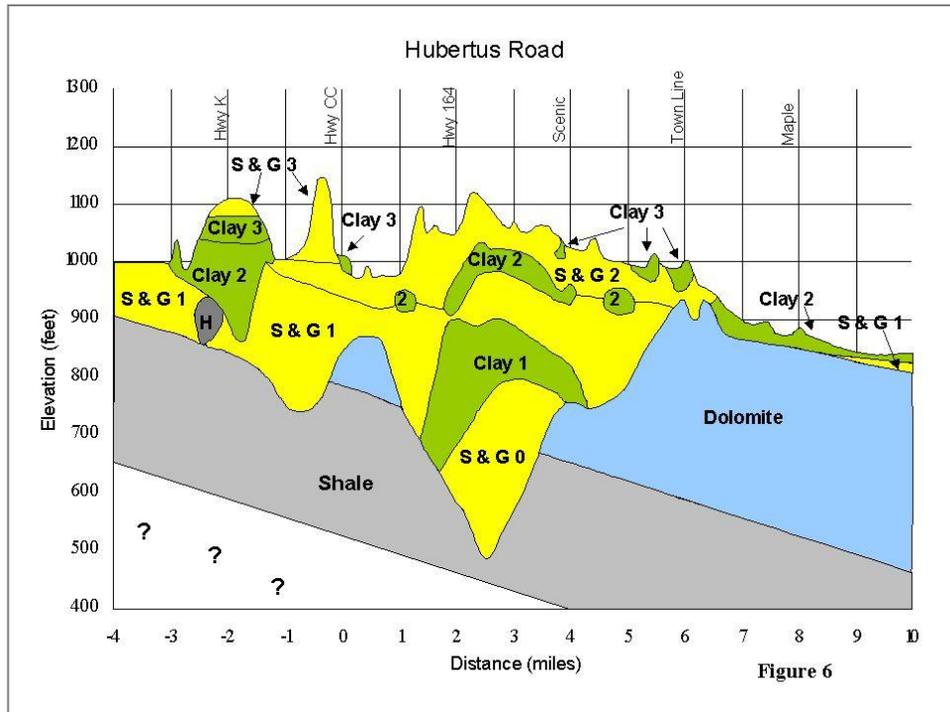
form along the edges of the glacier. Material from the valley walls is broken up by frost shattering and falls onto the ice surface. It is then carried along the sides of the glacier. When the ice melts it forms a ridge of material along each side of the glacial footprint. Terminal moraines run perpendicular to the glacier and are left in front of it as it melts.

Like the kettles and moraines dominating the surface structure of the Village, the geological strata underlying Richfield are reflective of the role glaciers played in shaping southern Wisconsin's landscape. The top layer of strata is comprised mainly of glacial drift. Drift, in the form of glacial till and outwash, results from the affect of a warming climate. As a glacier melts, materials trapped within it are deposited to the land surface. Lighter materials comprised mostly of sand and gravel is carried by waters flowing from the melting glacier. The flowing water sorts these particles, generally depositing the heavier and coarser material nearer the point of origin. This material is known as outwash. Till is deposited directly by the glacier itself without water transport. Glacial drift may take the form of drumlins, kames, eskers, moraines, or outwash plains. Its thickness tends to vary from place to place and is not dependent upon topographical factors. Over time, layers of outwash and till are interspersed resulting in the eclectic subsurface layers present in Richfield.

Exhibit 7-2. Geology at Hubertus Road

Exhibit 7-2 provides a cross section of the topography and subsurface geology underlying Hubertus Road in the Village of Richfield.

A layer of limestone known as Niagara Dolomite is found below the till/outwash layer. This is the same limestone formation that forms Door County and Niagara Falls. Beneath the dolomite is an impermeable layer known as Maquoketa Shale. As you descend further, you encounter Galena Dolomite, St. Peter's sandstone, Prairie du Chien Dolomite, and a series of older sandstone formations.



Source: Report to the Town of Richfield on the Ground Water Resource Study, D.S. Cherkauer, UW-Milwaukee, March 2004

Watersheds and Drainage

The sub-continental divide runs through the Village (Map 8). Surface waters to the east of the divide eventually flow to the Atlantic Ocean. Surface waters to the west of the divide eventually flow to the Mississippi River and Gulf of Mexico.

