



## Element 5 - Natural, Cultural & Agricultural Resources

### A. INTRODUCTION

Natural resources include the air, water, land, fish, wildlife, biota and other such resources present in the community. The Agricultural, Natural, and Cultural Resources chapter contains a compilation of background information, goals, objectives, policies, maps, and programs for the conservation and promotion of the effective management of natural resources such as groundwater, forests, productive agricultural areas, environmentally sensitive areas, threatened and endangered species, stream corridors, surface water, floodplains, wetlands, wildlife habitat, metallic and nonmetallic mineral resources, parks, open spaces, historical and cultural resources, community design, recreational resources, and other natural resources.

#### B. RESOURCE INVENTORY

### Soils

Soils play an important role in the community planning process. Soils have differing chemical and physical properties which affect their suitability to support residential development, road construction, septic systems and other land disturbing activities. Careful consideration of local soil properties as part of the planning process can potentially avoid future problems and costly remediation.

Soil types in the Village of Poplar have been identified by the Natural Resources Conservation Service (NRCS) as part of the Douglas County Soil Survey. In the survey, soils are rated based on their suitability for several specified uses, including construction, engineering, recreation, agriculture and wildlife uses. The soil inventory for Poplar identifies 41 different soil types scattered around the village. The Amnicon-Cuttre complex soil type covers nearly 35 percent of the village has a 0 to 4 percent slope. There are over 41 different soil types located in the Village of Poplar. See Map X for more details.

## **Topography**

The Village of Poplar lies in the northern highland geographic province of Wisconsin, which covers approximately one-third of northern Wisconsin. This expansive area is characterized by an upland area that stretches north into Canada and is a driftless area not at all modified by glacial erosion and deposition, but shaped entirely by weathering and stream erosion. Probably the most dominant features on the local landscape are the two main rivers that flow in the village; Middle River and Poplar River. Surface elevation ranges between 598 feet at its lowest point in the river valley to an elevation of 1,365 feet in the southeast corner of the Village. Topographic relief in the Village of Poplar is depicted in **Map X**.

Steeply sloping lands can present challenges or pose barriers to development. Steepness of topography is commonly expressed as percent slope (vertical rise/ horizontal run\*100). As a general rule, slopes in excess of 20 percent are of greatest concern for any land disturbing activity. Steep slopes do not necessarily preclude all forms of development; although, costly engineering and site preparation/mitigation measures are often required in order to minimize potential adverse impacts. Potential problems associated with development of excessively sloping lands include erosion and slope stability. Steep slopes in the





village tend to parallel small areas of the Middle and Poplar Rivers. Slopes exceeding 11 percent depicted in Map X.

#### Sensitive Resources

Wisconsin's Natural Heritage Inventory Program (NHI) focuses on locating and documenting occurrences of rare species and natural communities, including state and federal endangered and threatened species. NHI data is exempt from the Wisconsin Open Records Law due to the vulnerable nature of these sensitive resources. Determination of the specific locations of sensitive resources within the Village of Poplar will require coordination between the village and the Wisconsin Department of Natural Resources as this is extremely sensitive information.

#### Watersheds

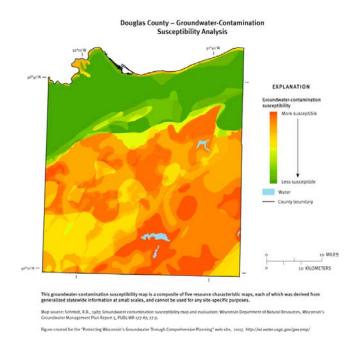
Nearly all of the Village of Poplar is included in the Amnicon and Middle Rivers Watershed. A small portion of the southeast corner of the village is in the Bois Brule River Watershed. Lands within the village drain directly into these watersheds which are part of the larger Lake Superior drainage basin. Watersheds in Poplar are shown on **Map X**.

#### **Surface Water Resources**

Surface water resources include perennial and intermittent named and un-named rivers, creeks and ponds. Named waters include the Middle River, Poplar River, Bardon Creek and Poplar Pond. Un-named creeks and streams are also found throughout the Village. There are two kinds of streams, perennial and intermittent. Perennial streams flow throughout most (>50%) of the year, while intermittent streams usually flow only after rainstorms or snowmelt and, therefore, are dry most of the year. See Map X for surface waters in the Village of Poplar.

