

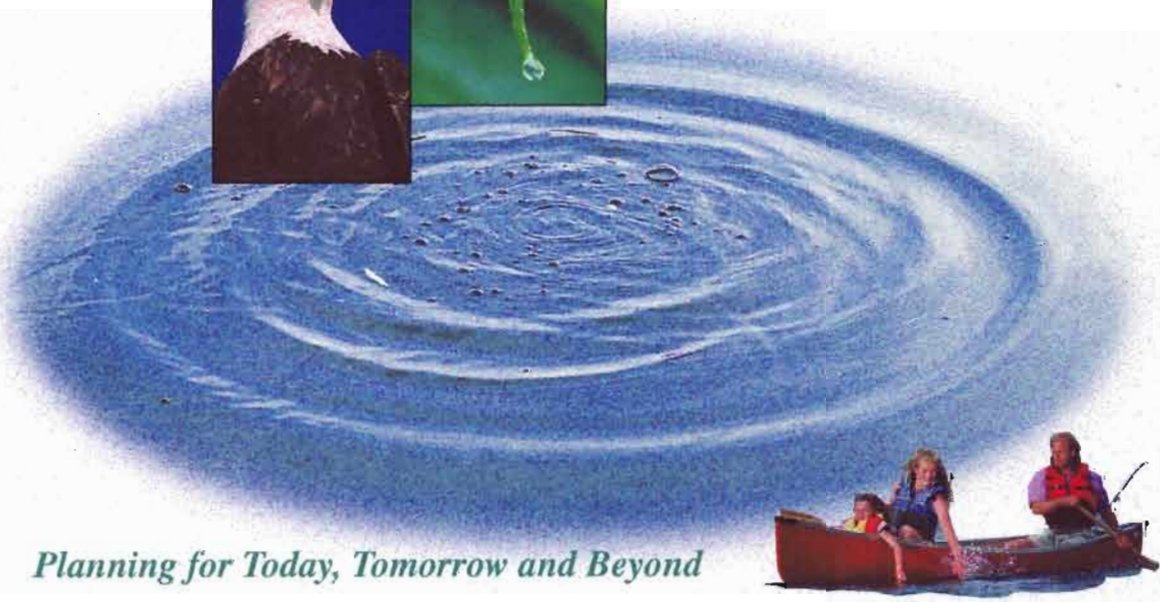
Planning Report **PRE FINAL**



# Newbold Year 2020 Comprehensive Land Use Plan

Town of Newbold  
Oneida County, Wisconsin

April 1999



*Planning for Today, Tomorrow and Beyond*



**Foth & Van Dyke**  
consultants - engineers - scientists

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## 1 Forward

Nestled in the heart of the highest concentration of fresh water lakes in North America, the Town of Newbold is home to a unique habitat and freshwater environment which is occupied by friendly, caring individuals. The Town of Newbold, formed in 1898, is a rural town with village powers comprising three geographic townships. Located in central Oneida County, the Town of Newbold covers approximately 100 square miles and is home to over 145 lakes, 14 square miles of water and approximately 175 miles of lake shoreline.

The Town of Newbold faces significant challenges to its environment as town officials prepare for managing growth and change into the next century. Blessed with an abundance of lakes, the Wisconsin River and over 19,000 acres of public land within the Northern Highland American Legion State Forest, town officials must assume the responsibility of ensuring that the natural amenities residents and visitors have come to enjoy will be preserved for future participants. They will also face the challenge of balancing their stewardship responsibilities with the town's need to provide basic economic opportunities in a land which experienced tough economic times decades before.