The Village falls within five sub-watersheds: the Bark River, Cedar Creek, Menomonee River, Oconomowoc River, and Upper Fox River. The Cedar Creek, Menomonee River, and Upper Fox River sub-watersheds lie to the east of the sub-continental divide and drain to Lake Michigan, the St. Lawrence River Basin, and eventually, the Atlantic Ocean. The Bark and Oconomowoc rivers are west of the divide and drain to the Mississippi River and the Gulf of Mexico. The headwaters for the Bark, Fox, and Oconomowoc lie within Village boundaries.



Lakes

There are 52 named lakes in Washington County. Five of these – Amy Bell, Bark, Friess, Lake Five, and Little Friess – are in Richfield (Map 8). There are also more than 50 smaller unnamed lakes and ponds in the Village.

- **Amy Bell Lake** Located in the southeast portion of the Village, Amy Bell Lake is 26 acres in size with a maximum depth of 40 feet and is classified as mesotrophic.
- **Bark Lake** The 62-acre Bark Lake is located about one-half mile west of Amy Bell and is classified meso-eutrophic (combination of mesotrophic and eutrophic) and with a maximum depth of 32 feet.
- **Friess Lake** At 117 acres with a maximum depth of 51 feet, Friess Lake is the largest in Richfield, and the sixth largest in Washington County. It is located in the west-central portion of the Village and is classified as mesotrophic.
- **Lake Five** Lake Five straddles the Washington/Waukesha County border in the southwest portion of the Village. It is 102 acres in size with a maximum depth of 23 feet and is classified as mesotrophic.
- **Little Friess Lake** The smallest of the Village’s named lakes, Little Friess, adjoins Friess Lake in western Richfield. It is 15 acres in size with a maximum depth of 30 feet and is unclassified.

Water quality levels in Richfield’s lakes vary from one water body to another. Most of the lakes (named and unnamed) are classified as mesotrophic or eutrophic. Lakes, rivers, and other surface waters are classified by their ‘trophic state.’ Trophic states refer to water clarity and levels of dissolved oxygen, nutrients, fish, and invertebrates found in the water column. Trophic states should be thought of as a continuum. The trophic state of a lake can vary from one part of the lake to another and most lakes evolve from oligotrophic to eutrophic over time.

Very clear lakes, referred to as “oligotrophic,” are low in nutrients, organic matter, and sediments. They are typically deeper and colder than the typical lake and are capable of supporting trout populations. They tend to have clear water with visibility over ten feet and are considered pristine. The lack of nutrients in the water column limits the number of plant and fish species that would occur in such lakes. Though they can be excellent for swimming, they are often quite cold. Oligotrophic lakes are typically characterized by:

- A small watershed with nutrient-poor soils;
- A majority of the lake deeper than thirty feet;
- Minimal development;
- A watershed undisturbed by intensive human activities (agriculture, development, forestry); and
- No discharges of pollution from industry or cities.

Mesotrophic lakes have higher amounts of nutrients than oligotrophic lakes and represent the mid-point on the lake evolution continuum. They often support a rich array of aquatic

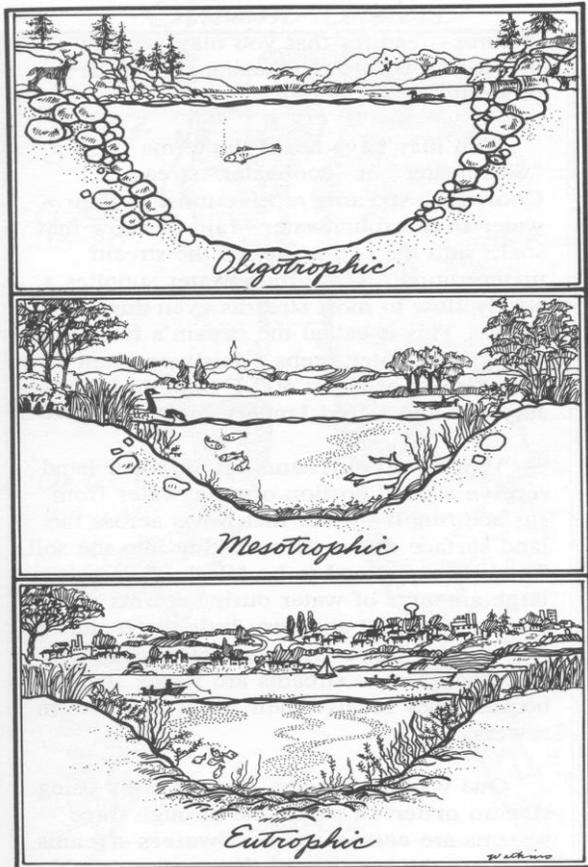
What is a trophic state?