#### Groundwater

Groundwater in the village and surrounding area is a good source of water supply for domestic and industrial purposes because it usually can be used without expensive treatment. Groundwater supplies are principally drawn from glacial sand and gravel beds in the region. Groundwater contamination susceptibility is generally based on the local soil conditions. In the Village of Poplar, clay soils with good drainage conditions predominate, resulting in a low susceptibility to groundwater contamination







### **Floodplains**

Floodplains are areas which are subject to periodic inundation by water. The physical floodplain boundaries were determined by the Federal Emergency Management Agency (FEMA) and are portrayed in the National Flood Insurance Program (NFIP) maps. Flood prone areas were determined by statistical analyses of records of river flow and rainfall, information obtained through consultation with the community, floodplain topographic surveys, and hydrologic and hydraulic analyses.

Most of the Village of Poplar does not lie within a floodplain. Areas directly adjacent to the Poplar River and Middle River are the most flood prone lands in the community. Floodplains in the Village of Poplar are shown in **Map X**.

#### Wetlands

A wetland is commonly defined as an area where water is near, at, or above the land surface long enough to be capable of supporting aquatic or hydrophytic (water-loving) vegetation and which has soils indicative of wet conditions. These valuable natural resources provide many "free" benefits to man through the natural services they provide. In the Village of Poplar, three main types of wetlands occur – most of which are forested wetlands. Table 5.1 details the acreage associated with each wetland in Poplar and Map X depicts these wetland areas throughout the Village of Poplar.

The Department of Natural Resources classifies wetlands on the basis of vegetation type, soil type, and the degree of saturation or water cover.

Wetland Type	Conditions	Associated Plant Species
Emergent	Open, marsh, lake, riverine and estuarine communities with permanent standing water	Pondweed, duckweed, lotus and water-lilies, cattails, bulrushes, pickerelweed, lake sedges and/or giant bur-reed
Scrub/shrub	Bogs and alder thickets	Woody shrubs and small trees such as tag alder, bog birch, willow and dogwood
Forested	Bogs and forested floodplain complexes characterized by trees 20 feet or more in height	Tamarack, white cedar, black spruce, elm, black ash, green ash and silver maple

Table 5.1: Wetlands, Village of Poplar

Туре	Acres in Village
Emergent, wet meadow	5.9
Scrub/shrub	46.29
Forested	252.54
Total	304.73





### Wetland Requirements

The United States Army Corps of Engineers, the Wisconsin Department of Natural Resources, and local zoning codes regulate wetlands. Section 404 of the Clean Water Act establishes programs to regulate the discharge of dredged and fill material into waters of the state, including wetlands, and is the primary federal regulatory program for wetlands.

The Village of Poplar Zoning Code regulates the use/alterations of wetlands in the village. The regulations contained within this document apply to all lands within one thousand (1,000) feet of the ordinary highwater mark of any navigable lake, pond, or flowage and those lands within three hundred (300) feet of the ordinary high-water mark of any navigable river or stream.

#### Wildlife Habitat

Areas of primary wildlife habitat in the Village of Poplar include unbroken forested tracts, wetlands and stream corridors. Common wildlife species found within the village include whitetail deer, small mammals and migratory and resident birds.

There are three primary issues of concern related to wildlife habitat planning: fragmentation, invasive species, and pollution. Fragmentation involves the splitting up of large contiguous tracts of habitat into smaller pieces. Fragmentation increases the amount of edge areas, favoring species such as whitetail deer and ruffed grouse, but negatively impacts others due to increased predation/competition among species and increased range expansion of exotic species. Invasive/exotic species pose serious threats to wildlife populations. These species, once established, can decimate native species by out competing with them for food and/or habitat. Because exotics are not part of the native ecosystem, they often have no natural (local) predators, thus may become prolific once established.

There are no documented aquatic invasive species in the Village of Poplar. It should be noted that there may be areas of invasive species occurrences in the village that have not been surveyed.