Pressure to develop lake and river front property and the fragmentation of larger forest tracts are forces which will continue. These pressures will be driven by market demand to acquire and develop these types of appealing properties. Increased development pressure is evidenced by the construction of new dwelling units within the town; in 1993 there were 29 permits issued for the construction of new dwelling units; in 1997 the number increased to 43. During the past five years a total of 175 permits have been granted for new dwellings in the town; an average of 35 permits per year. Another indicator of development pressure is the increase in the town's equalized value which saw the 1990 value of \$90 million increase to more than \$200 million in 1998. The current building boom which began in the early 1990s was spawned by a prosperous national and state economy and favorable mortgage rates. There is also a strong feeling by many residents and developers that the recent economic surge experienced in Northern Wisconsin is long overdue and should be allowed to continue free of the "shackles" local and county government may impose.

The fact that lake and river front property is a limited resource adds to the need to manage the use of this property to strike a balance between the need to capture the economic opportunities waterfront properties present without major negative impacts to water quality and the environment.

Much has been written recently about managing the northern Wisconsin environment relative to the existing and future pressures the area will receive to accommodate residential, commercial and recreational growth. In 1995 the WDNR published *Northern Initiatives: A Strategic Guide for DNR Management in Northern Wisconsin in the Next Decade- 1996-2006*. The report was based on the guiding principle: Keeping the North the North. The report culminated more than two years of discussions with the public, analysis by WDNR staff, and a great deal of advice

from many groups, organizations and private citizens. The major issues identified by the report process included the following:

- ◆ The quickening pace of change in the north;
- ◆ Impacts of shoreline development;
- ◆ Mining;
- ◆ Forest management practices
- ◆ The DNR's role in the north; and,
- ◆ Land use

As a follow-up to the *Northern Initiatives Report* the WDNR published *Northern Wisconsin's Lakes and Shorelands: a report examining a resource under pressure* in January 1996. The report was conducted to address public response stemming from the need to better understand the development pressures on Northern Wisconsin Lakes. The report revealed the following interesting facts:

- ◆ Since the 1960s, about two-thirds of previously undeveloped lakes 10 acres and larger have been developed (had one or more dwellings built on their shores);
- ◆ The average number of dwellings on shorelands not in public ownership has more than doubled over the same time period; and
- ◆ all undeveloped lakes not in public ownership could be developed within the next 20 years--at the latest-- if the present development rates persist.

The report stated those serene, idyllic lakes where people seek to "get away from it all" are rapidly disappearing as cabins, piers, boat shelters and other developments increasingly line their shores.

The report went on to examine the biological, sociological and economic value of northern Wisconsin Lakes. It also addressed changing land use on Northern Lakes and changes in the development of lakes and shorelands. The report concluded by identifying four recommendations to be carried out in cooperative efforts between the WDNR, shoreland owners, developers, local government, tribal governments, lake associations and conservation organizations. They were:

- ◆ Expand public information and education efforts that will describe the environmental, social and economic importance of lakes;
- ◆ Target assistance to owners of the more ecologically important undeveloped lakes and shorelands (private citizens, businesses and developers) who are interested in voluntary private conservation measures;

- ◆ Provide technical and financial assistance to local municipalities, upon request, for developing and adopting enhanced shoreland zoning ordinances to minimize development impact on natural resources; and
- ◆ Assist local governments and private conservation organizations with acquiring ownership of ecologically important lakes and shorelands.

1997 saw the development of two additional reports which focused on lakeshore development. The *Inland Lakes Sustainability Study* was undertaken by the WDNR and the Sigurd Olson Environment Institute of Northland College. The project sought to determine how well existing shoreland zoning regulations in northern Wisconsin protect wildlife habitat. *Protecting Inland Lakeshores of the North* was a report published by the Sigurd Olson Environment Institute from results obtained from the Robert E. Matteson Workshop held on September 9, 1997. This report drafted ideas for new and creative methods to protect inland lakes.