Lakes, rivers, and other surface waters are classified by their ‘trophic state.’ Trophic states refer to water clarity and levels of dissolved oxygen, nutrients, fish, and invertebrates found in the water column.

Oligotrophic – Clear waters that are poor in dissolved nutrients with low amounts of plant and algae growth and rich in dissolved oxygen at all depths.

Mesotrophic – Waters with somewhat reduced clarity and increased numbers of aquatic plants. Usually possess healthy fisheries.

Eutrophic – Murky waters that are high in dissolved nutrients and low in dissolved oxygen with abundant algae growth and greatly reduced fish and invertebrate populations. Eutrophic lakes tend to be dominated by rough fish species not generally considered desirable for angling purposes.



Source: *Life on the Edge...Owning Waterfront Property*, Dresen and Korth, UWEX, 1994

plants and a wide variety of fish species. The biological diversity present in a mesotrophic provides a tremendous range of recreational opportunities making them very popular for fishing, swimming, and a variety of other activities. Mesotrophic lakes tend to have:

- A small- to medium-sized watershed with organic (nutrient rich) soils;
- Parts of the lake deeper than 20 feet;
- Moderate land development and land disturbing activities around the lake; and
- Few point sources of pollution (though nonpoint sources can accelerate the evolution to eutrophic).

Eutrophic lakes are very productive and have high levels of nutrients, organic matter, and sediments. They can support large fish populations, however, the diversity of fish species is usually much lower than that of a mesotrophic lake. High nutrient levels encourage plant growth, sometimes excessively so. These lakes often lack enough dissolved oxygen to support some fish species, like trout, walleye, and other prized game fish. As the lake eutrophies, it becomes less and less capable of supporting cool and coldwater fishes. Decaying vegetation can further reduce oxygen levels and cause fish kills, particularly during winter months. Eutrophic lakes usually have:

- A large watershed with organic soils;
- Depths shallower than ten feet;
- Substantial land-disturbing areas in the watershed;
- Considerable to excessive development along the lake shore; and
- Many sources of pollution.

Shorelines

Shorelines and shorelands in Richfield are protected and regulated by the Wisconsin Department of Natural Resources (WDNR) and the Village's shoreland, wetland, and floodplain zoning ordinances. Shoreland zoning regulations are designed for efficient use, conservation, development, and protection of water resources. They are intended to:

- Prevent and control water pollution;
- Protect spawning ground for fish and aquatic life;
- Control building sites, placement of structures, and land use; and
- Preserve shore cover and natural beauty.

As this chapter indicates, Washington County has a wide variety of water resources, including lakes, rivers, streams, and wetlands. The natural qualities of Washington County's lakes are important for environmental, economic, and cultural reasons. These resources provide habitat for fish and wildlife, natural beauty and serenity, and opportunities for outdoor recreation. Shorelines must not be thought of as a boundary between the land and water, but as a transition area within which the health of the land and water ecosystems can be positively or negatively affected. Shoreland vegetation traps and filters sediment and debris from rainfall and snow melt. Depending upon the size and complexity of a given shoreline, 50 to 100 percent of the solid particles can settle out as plants slow sediment-laden runoff. Reduced runoff leads to cleaner lakes, healthier aquatic ecosystems, and increased recreational opportunities.

Groundwater and Aquifers

Groundwater is the primary source of potable water for the residents of Richfield. Groundwater in the Village flows in three general directions. East of the sub-continental divide, it flows towards Lake Michigan. Groundwater between the divide and the Oconomowoc River percolates in a westerly direction towards the river. In the far northwest corner of the Village groundwater runs in a southeasterly direction, also towards the Oconomowoc River. As was discussed in the Topography and Geology subsection of this chapter, the ground beneath Richfield is comprised of

What is an aquifer?