#### Metallic and Nonmetallic Mineral Resources

### Metallic Mining

A metallic mine in Wisconsin is subject to many rules and regulations. Before a mine can be developed, Wisconsin requires a metallic mining permit and approved plans for environmental monitoring, mining, and reclamation, a risk assessment, and a contingency plan. An Environmental Impact Statement (EIS) must be prepared by the WDNR in order to assess the potential impacts of the proposed mine. The WDNR is also responsible for monitoring construction, mining, and reclamation activities.

The Wisconsin mining statutes state that the local municipality within which a metallic mine site is located has zoning approval authority over a proposed metallic mine. Before a proposed metallic mine can receive approval from the state, the local municipality must have granted its approval under its zoning or land use ordinances or have entered into a legally binding agreement with the mining proponent. There are no known metallic mineral deposits in the Village of Poplar





### Non-metallic Mining

Chapter NR135 of the Wisconsin Administrative Code requires that all counties develop and adopt a non-metallic mining reclamation ordinance. NR 135 ensures that all nonmetallic mining sites are reclaimed in compliance with the uniform statewide reclamation standards by providing the detailed requirements and reclamation standards for local ordinances. There are no active non-metallic mining operations within the Village limits.

#### C. NATURAL RESOURCE PROGRAMS

The following list of programs may be used by the Village of Poplar to achieve the goals and objectives presented in this comprehensive plan. This list is not comprehensive, and many other state and federal programs also exist.

### **Runoff Management Grants**

The Wisconsin Department of Natural Resources administers two grant programs to support both the implementation of source-area controls to prevent runoff contamination and the installation of treatment systems to remove pollutants from runoff. The Targeted Runoff Management Program (TRM) provides a 70 percent cost share, up to \$150,000 to target high-priority resource problems.

- Construction of urban and rural BMP's
- 2 year grant period
- Site-specific

The Urban Nonpoint Source & Storm Water Management (UNPS&SW) Grant Programs are used to control runoff in urban areas, with a population density of 1,000 people per square mile

### **WDNR Stewardship Grants**

WDNR Stewardship grants to local units of government provide funding for land acquisition, development and renovation projects for nature-based outdoor recreation purposes. Applicants must have a Department approved comprehensive outdoor recreation plan or master plan which has been approved by resolution.

- Acquisition of a conservation easement
- Land purchases
- Development and renovation projects for the purpose of nature-based outdoor recreation
- **/** Development and renovation of support facilities
- ♣ Shoreline habitat restoration projects

- Purchase of land for noncommercial gardening for inhabitants of urbanized areas.

#### Conservation Reserve Program (CRP)

The CRP Program provides rental payments based on the agriculture rental value of the land, and provides costshare assistance for up to 50 percent of the participant's eligible costs to establish approved conservation practices. Participants enroll in CRP contracts for 10 to 15 years. The program is administered by the Farm Service Agency (FSA), with technical assistance provided by NRCS and the Wisconsin Department of Natural Resources.





### Managed Forest Law (MFL)

Wisconsin's Managed Forest Law Program is intended to promote sound forestry management practices by providing property tax reduction incentives to landowners. Wooded parcels at least 10 acres in size are eligible for enrollment, provided at least 80% of the land is productive forest land. Lands may be enrolled for either 25 or 50 year periods. Forest management plans are also required. Benefits of MFL enrollment include,

- Sustainable management plan
- Automatic eligibility for ATFS group certification
- Protection against overcutting
- Protection against annual tax hike
- Deferred tax until harvest
- Landowners are allowed to close up to 160 acres of their lands to the public but no more than 80 of the 160 acres may have been entered in 1987 through 2004.
- ◆ Technical assistance
- Permits conversion from FCL prior to the end of the FCL agreement.
- Long-term investment
- Encourages woodland expansion

#### Wildlife Habitat Incentives Program (WHIP)

This federal program, administered by NRCS with WI DNR inputs, provides up to 75 percent cost share with emphasis towards:

- Wildlife practices and plantings
- Wetland restoration
- Farmstead shelterbelts
- Grazing systems

#### **Environmental Quality Incentives Program (EQIP)**

This federal program is administered by NRCS with WI DNR inputs and provides up to 75 percent cost share for certain conservation practices. Incentive payments may be provided for up to three years to encourage producers to carry out management practices they may not otherwise use without the incentive. However, limited resource producers and beginning farmers and ranchers may be eligible for cost-shares up to 90 percent.