There were other motivational factors the Town of Newbold was aware of as well which pointed to the need for local government involvement. At the state level, the State Interagency Land Use council assembled under the direction of Governor Tommy Thompson published the report *Planning Wisconsin* on July 1, 1996. The report had numerous recommendations but primarily focused on giving each level of government, including towns, greater responsibility and interlocking role in land use planning. Likewise, the Wisconsin Towns Association (WTA) advocated for town government to become more active in the development of local land use plans. In fact, during the WTA's 1996 and 1997 district tours, the association strongly encouraged that towns develop land use plans as a tool to manage growth and change.

With the extent and knowledge of regional and state issues well in hand, the Town of Newbold sought to "do their part" to help address local land use issues and set their course into the next millennium.

The Town moved into action on local land use planning by executing an agreement with the consulting firm of Foth and Van Dyke on June 2, 1997 to assist in the development the town's first land use plan.

Town officials took four major steps to launch the development of the plan:

1. The town submitted and was successful in obtaining a WDNR Lake Planning Grant to off-set the cost of developing the plan.
2. The town established a moratorium on all subdivisions, rezoning and conditional use permits through Oneida County.

3. The town established a ten member Public Advisory Committee (NEWPAC) to guide the development of the plan and,
4. The town held an Issues Identification Workshop on June 25, 1997 before the plan commenced to encourage local input into the planning process.

As a result of over 12 meetings with NEWPAC and four public informational meetings, the *Newbold Year 2020 Land Use Plan* evolved. The plan was developed per the dedication and hard work of NEWPAC, Town Officials and residents who contributed unselfishly to developing a plan per which they would be proud.

The Town of will refer to this document to find guidance for future development, rezoning, and land division decisions. It is through the utilization of this document, that the town hopes to attain its land use vision.



## **8 Physical and Biological Characteristics (Natural System Profile)**

This section of the Comprehensive Land Use Plan explores the physical and biological characteristics, and natural environment, which collectively comprise the Town of Newbold. The purpose of this investigation is to analyze the influence of these elements on the Town prior to determining any future development areas so the preservation of the Town's unique natural areas can be encouraged. The physical, biological and natural elements to be reviewed include: climate, topography, geology and soils, vegetation types, watershed and sub-watersheds, environmentally sensitive areas, water features, woodland and agricultural land features, and natural areas.

The Town of Newbold is located in the central - north central portion of Oneida County with the southern extreme border adjacent to the Rhinelander City limits. The Town is bounded by Vilas County to the north, the Town of Woodruff, Lake Tomahawk and Cassian to the west, the Town of Crescent to the south, and the towns of Pine Lake and Sugar Camp to the east. Newbold has a total land area of 59,488 acres.

### **Climate**

The climate of Newbold is classified as a continental climate because it experiences distinct weather changes that are characteristics of a mid-latitude interior location. Atmospheric influences of both high and low pressure systems from both northerly and westerly directions can change the weather in a matter of a few days. The summers are characterized as having warm, not excessively hot, days with cool nights. The long winters are cold and snowy.

According to the Soil Survey of Oneida County, the average annual precipitation is 30.66 inches, with an average annual temperature of 41.2 degrees Fahrenheit. The average annual summer temperatures range from 56.4 to 67.8 degrees Fahrenheit, while the average annual winter temperatures range from 10.4 to 31.1 degrees Fahrenheit. The average number of growing degree days from April to October in a year is equivalent to the maximum and minimum temperature added together and divided by two. Fifty is subtracted from the answer because 50 degrees Fahrenheit is the minimum temperature needed for plant growth. Based on this calculation, Oneida County experiences 1,954 growing degree days during the growing season.

### **Glacial Geology**

As described in the Soil Survey of Oneida County, the Town of Newbold is located in the Northern Highlands physiographic region of Wisconsin. This region is characterized as a gently arched dome with crystalline rock below. Covering the crystalline rock are glacial deposits which developed primarily during the various stages of glaciation of the last ice age. Underlying the crystalline rock are various types of bedrock which are displayed in the Bedrock Geology Map 8-1.