An aquifer is a layer of gravel, sand, or porous, fractured, rock capable of holding or conducting water. When fully charged, an aquifer is saturated with water. Most, if not all, private wells in Richfield draw water from an aquifer made up of glacial outwash very near the surface. A much larger aquifer comprised of sandstone known as the St. Peter's aquifer lies much further below the Village.

glacial outwash and till. These sand/gravel and clay deposits rest upon a layer of dolomite limestone which itself sits upon an impermeable layer of shale. It is from the aquifer formed by these glacial deposits that the majority of Richfield's residents draw their potable water.

Aquifers are stratum, or layers, of gravel, sand, or porous, fractured, or cavernous rock capable of holding and/or conducting water. When fully charged, an aquifer is saturated with water. Water collects in the recharge area and flows, or percolates, to the lowest point of the aquifer. Recharge areas serve a function similar to that of headwaters for a river. They are the entry point for rainwater and snow melt into the aquifer. As the entry point, recharge areas are one of the most likely venues for contamination of groundwater.

In communities without municipal water supplies, people get their water from private wells. In most cases these wells draw water from aquifers with recharge areas located outside of the community. In many instances, the recharge area may be located in another county altogether. How fast the water percolates depends upon the type of aquifer. Those consisting of sand and gravel are highly permeable. Limestone aquifers are less so. In slowly percolating aquifers the water from a faucet may have fallen as rain hundreds, or thousands, of years ago. The distance and rate that water percolates through an aquifer, and the depth from the surface, play key roles in the determining the purity of water drawn from it. The farther the distance and slower the percolation rate, the greater the level of purification that occurs. Aquifers located deep underground, particularly those covered by an impervious layer of deep clays or shale, are less susceptible to ground water contamination.

By contrast, the recharge area for the aquifer used by Richfield's residents lies within the boundaries of the Village. This fact, when combined with relatively low depth-to-ground water levels and highly permeable soils makes Richfield susceptible to groundwater contamination. Land uses related to residential, commercial, industrial, and agricultural development all pose a risk to groundwater resources. Failing septic systems, unregulated landfills, leaking underground storage tanks, the uncontrolled application of fertilizers and pesticides, and road salt are all sources of contamination. In addition to the quality of Richfield's potable water there may be concerns regarding supply. As the population of the community continues to grow, more strain will be placed upon the aquifer. The long-term viability of the sand and gravel aquifer as a potable water source is not yet known.

Wetlands & Floodplains

Wetlands act as a natural filtering system for sediment and nutrients such as phosphorus and nitrates. They also serve as a natural buffer, protecting shorelines and stream banks from erosion. Wetlands are essential in providing wildlife habitat, flood control, and groundwater recharge.

Floodplains serve many important functions related to flood and erosion control, water quality, groundwater recharge and fish and wildlife habitats. Areas susceptible to flooding are considered unsuitable for development because of risks to lives and property.



Regulations place limitations on the development and use of wetlands and floodplains. Under sections 87.3 and 144.26 of the Wisconsin Statutes, a municipality has the authority to give greater protection to wetlands, shoreland, and floodplain areas.

Map 6 shows the locations of wetlands in the Village. Several of the wetlands are of special significance because they constitute the headwaters for the Oconomowoc, Fox, and Bark rivers. Protection of these areas is critical for maintaining the quality of these rivers. The Daniel Boone Conservation League and the Audubon Society both own properties to protect portions of these wetland areas.

Woodlands

Significant areas with forests or woodland cover are found in the areas of steep slope and in the lowland marshes of the Village. Based on the 2004 inventory, woodlands cover more than 10 percent (nearly 2,500 acres) of

Habitat Fragmentation

A primary threat to wildlife is fragmentation – the breaking up of larger habitat areas into smaller sections. Fragmentation decreases wildlife population sizes, isolates habitat areas and creates more edges – where two dissimilar habitats meet (i.e., grassland and residential subdivisions).