#### D. AGRICULTURAL RESOURCES

#### **Existing Agriculture**

In 2008, approximately 38% or 2,886 acres of land in the Village of Poplar were being used for agricultural purposes (Existing Land Use Map). Most of the agricultural land base in Poplar is used for the cultivation of crops. There was one dairy farm within the village limits as of this writing. Related to agricultural land is prime farmland. Prime farmland is defined by the Natural Resources Conservation Service as "land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops. The land must also be available for these uses (cropland, pastureland, forestland, or other land but not water or urban built-up land)." Prime farmland has the soil quality, growing season, and moisture supply needed to economically produce sustained





high yields of crops when treated and managed, including water management, according to acceptable farming methods. Prime farmlands in the Village of Poplar are shown in Map X.

#### Farmland Preservation

Douglas County Farmland Preservation Plan

The Douglas County Farmland Preservation Plan (1982), drafted under the 1977 Wisconsin Farmland Preservation Act, provides detailed statistics, background information, maps, goals, objectives, and polices for farmland preservation. The plan also identifies key agricultural preservation areas within the county. The plan identifies the village as an "excluded area", meaning they are currently developed, or used for other purposes and not expected to revert back to agriculture.

### E. FARMLAND AND NATURAL RESOURCE PROTECTION TOOLS

### **Conventional Zoning**

Zoning is a tool that gives governmental bodies the power to intervene in the lives of private citizens for the protection of public health, safety, and welfare. Zoning separates conflicting land uses and ensures that development is directed in certain areas that can accommodate that particular land use. Several different types of specialized zoning exist. This is the primary land use regulatory tool used in Douglas County.

#### **Open Space Zoning**

### Cluster Design Approach

Under conventional zoning, a development designation is assigned to every acre of land within a jurisdiction. Typically, there is no land left over for open space/undeveloped land. Compulsory open space zoning could require that the "clustering" technique (outlined under Conservation Design Subdivisions) be used in order to group new homes onto a portion of the development, while preserving the remainder as unbuilt open space. Under this form of development, the same number of homes would be permitted on the site as a conventional design. Decisions on whether or not open space zoning should be obligatory should be based on local desires and requirements. Alternative approaches to mandatory open space zoning include requiring this form of development only in certain designations, or only in situations where specified resources exist (as defined by the local jurisdiction), or to mandate open space zoning in situations where a conventional development plan would remove or degrade more than a specified percentage of the site's resources.

### Limited Use Approach

This designation is designed to preserve and enhance the use of open-space lands as a limited and valuable resource. It is further intended to permit limited but reasonable use of open-space land while protecting the public health, safety, and welfare.

Using this approach, a new zoning district is created (Open Space Zoning District). Typically, this designation would apply to lands identified by a comprehensive plan as "Open Space Areas" or "Resource Conservation Areas". Examples of permitted uses may be those activities that enhance or protect environmental resources or recreational activities.





### Performance Zoning

Performance zoning uses performance standards to regulate development. Performance standards are zoning controls that regulate the effects or impacts of a proposed development instead of separating uses into various zones. The standards are often related to site development capability. For example, in agricultural areas, performance zoning could be used to limit development on prime agricultural soils and allow development on lower quality soils.

### **Transfer of Development Rights**

The TDR program is a non-regulatory (voluntary) approach that allows the right to develop property to be transferred from one parcel (or zoning district) to another. Under a TDR program, development rights to a parcel of land are transferred from a "sending area" to another parcel referred to as the "receiving area". Sending areas are typically those areas where development is discouraged or limited, and receiving areas are areas where growth and development are encouraged. Under some TDR programs, local government awards development rights to each parcel of developable land in the community or in selected districts on the basis of the land's acreage or value. Landowners can then sell the development rights on the open market. The TDR program has been widely implemented at the local level due to the fact that it requires no major financial contribution by local government.

### **Conservation Design Subdivisions**

The conservation design subdivision concept is an alternative development design to the conventional residential subdivision. Conventionally designed subdivisions are typically characterized by land divided into house lots and streets, with minimal (if any) open space. Usually, the remaining open space lands consist of the undevelopable portion of the subdivision (steep slopes, wetlands, floodplain, etc.). The conventional subdivision lacks communal open space, community woodlands, or other open areas where people can meet and interact.