## **Groundwater**

The geological features of the area also influence groundwater availability. According to a U.S. Geological Survey completed by the Department of Interior for the Upper Wisconsin River Basin (1975), the groundwater supply in the Town of Newbold is adequate for domestic use. The water aquifer ranges from ten to fifty feet below the earth's surface throughout the Town. Because the aquifers in the area do not penetrate very deep into the crystalline bedrock, and since the water in these aquifers have been in close contact with the rock for a long period of time, higher mineral concentrations are often detected in the local water.

The influence of higher mineral concentrations has already become evident in the Town of Newbold with the Newbold Elementary School having to use bottled water due to the high copper content in the on-site well. Similar issues or problems with on-site wells for local water consumption continue to occur. The Town of Newbold should continue to work with the WDNR Drinking and Groundwater Division to monitor these issues and should also consider exploring the development of a public water system in the more dense regions of the Town to prevent future problems.

## **Topography and Drainage**

The topographic features within the Town of Newbold include gently rolling hills near and around the abundance of surface water features while the predominate relief of the land is fairly level. Elevations range from fifteen hundred feet above sea-level to the upper sixteen hundred feet above sea-level. The relatively level relief affects the drainage patterns of the Town whereas the Geological Survey indicates that the drainage pattern for the Town is irregular and considered poorly developed due to the numerous lakes, streams, and wetland areas. However, the abundance of surface water is a natural asset to the Town as it attracts both visitors and residents. Drainage does occur from the Newbold area into the Wisconsin River as the river meanders along the western border of the Town. The Wisconsin River flows south eventually discharging into the Mississippi River.

## **Soils**

The soils within the Northern Highlands region display the effects of the last glacial period because distinct soil variation occurs within relatively short distances. To help evaluate the soils within the planning area, the Oneida County Soil Survey presents the descriptions and locations of the general soil associations within the Town.

Five different general soil associations, as classified by their major soil content, are found within the Town. It should be noted that these general descriptions are guidelines and should only be referred to as such. The location of specific soil types with regards to their suitability for structures with basements and septic systems are discussed in greater detail following the general soil associations.



- ▶ *Keweenaw-Vilas Association*: located throughout the central portion of the Town, and along the southern side of the Wisconsin River. This association is generally found on flats, ridges, knolls, and side slopes. The slope ranges from 0-30 percent. The Keweenaw soils are moderately well drained to well drained, while the Vilas soils are excessively drained. The soils are loamy and sandy. In most areas in Newbold this association is covered with woodland, with smaller areas being used for tree farms and residential areas.
  
- ▶ *Au Gres-Croswell-Kinross Association*  
This soil association is found in the northern area east of the Rainbow Flowage, and in southern portion of Newbold adjacent to the Wisconsin River area. The soils are found on flats and in depression. The slope ranges from 0-3 percent. The soils range from moderately drained to poorly drained with a sand or mucky consistency to the soils. Within Newbold this association is predominately covered by woodlands, with smaller areas used for residential purposes.
  
- ▶ *Sayner-Vilas Association*  
This soil association is found in the along the northern Town border, west of the Rainbow Flowage, along the northern edge of the Wisconsin River, and adjacent to the Rhinelander area. The location of this association is generally on flats and in depressions. The slope ranges from 0-45 percent. Drainage ranges from moderately to poorly drained. The soils are considered sandy and mucky. The major areas of this association predominately contains woodlands, with residential areas dispersed throughout.
  
- ▶ *Padus-Pence Association*  
This soil association is located in the southwest corner of the Town and a sliver on the north side of the Two Sisters Lake. The association is generally located on flats, knolls, and side slopes. The slopes range from 0-45 percent. The drainage ability of these soils range from well drained to moderately well drained. The soils are considered loamy, and predominately covered by woodlands as well as residential uses.
  