Isolated areas of habitat are known as habitat islands. Habitat islands can occur naturally (islands, mountain tops), but are most often human caused.

the Village's landscape. Prior to settlement by European immigrants, the vegetation of Washington County would have been classified as a mixed conifer-northern hardwood forest. As settlers moved to the area, much of the forests were cleared, initially for timber and then for agricultural crops. Today, the major tree species include black willow, cottonwood, green ash, silver maple, American elm, basswood, northern red oak, and shagbark hickory. Woodlands are important for a variety of economic and ecological reasons. In addition to providing habitat for wildlife, they are an important tool in reducing carbon dioxide levels and filtering pollutants from the atmosphere.

Map 8 delineates the location of woodland areas, including wooded wetlands. Because many of the Village's woodlands are also wetlands, they are protected from future encroachment. For other woodlands, the WDNR Managed Forest Law is a program available to landowners who own more than 10 acres of contiguous forestland. Through the program, landowners agree to manage their forestland for hunting, fishing, wildlife, and recreation purposes and not permit development in exchange for significant tax credits.

Wildlife Habitat

With nearly 5,300 acres of its landscape classified as wetlands, woodlands, or water, the Village has a relatively high amount of wildlife habitat. As is typical for most small communities, these habitat areas are fragmented. The largest habitat islands are located in the western portion of the Village near Friess Lake and south of Bark and Amy Bell lakes in the southeast portion of the community. This area was also identified in the 2010 Regional Natural Areas and Critical Species Habitat Protection and Management Plan adopted by the Commission in 2010. Reconnecting fragmented habitat islands is the most effective way of increasing wildlife diversity.

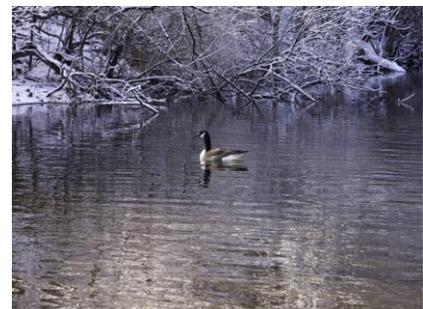
Primary wildlife habitat areas provide food and cover for deer, raccoons, skunk and other small creatures common in the area. Nearby farm fields are a food source for deer, sandhill cranes, turkeys, and waterfowl in the area. Farmland is also a very important local wildlife habitat that provides travel corridors between waterways and woodlands. Farmland also provides cover opportunities and large contiguous open spaces needed by wildlife.



Threatened and Endangered Species

The United States Fish and Wildlife Service (USFWS) maintains a listing of all threatened and endangered species in the nation. WDNR maintains a similar listing of all endangered and threatened species for the state of Wisconsin. It is against the policy of the USFWS to identify specific areas where species may exist due to the potential for disruption that might occur if these places were commonly known. WDNR is in the process of identifying and cataloging endangered plant and animal species across the state. For a complete, up-to-date list, refer to the DNR's website. The state and federal government have programs and laws in effect to protect threatened and endangered plant and animal species in the Village of Richfield and beyond. The Village of Richfield supports enforcement of state and federal laws and programs pertaining to threatened and endangered species.

The Regional Natural Areas and Critical Species Habitat Protection and Management Plan adopted by the Southeastern Regional Planning Commission (SEWRPC) in 1997 offers additional information about threatened and endangered species. The plan inventoried and identified natural areas, critical species habitat sites, and significant geological and archeological sites in the region and provides recommendations for the protection and management of the identified sites. The natural areas identified by the regional plan are shown on Map 8. Ownership recommendations for protecting the areas are included in the SEWRPC Plan.



Exotic and Invasive Species

Non-native, or exotic, plant and animal species have been recognized in recent years as a major threat to the integrity of native habitats and species, as well as a potential economic threat (e.g., damage to crops, tourist economy, etc). The WDNR requires that any person seeking to bring a non-native fish or wild animal for introduction in Wisconsin obtain a permit. The Village can help combat exotic species by educating residents about non-native species, encouraging residents to use native plants in landscaping, and developing ordinances.

Garlic mustard and gypsy moths are two particularly prevalent non-native species that impact the Village. To address the gypsy moths, the Village coordinates with landowners to annually spray portions of the community. As for garlic mustard, effective removal requires pulling the weed, which is very labor intensive. Student organizations (e.g., scouts, environmental clubs, science classes) and others have volunteered in some communities to pull these weeds as part of "weed out" campaigns.