The purpose of a conservation design subdivision is to provide opportunity for development while maintaining open space characteristics, and/or farmland and while encouraging interaction among residents through site design and protection of habitat and environmental features. A typical conservation design subdivision contains the same number of lots that would be permitted under a conventional design. The lots are typically smaller than conventional lots and are designed for single-family homes reminiscent of traditional neighborhoods found in small towns throughout America.

The compact design of a conservation subdivision allows for the creation of permanent open space (typically 50 percent or more of the buildable area). This undeveloped land may serve as community open space land, farmland, or natural area. The conservation design subdivision has proven economic, environmental, and social advantages over conventionally designed subdivisions including:

### **Economic Advantages**

- Attractiveness of lots for home development
- Reduction in demand for public parklands

#### **Environmental Advantages**

- Protection of conservation areas and upland buffers (which would normally be developed)
- / Improved water filtration due to presence of vegetation and buffers





Opportunities for non-conventional septic system design

### Social Advantages

✔ Opportunities for interaction among residents (common open space)

Pedestrian friendly

Greater opportunity for community activities

### Best Management Practices (BMP's)

Best management practices describe voluntary procedures and activities aimed at protection of natural resources. The recommendations portion of the plan narrative describes the use of three types of BMP's: shoreland, construction, and forestry.

#### Shoreland BMP's

Shoreland BMP's are a set of specific actions that landowners can take to help protect and preserve water quality. In many cases, this means preserving the natural characteristics of shoreland property.

The shoreland BMP's produced by the University of Minnesota-Extension (UM-EX) provide specific instructions for a large range of property types (e.g. steep slopes, low vegetation, etc.) and issues pertaining to human use of shoreland (e.g. septic systems, gardens, landscaping, etc.). The information for these BMP's has been gathered from many different sources and is very thorough. Wisconsin does not have a specific set of shoreland BMP's, as it relies on forestry and construction BMP's to cover the shoreland area. As more information is gathered on the impact of human activity on shoreland, the BMP's may change accordingly. The shoreland BMP's outlined by UM-EX are meant to apply to all landowners on and near surface waters. It has been discovered that heavy land use by humans on, as well as around, shorelines can promote pollution of the water for human use and disrupt the natural habitation of the area.

The UM-EX Shoreland BMP's contain 20 "Fact Sheets" which provide detailed instruction and diagrams on the topics mentioned above. Some of the Sheets are titled:

★ Stabilizing Your Shoreline To Prevent Erosion

Caring For Shoreline Lawns and Gardens

Managing Your Shoreline Woodlot

Managing Crops and Animals Near Shoreland

Conserving Water

#### Construction BMP's

The soil erosion rate in Wisconsin during construction is 10 to 100 times greater than the rate of erosion from agriculture. This erosion and the resulting sedimentation significantly degrades the quality of Wisconsin's surface waters.





Construction BMP's are a set of measures and practices gathered and organized by the Department of Natural Resources from numerous agencies throughout the country which are used to eliminate or drastically reduce this erosion and sedimentation brought on by construction and development.

In the Wisconsin Construction Site Best Management Practice Handbook, the principals of erosion and sediment control are described and then the details of seven subjects related to the prevention of erosion are explained. The seven subjects included in the Handbook are:

- Diverting Flow
- Managing Overland Flow
- Trapping Sediment in Channelized Flow
- Establishing Permanent Drainage Ways
- Protecting Inlets
- Trapping Sediment During Site Dewatering
- Preventing Tracking

Within each of these subjects, there are subsections providing more information on specific types of problems. For example, in the "Diverting Flow" section temporary and permanent diversion are discussed. In the "Managing Overland Flow" section, numerous blockades are discussed including Silt Fences, Straw Bale Fences, Mulching, and Seeding. In "Trapping Sediment in Channelized Flow", different barriers such as Straw Bale Barrier and Sediment Basin are diagrammed and explained. The means to effectively implement each strategy are covered in depth in the handbook and often include diagrams and site-specific directions.

### Forestry BMP's

The goal of forestry BMP's in Wisconsin is to help loggers, landowners, and land managers be good stewards by protecting water quality during forest management activities. The Wisconsin Department of Natural Resources guide titled "Wisconsin's Forestry Best Management Practices for Water Quality" outlines in detail the procedures and practices recommended to attain this goal. These practices are voluntary in the sense that they are not legally binding but are strongly recommended by the DNR to ensure clean and safe water in Wisconsin.