- ▶ *Greenwood-Dawson-Carbondale Association*  
This soil association is located near Muskellunge Lakes in the north-central portion of the Town, as well as near the McNaughton area. These soils are nearly level, with 0-1 percent slope, and are located in depressions and basins. The drainage of these soils is considered very poor with the soils being of a peaty and mucky consistency. This area is almost exclusively covered by woodlands within the Northern Highlands American Legion State Forest.

The inventory of information provided through the soil survey not only provides the general soil associations for the Town, but provides soil information useful in identifying the suitability or limitations

of various soils for specific land uses. The suitability of the various soil associations in Newbold relative to septic tank absorption fields and dwellings with basements are presented in Map 8-2 and Map 8-3.

♦ **Rivers and Lakes**

The most predominate surface water feature in the Town of Newbold is the Rainbow Flowage (Reservoir) as fed by the Wisconsin River. The Rainbow Flowage is a unique feature within Newbold because the flow is regulated by the operation of headwaters storage reservoirs on the Wisconsin River by the Wisconsin Valley Improvement Company (WVIC). The regulation of the Wisconsin River and the associated Rainbow Flowage provides greater flood control, low flow augmentation/water quality improvement, conservation of natural resources, and water-based recreation. The Rainbow Flowage was established in 1935 and it consists of four thousand one hundred and sixty-five (4,165) acres of area, a maximum depth of twenty-six (26) feet and sixty-three (63) miles of shoreline. It is the policy of the WVIC to maintain the Rainbow Flowage as a natural, undeveloped area that is accessible to the public.

In addition to the unique environment the Rainbow Flowage and Wisconsin River provide to the Newbold area, the one hundred and thirty-seven lakes within the Town also provide a variety of water environments for the residents and visitors. The following table presents an inventory of the lake resources within the Town of Newbold

**Table 8-1  
Lake Inventory Data  
Town of Newbold & Oneida County**

Oneida County			Town of Newbold		
Lake Size (Acres)	Number of Lakes	Percent of Total Lakes	Number of Lakes	Percent of Total Lakes	Percent of Total Lakes in Oneida County
Less than 1.0	402	35.7%	21	15.3%	1.9%
1.1 - 5.0	229	20.3%	43	31.4%	3.8%
5.1 - 10.0	95	8.4%	14	10.2%	1.2%
10.1 - 15.0	45	4.0%	12	8.8%	1.1%
15.1 - 20.0	38	3.4%	6	4.4%	0.5%
20.1 - 50.0	131	11.6%	19	13.9%	1.7%
50.0 - 100.0	53	4.7%	10	7.3%	0.9%
Greater than 100.1	134	11.9%	12	8.8%	1.1%
<b>Total</b>	<b>1127</b>	<b>100.0%</b>	<b>137</b>	<b>100.1%</b>	<b>12.2%</b>

Source: *Surface Water Resources*, Wisconsin Conservation Department, Madison, 1966.

As presented in Table 8-1, the Town of Newbold has similar percentages of lakes within the various size categories as Oneida County. An interesting note is that the Town of Newbold only encompasses almost 8% (approximately 59,488 acres) of the total County acreage (approximately 780,000 acres) however, it contains slightly more than 12% of the total lakes within Oneida County.

Within the one hundred and thirty-seven lakes, various rivers, and stream in the Town of Newbold, there are many water bodies that provide habitats for various fish. The following table is a summary of key water bodies that lie in part or entirely in the Town with their respective size, depth, and description of fish species.

**Tables 8-2  
Town of Newbold  
Description of Select Waterbodies & Associated Fish Species**

Name	Surface Acres	Maximum Depth (feet)	Fish Species
Mildred Lake	190.5	45	Muskellunge, walleye, largemouth bass, smallmouth bass, perch, bluegill and sucker fish.
Muskellunge Lake	283	23	Muskellunge, northern pike, walleye, largemouth bass, perch, bluegill, crappie, pumpkinseed, bullhead and sucker fish.
Rainbow Flowage	2,034.8	28	Muskellunge, northern pike, walleye, largemouth bass, smallmouth bass, perch, bluegill, crappie, rock bass, pumpkinseed, bullhead and sucker fish.
Two Sisters Lake	705	64	Muskellunge, northern pike, walleye, largemouth bass, smallmouth bass, perch, bluegill, crappie, rock bass, pumpkinseed, sucker fish and cisco.
Wisconsin River	1,108	28.0	Muskellunge, northern pike, walleye, largemouth bass, smallmouth bass, panfish and forage species.