Metallic and Non-Metallic Mining Resources

As part of Chapter NR 135, Wisconsin Administrative Code, adopted in December 2000, any community in Wisconsin could adopt an ordinance to establish requirements for reclamation of non-metallic mines, such as gravel pits and rock quarries. If a Village decided not to develop its own ordinance, a county could develop an ordinance for the area instead. Likewise, regional planning agencies could develop ordinances for counties within their region to adopt. The ordinances must establish reclamation requirements to prevent owners and operators of quarries and gravel pits from abandoning their operations without proper reclamation of the mines.

The process of siting a mine continues to be a local matter governed under existing zoning procedures by local authorities. The new reclamation requirements through NR 135 add to the status quo, but do not replace or remove any other current means of regulation. The requirements neither regulate active mining process nor have any effect upon local zoning decisions like those related to the approval of new mine sites. The Village of Richfield Zoning Ordinance regulates the location and operation of quarry operations in the Village.

Under the law, any landowner of a demonstrated "marketable non-metallic deposit" may register the site for mining. Local zoning authority can object to the application if the zone does not permit it. Registration expires after a 10-year period and may be extended for a single 10-year period if it is demonstrated that commercially feasible quantities continue to exist at the property. Otherwise, remediation action is required.

Villages rezoning property in a manner consistent with a comprehensive plan are not required to permit non-metallic mining operations that are inconsistent with the plan.

Quarries in Richfield are shown on Map 6.

Air Quality

The following information is from the Wisconsin Department of Natural Resources:

"A few common air pollutants are found all over the United States. These pollutants can impair human health, harm the environment, and cause property damage. EPA calls these pollutants criteria air pollutants because the agency has regulated them by first developing health-based criteria (science-based guidelines) as the basis for setting permissible levels. One set of limits (primary standard) protects health; another set of limits (secondary standard) is intended to prevent environmental and property damage. A geographic area that meets or does better than the primary standard is called an attainment area; areas that don't meet the primary standard are called non-attainment areas."

Washington County is a non-attainment area for ozone. Based on available data from the Wisconsin Department of Natural Resources, Richfield appears to have air quality that may, at times, be unhealthy for sensitive groups. The nearest air quality monitoring station is in Slinger.

One of the primary contributors to air quality in the Village of Richfield is auto emissions. Providing access to mass transit, encouraging carpooling, and providing a trail system are methods discussed in the Transportation Element that can have a positive impact on air quality. Moreover, increased fuel costs encourage carpooling and other fuel reduction techniques, which have the added benefit of reducing air pollution.



View Corridors

The scenic, open views in the Village are an important part of the Village's rural, country character. Preservation of these views is an important consideration for future development. A supporting objective is included in the Implementation Chapter for this purpose.

What are Environmental Corridors?

As defined by the SEWRPC, environmental corridors are linear areas that contain concentrations of high-value elements of

Environmental Corridors & Isolated Natural Resource Areas

Environmental corridors encompass those areas in southeastern Wisconsin in which concentrations of recreational, aesthetic, ecological, and cultural resources occur, and which, therefore, should be preserved and protected in essentially natural, open uses. Preservation of the natural resource base-related elements, especially where these elements are concentrated in identifiable geographic areas, is essential to the maintenance of the overall environmental quality of an area, to the continued provision of certain amenities that provide a high quality of life for resident population, and to the avoidance of excessive costs associated with the development and operation and maintenance of urban land uses in the area.

Seven elements of the natural resource base are considered by the SEWRPC to be essential to the maintenance of the ecological balance and overall quality of life in an area. These elements include:

- 1) Lakes, rivers, streams, and associated shorelands and floodlands;
- 2) Wetlands;
- 3) Areas covered by wet, poorly drained, and organic soils;
- 4) Woodlands;
- 5) Wildlife habitat areas;
- 6) Rugged terrain and high relief topography having slopes exceeding 12 percent; and
- 7) Prairies.



Environmental corridors are shown on the future land use map and isolated natural resource areas are grouped together and shown as 'Environmental Corridor (Overlay)' on Map 13. Additional information about environmental corridors and isolated natural resource areas are available from SEWRPC.