There are eight subject headings in the Forestry BMP. Each of them describes in detail actions and practices that pertain to the specific topic, including:

- Fuels, Lubricants, and Spills
- Riparian Management Zones
- Mechanical Site Preparation and Tree Planting
- ↑ Timber Harvesting
- Prescribed Burning and Wildfire
- Chemicals
- Wetlands

Within each of these subjects there are more specific topics covered. For example, the Forest Roads BMP gives instructions for Stream Crossing, Road Drainage, Drainage Structures, Soil Stabilization, and Road Maintenance. The Timber Harvesting BMP includes Planning, Harvesting, Landings, and Skid Trails.

For more details, refer to the "Wisconsin's Forestry Best Management Practices for Water Quality" Field Manual. It is available online or in print form the WDNR.





### AGRICULTURAL RESOURCE GOALS AND OBJECTIVES

#### F. HISTORIC AND CULTURAL RESOURCES

Cultural and historic resources are essential in understanding a community's settlement pattern and heritage. These resources serve as a bridge between the past and the present and often play a significant role in defining community character.

#### Wisconsin Architecture and Heritage Inventory

The official historic resource catalog for the State of Wisconsin is the Wisconsin Architecture and Heritage Inventory (AHI). The AHI is a search engine which contains a documentation of 120,000 properties in the State of Wisconsin. This database is maintained by the Wisconsin Historical Society, based in Madison, Wisconsin. There are currently no properties listed in the AHI database for the Village of Poplar. Historic properties and resources may exist within the Village of Poplar but have yet to be identified or published. Properties listed in the AHI are not given any special status or increased level of protection.

#### The National and State Register of Historic Places

The National Register of Historic Places was authorized under the National Historic Preservation Act of 1966. Properties listed in the register include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture. The National Register is administered by the National Park Service (NPS), which is part of the U.S. Department of the Interior. There are currently no properties on the National and State Register of Historic Places in the Village of Poplar.

#### Resources for Historic Preservation

The Wisconsin State Historical Society

The WHS is a both a state agency and a private membership organization. The state office is located in Madison. By state statute, the WHS is responsible for collecting, advancing, and disseminating knowledge of Wisconsin.

Wisconsin Historical Society History Center and Archives (HCA)

The HCA serves as the northern field office of the Wisconsin State Historical Society, from its offices at the Northern Great Lakes Visitor Center. The HCA is part of a statewide network of Area Research Centers and is managed by the Society's Division of Historic Sites.

Douglas County Historical Society

The Douglas County Historical Society works to collect and preserve the historic and cultural heritage of Douglas County. Their office is located at 1101 John Avenue in the City of Poplar.

#### Historical and Cultural Resource Programs

The following list of programs may be used by the Village of Poplar to achieve its historic and cultural resource goals and objectives presented in this comprehensive plan. This list is not comprehensive, and many other state and federal programs may also exist.





### Wisconsin Historic Preservation Fund Subgrants (Tax Credits)

Historic Preservation Fund (HPF) subgrants are administered by the Wisconsin Historical Society's Division of Historic Preservation (DHP). These grants are in the form of income tax credits for income-producing historic buildings, historic homes, and archaeological sites. These credits are available to all local units of government in the State of Wisconsin and to non-profit organizations.

#### Wisconsin Humanities Council Historic Preservation Grants

The Wisconsin Humanities Council offers grants of up to \$10,000 for projects that enhance appreciation of the need for historic preservation and/or increase public awareness of the importance of particular historic buildings or decorative art works in Wisconsin. Preference is given to small towns and rural communities with populations under 30,000.

#### National Trust for Historic Preservation/Jeffris Preservation Services Fund (PFS)

This fund was established in 1998 by a gift from the Jeffris Family Foundation to the National Trust. The PSF provides funding to small towns to use in the planning stages of historic preservation projects. Eligible expenses include costs for professional consultants and educational activities. A dollar for dollar match is required for these grants.

### HISTORIC AND CULTURAL RESOURCES GOALS AND OBJECTIVES