Source: *Surface Water Resources of Oneida County*, Wisconsin Conservation Department, 1966.

Table 8-2 illustrates the variety of attractive fish species which draws both local and regional anglers to area lakes and rivers.

#### ◆ **Wetlands**

The Wisconsin Department of Natural Resources designated wetlands in the Town of Newbold are illustrated in Map 8-4; wetlands cover more than 15,000 acres of land within the Town. Wetlands can be described as areas where the water table is at or very near the surface; the soil is usually saturated or covered for two or more months during the year. These areas retain the water because they are very poorly drained. Within the Town of Newbold, the abundance of wetlands can be expected due to the irregular drainage pattern and the abundance of surface water features. Wetland types within Newbold range from forested tamarack bogs to wet emergent herbaceous plant communities. Unique wild rice beds and cranberry bogs are present in several wetland and river floodplain areas within the Town. These areas do and will continue to require special management attention.

Wetlands provide numerous benefits to the local community including:

- ◆ Wetlands provide a unique environment for a variety of waterfowl and wildlife.
- ◆ Wetlands support fisheries and sanctuaries for rare and endangered species.
- ◆ Wetlands provide recreational activities such as hunting, trapping and bird watching.
- ◆ Wetlands filter pollutants, nutrients, and sediments thereby protecting water quality in lakes rivers, streams, and groundwater (the source of drinking water for people in the Town of Newbold).
- ◆ Wetlands attenuate flood flows which decreases the risk of flood damage to property owners.
- ◆ Wetlands maintain base flows of streams and watercourses, which is important to the continued well-being of aquatic ecosystems and associated wildlife habitat.

#### **Environmentally Sensitive Areas**

At this time there are no designated environmental corridors within the Town of Newbold. Environmental corridors are usually identified as a requirement of regional waste treatment system plans, including the delineation of sewer service areas, in urban areas with a population of over 10,000. Since the Town's population is less than 10,000, it is not required to establish a sewer service area plan. In Wisconsin Administrative Code NR 121.05 (1) (g) a description of natural features and sensitive environmental resources that are to be excluded from designated sewer service areas include: wetlands, floodways and floodplains, shorelands, areas of steep slope adjacent to wetlands or shorelands, publicly owned scientific and natural areas (i.e. fish and wildlife habitats), and identified archaeological sites.

Even though these resources are not designated in the Town as environmental corridors, Newbold contains an abundance of potentially environmentally sensitive areas. These resources are identified in NR 121.05 (1) (g) because of the potential for adverse impacts on the quality of the waters in the Newbold area from both point and nonpoint sources of pollution. Therefore, the Town should pay particular attention to ensure that these resources are preserved and protected from development.

## **Vegetation Types and Forest Areas**

The vegetation of the Newbold area during the presettlement periods of Wisconsin was classified as a northern forest with predominately coniferous species including both the white and red pine ( Finely 1976). The pine forest type was extremely limited in the State, with Oneida and Vilas Counties containing the most extensive block. During the Euro-American settlement period, mid 1800's to early 1900's, much of the forest areas in Wisconsin were cut over. The early logging concentrated on the white pine and to some extent the red pine. This practice, in addition to purposeful or unintentional fires, almost eliminated the white pine seed from the northern forest area. Efforts to replant over 500,000 acres of forest land in Wisconsin from 1956 to 1968 met mixed success; the red pine was the most widely planted. However, it was generally inappropriate for many site conditions. From 1968 to 1982 nearly every tree species increased in overall volume throughout the State. (Source: *Wisconsin Biodiversity as a Management Issue*, Wisconsin Department of Natural Resources, May 1995).