Primary Environmental Corridors. The primary environmental corridors in the Village generally consist of large wetland areas located along river corridors, large tracts of woodlands, lakes and the surrounding shore land. The protection of the primary environmental corridors from intrusion by incompatible rural and urban uses and possible attendant degradation or destruction is one of the principal objectives of a local development plan. Preservation of these primary corridors in an essentially open, natural state, including limited agricultural areas, will serve to maintain a high level of environmental quality in the Village, protect its natural beauty, and provide valuable recreational opportunities. Such preservation will also avoid the creation of serious and costly environmental and developmental problems, such as flood damage, poor drainage, wet basements, failing pavements and other structures, and water pollution.

Secondary Environmental Corridors. In Richfield, secondary environmental corridors are located along perennial and intermittent streams or serve as links between segments of primary environmental corridors. These areas are restricted from development by the Washington County Shoreland/Wetland Zoning Ordinance and the Village's Zoning Ordinance as it pertains to Upland Conservancy areas.

Isolated Natural Features. In addition to the primary and secondary environmental corridors, other small concentrations of natural resource based elements exist within the Village. The forested

For More Information ...

The Wisconsin Architecture and History Inventory (AHI) includes 85 listings from Richfield, including several homes of early residents, farmsteads, churches, cemeteries and the Plat School. Properties listed in the AHI are part of the State of Wisconsin official historic catalogue. The AHI is comprised of written text (and some photographs) of each property, which documents the property's architecture and history.

The AHI inventory is housed at the State Historical Society of Wisconsin in Madison and is maintained by the Society's Division of Historic Preservation.

areas and isolated wetland and floodplain areas shown on Map 8 encompass many of these areas. Additional areas may be delineated through the Village's site plan review process, particularly pertaining to areas of slopes in excess of 12 percent. These areas, and others, will be protected through the open space requirements of the Village's Cluster Subdivision Ordinance.

4. Historical Resources

In 2013, there were 85 historic buildings listed in the Wisconsin Architecture and History Inventory Collection (AHI) and one building was listed on the National/State Register of Historic Places.

The Messer-Mayer Grist Mill, now located in the Richfield Historical Park, was listed in the National Register on May 30, 2007, and in the State Register on November 13, 2006. Milling on the property began in 1856 with the construction of a sawmill. While the sawmill collapsed in 1951, the gristmill, a three-story front gabled structure, constructed between 1871 and 1873, stands today. The gristmill contains all its original milling equipment, including the Edward P. Allis & Co. mill stones, four roller mills patented in 1897, and numerous sifters, bolters, storage bins, and belt elevators.

Other original buildings on the property include the miller's six-bedroom home with attached summer kitchen, a gable roofed barn, a woodshed, and a smokehouse. The milldam has fallen into disrepair and today the millpond is overgrown with grass and trees. The foundation of the sawmill and a pig barn can be identified, while the site of the old buggy shed is only a memory.



Messer-Mayer Grist Mill

In addition, the story of Richfield, from its glacial beginnings and early settlement, is documented in *Richfield Remembers the Past 1946 – 1996*. This 505-page book by Barbara A. Nelson and Margaret S. Holzborg provides a comprehensive look at the community.

5. Cultural Resources

Prior to European settlement, the Menomonee and Potawatomi Indians claimed and occupied lands in what is now Washington County. The Menomonee descend from an ancient indigenous people and lived in Wisconsin longer than any other human group. The Potawatomi tribe moved to Wisconsin from their ancestral homes in southern Michigan. French fur traders also lived in the region for many years co-existing with the Native American populations.

Many of Richfield's early settlers recounted stories and information about the Indian encampment sites located in the Village when they arrived or during their days of early settlement. Many of the identified sites are near local lakes and rivers. Sites include:

- Section 10 – south of Pleasant Hill along the east side of Hillside Road on the George Aulenbacher farm, a significant Indian burial site was unearthed in the 1930s. It was a site containing a number of Indian remains, all buried in a circle like spokes of a wheel with their heads toward the center. The Milwaukee Public Museum was involved in examining the site.
- Section 10 – along the Oconomowoc River south of Friess Lake.
- Section 25 – north of Amy Belle Lake around Lake Chief Heineker (Mud Lake) and on the south side of Amy Belle Road, west of Amy Belle Lake Road, in the hollow.