Today, much of the forest land in Newbold represents a portion of the Northern Highlands American Legion (NHAL) State Forest. The predominate cover types of the NHAL State Forest in the Newbold area include: aspen, red pine, jack pine, and white pine. The aspen species is a reflection of the logging industry and the burns that took place within the forested areas because it is generally a first growth "pioneer" species. Other vegetation throughout the NHAL State Forest within the Newbold area includes low and upland brush and grass. Forested areas within the Town of Newbold cover over 43,000 acres of land which is over seventy percent (70%) of the existing land use within the Town. Of the 43,000 acres of forested area in Newbold, approximately 20,000 acres are located within the Northern Highlands American Legion (NHAL) State Forest. The Wisconsin Department of Natural Resources, as manager of the NHAL State Forest, is currently in the process of updating the Master Plan. The Master Plan is developed and continually updated to ensure a balance between the natural environment of the forest and the demands of the users. Section 5.4 *Land and Resource Protection Programs* provides greater detail of the NHAL Master Plan updating process. The NHAL provides numerous benefits to the Newbold area including recreational opportunities for both local residents and visitors alike.

The vast coverage of forested land in the Newbold area provides both recreational and economic benefits to the area. The forested areas provide both passive and active recreational opportunities such as hiking, hunting, and camping for local residents and visitors. The local economic benefits are gained by effective management and logging of the forested land.

## **Wildlife/Wildlife Habitat**

A description of the wildlife in the Oneida County area was summarized in the Oneida County Outdoor Recreational Plan 1994-1999. The density and presence of the various wildlife species may vary within the Town of Newbold, however the description of the Oneida County area wildlife is representation of the Newbold area. Information was also provided by the Wildlife Biologist for the Department of Natural Resources at the Northern Region Headquarters.



The wildlife in the area is representative of the northern forested areas. The mammals include the timber wolf, black bear, white-tailed deer, coyote, porcupine, bobcat, beaver, red fox, otter, raccoon, skunk, squirrel, mink, and other small animals. Common game birds include the ruffed grouse and woodcock. The Oneida County area is also a migration path for ducks and geese such as wood ducks, mallards, black ducks, and blue-winged teal. Also found through portions of the County are loons, herons, bald eagles, osprey, owls, woodpeckers, songbirds, and several species of hawks. The relative location of these wildlife species depends on the forest types in a given area as well as the local harvesting practices.

Several significant wildlife habitat features have been identified by the WDNR Wildlife Biologist for the Northern Region. Please also see the corresponding letter provided in Appendix 8. The wildlife habitats include:

- ◆ The Rainbow Flowage: This is managed by the Wisconsin Valley Improvement Company (WVIC). Shoreline is owned by WVIC and the Department of Natural Resources. Five pairs of eagles and thirteen pairs of osprey nest near the flowage. The southeast shoreline has significant wetland habitat.
- ◆ The Wisconsin River: The river offers significant wildlife habitat features including wild river shoreline, bottomland hardwood forests, and the large wild rice beds on the Munninghoff Fur Farm.
- ◆ The Rainbow Flowage Sedge Meadow: This is a regionally significant natural area located just east of the Rainbow Flowage. This area is a huge complex of sedge meadow, bog, shrub-carr and jack pine forest with nesting of bald eagles and osprey.
- ◆ The Big Swamp: This is a large wetland area south of North Nokomis Lake which has extensive acreage of open bog, conifer swamp, and jack pine uplands. Patterned bog may exist in the northeast corner of the wetland.
- ◆ McCabe and Mudhen Lakes: These are two shallow, undeveloped lakes with significant waterfowl habitat.

The Wildlife Biologist also noted that the wildlife habitat of these areas would be enhanced by further protecting these significant habitat features. Human population growth with attendant housing development and increased recreation pressure will have an impact on these habitat features.

In addition to the description of the local wildlife and significant wildlife areas, a letter received from the United States Department of the Interior Fish and Wildlife Service regarding the Town of Newbold's Comprehensive Land Use Plan included two Federally-listed Threatened and Endangered Species within the area. The Bald Eagle is considered a threatened species, while the gray wolf is considered endangered. The USDA Fish and Wildlife Service did comment that the gray wolves are currently not found within the Newbold Township however, the wolf population is increasing and locations within the Town may provide suitable wolf habitats that could become occupied. As of 1997, there were also 19 bald eagle nests recorded within the Town of Newbold. The USDA Fish and Wildlife Service explained that any activity within a quarter mile of these nests could disturb the eagles thereby preventing successful reproduction. The future development projects in the Newbold area should include correspondence with

the USDA Fish and Wildlife service to ensure the bald eagles and the gray wolves are not adversely affected.

A copy of the letter received from the USDA Fish and Wildlife Service can be reviewed in Appendix 4. In addition, the State Department of Natural Resources Bureau of Endangered Resources completed a Natural Heritage Inventory for the Town of Newbold. This inventory identified numerous species within the Town of Newbold that are classified as State Threatened, or State Special Concern. According to the Bureau of Endangered Resources, the Special Concern species are species about which some problem of abundance or distribution is suspected but not yet proven. The main purpose of this category is to focus attention on certain species before they become endangered or threatened. A copy of the letter from the Bureau of Endangered Resources is included in Appendix 8.

### **Natural Areas**

The Department of Natural Resources, Bureau of Endangered Resources has identified two high quality natural communities outside the Northern Highlands American Legion State Forest. The first community is the McNaughton Conifer Swamp which is characterized as a northern wet forest. The second community is the Munninghoff Wetlands which is characterized as an emergent aquatic environment as well as a dry-mesic forest. It contains a slow, hard, cold stream and a shallow soft drainage lake.

### **Agricultural Lands**

Agricultural lands within the Town of Newbold encompass approximately 1,149 acres of land which is equivalent to almost two percent (2%) of the total acreage of the Town. The agricultural activities in Newbold are primarily limited to cranberry fields, tree farms, and small hobby farms with grazing areas for livestock.

### **Historic and Cultural Sites**

The State Historical Society (SHS) of Wisconsin was contacted to determine if there are any significant historic and cultural sites within the Town of Newbold. The response received from the SHS can be reviewed in Appendix 8.

According to the SHS there are no historic properties within the town of Newbold that are listed on the National Register of State Register of Historic Places. The SHS did provide a list of local historic properties that are recorded in the Wisconsin Inventory of Historic Places.

In Township 39 North, Range 8 East:

- ◆ 12 historically significant archeological sites.
- ◆ 4 historically significant structures including 2 dams, 1 lodge, and 1 house.

In Township 38 North, Range 8 East:

- ◆ 2 historically significant archeological sites.
- ◆ 4 historically significant structures/sets of structures.

In Township 37 North, Range 8 East:

- ◆ 2 historically significant structures.

### **Summary**

The Town of Newbold has variety of high quality natural resources which collective comprise the unique natural system of the Newbold area. The Town offers over nine thousand acres of surface water features which includes the Rainbow Flowage, one hundred and forty-five lakes, and numerous streams and rivers. The surface water features provide a variety of aquatic environments for wildlife and various fish species, in addition to the recreational opportunities for both local residents and visitors.

Another unique feature which encompasses over forty-three thousand acres of land in the Town are forested areas. Much of the forested land in Newbold is within the Northern Highlands American Legion State Forest which is managed by the Wisconsin Department of Natural Resources. The forested land, both in and out of the NHAL State Forest, provide contiguous forested environments which support a variety of vegetation and wildlife species.