- Section 26 – along the south shore of Bark Lake and off Lakeview Road near the railroad tracks.
- Section 30 – west of Elmwood and St. Augustine Road just over the Richfield boundary in the Town of Erin.

Richfield's European settlement brought an agricultural culture to the Village. Life revolved around the land. Settlers in the first years did their farm work with oxen. Their grain and hay were cut with the scythe and cradle and agriculture, in general was carried on at a subsistence level. Over time local dairy, wheat and corn farms expanded. Churches and schools were established and small settlements (hamlets) were established. Evidence of Richfield's farming culture can be seen in both the active farms that remain on the landscape today, as well as, the cleared areas that are now occupied by rural housing.

Modern cultural facilities in Richfield include the many churches and schools scattered throughout the community. These facilities offer spiritual enrichment, education, and festivities (e.g., plays and ceremonies) that contribute to the local culture.

A wealth of additional cultural resources are available in the communities of Washington County, including a variety of museums, galleries, libraries, and theaters:



- Schauer Arts and Activities Center in Hartford. A theater and community arts education facility.
- Museum of Wisconsin Art in West Bend. A newly renovated art museum (2012) with 12,000sf of gallery space.
- The Washington County Fair Park. A multipurpose 42,000 square foot facility constructed in 1999. The grounds include a 24,000 sq. ft. pavilion, Agricultural and Equestrian Complexes and amphitheater entertainment areas. The site is used for conventions, trade shows, concerts, weddings, livestock, pet and horse shows.
- Ice Age Trail. This 1,000-mile trail passes through Washington County, near the Village of Richfield. The trail is in the Kettle Moraine along its entire route through Washington County. Several famous kames, such as Holy Hill, Powder Hill and the Polk Kames, dominate this narrow landscape. From south to north, the trail passes through the Loew Lake State Forest, past Holy Hill, through Pike Lake State Forest, downtown Slinger, Ridge Run County Park, and the City of West Bend before reaching the Milwaukee River and Northern Kettle Moraine State Forest. The views are spectacular from the many hilltops.
- Kettle Moraine Symphony. Unlike many orchestras, the Kettle Moraine Symphony does not have a home hall. However, they are a resident group at the Schauer Arts & Activities Center in Hartford, where they play at least four concerts each season. Other performances are "on the road."
- Washington County Historical Society.
- Germantown Community Library.
- Slinger Public Library.
- Hartford Public Library.
- Germantown Senior Center. This group offers open sessions on topics of interest (e.g., health, legal issues, or a travel). Activities include trips and tours, arts and crafts, baseball, darts, bowling, card playing, movies, painting, socials, exercise and much, much more.

Beyond Washington County, many additional cultural facilities and events are provided in Milwaukee and surrounding communities that are easily accessible to village residents.

6. Coordination with Other Comprehensive Plan Elements

The development of the Agricultural, Natural and Cultural Resources Element required coordination with all of the required plan elements. For example, when considering economic development strategies the limitations presented by natural resources (e.g., wetlands, floodplains) was important to consider as was the benefits natural areas provide to the local quality of living. Below is a description of the critical issues addressed with respect to the Land Use and Housing Elements. These elements are profiled because their coordination with the Agricultural, Natural and Cultural Resources Element is critical to the success of the plan.

Land Use

Residents of the Village have clearly indicated that the preservation of natural resources is a priority. As a result, when the future land use maps were developed special consideration was given to this priority and environmental corridors are provided. In addition, the goals, objectives and policies in this chapter include provisions to protect floodplains, wetlands, streams, lakes, kettles, and other natural resources.

Housing

Housing, if not carefully located and planned for, can have a severe impact on natural resources and farming operations. Housing development can fragment farming operations and wildlife habitat areas. If not carefully planned, additional traffic, people, and services associated with housing development can quickly destroy rural character. The Village of Richfield would like to encourage development within its boundaries while concentrating on those areas where services are readily available. Directing development in the Village will help to protect natural resources and farmlands in surrounding communities. This strategy for housing development is reflected in the future land use maps.

