

Town of Two Creeks 2022 Comprehensive Land Use Plan



Prepared by the
Manitowoc County Planning and Park Commission



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Vision Statement

In the year 2022 the town of Two Creeks is envisioned as:

A largely rural community with limited residential or commercial growth occurring over the preceding 20 years. This vision is based on the need to support a strong agriculture infrastructure intermixed with a scheme of clean open spaces and enhancements towards natural resources, woodlands & waterways. This vision is intended to promote, preserve and protect the quality of life and public services for the residents of the town as measured against a managed tax structure similar to that which had been enjoyed in the previous decades.



TOWN OF TWO CREEKS

Two Rivers, Wisconsin 54241

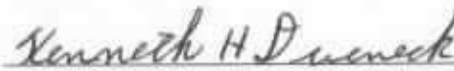
Ordinance No. 41403

This is an Ordinance to Adopt the Comprehensive Plan of the Town of Two Creeks, Wisconsin.

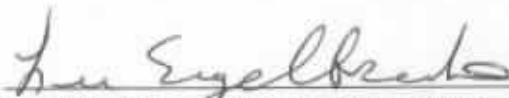
The Town Board of the Town of Two Creeks of Two Creeks, Wisconsin, do ordain as follows:

- Section 1. Pursuant to section 59.69(2) and 60.22(3) of the Wisconsin Statutes, the Town of Two Creeks is authorized to prepare and adopt a comprehensive plan as defined in section 66.1001(1)(a) and 66.1001(2) of the Wisconsin Statutes.
- Section 2. The Town Board of the Town of Two creeks of Two Creeks, Wisconsin, has adopted written procedures designed to foster public participation in every state of the preparation of a comprehensive plan as required by section 66.1001(4)(a) of the Wisconsin Statues.
- Section 3. The plan commission of the Town of Two creeks, by a majority vote of the entire commission recorded in its official minutes, has adopted a resolution recommending to the Town Board the adoption of the document entitled "Town of Two Creeks 2022 Comprehensive Land Use Plan", containing all of the elements specified in section 66.1001(2) of the Wisconsin Statues.
- Section 4. The Town of Two Creeks has held at least one public hearing on this ordinance, in compliance with the requirements of section 66.1001(4)(d) of the Wisconsin Statues.
- Section 5. The Town Board of the Town of Two Creeks of Two Creeks, Wisconsin, does, by enactment of this ordinance, formally adopt the document entitled, "Town of Two Creeks 2022 Comprehensive Land Use Plan", pursuant to section 66.1001(4)(c) of the Wisconsin Statues.
- Section 6. This ordinance shall take effect upon passage by a majority vote of the members-elect of the Town Board and publication/posting as required by law.

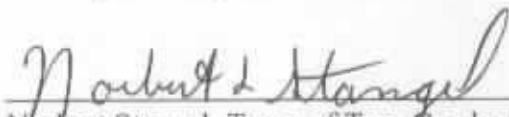
Adopted this 14th day of April, 2003.



Kenneth Duveneck, Town of Two Creeks Chairperson



Lee Engelbrecht, Town of Two Creeks Supervisor I



Norbert Stangel, Town of Two Creeks Supervisor II

RESOLUTION NO. 031203

A Resolution Recommending Approval To The
Two Creeks Town Board To Adopt The
Town of Two Creeks 2022 Comprehensive Plan

WHEREAS, The Town of Two Creeks is authorized to prepare and adopt a comprehensive plan as defined in sections 66.1001(1)(a) and 66.1001(2) of the Wisconsin Statutes

WHEREAS, the Two Creeks Town Board has committed funding to develop a comprehensive plan for the Town of Two Creeks; and

WHEREAS, a Plan Commission was established by the Town Board and participated in the production of the *Town of Two Creeks 2022 Comprehensive Land Use Plan* to guide and coordinate land use decisions and development in the town; and

WHEREAS, the *Town of Two Creeks 2022 Comprehensive Land Use Plan* has been prepared by the Manitowoc County Planning and Park Commission, in cooperation with the Town of Two Creeks Plan Commission; and

WHEREAS, numerous public meetings have been held with respect to the planning process, including public a public open house on November 6, 2002.

NOW, THEREFORE, BE IT RESOLVED, that the Town of Two Creeks Plan Commission hereby recommends to the Town Board of Two Creeks the adoption of the document entitled "Town of Two Creeks 2022 Comprehensive Land Use Plan" as their comprehensive plan according to section 66.1001 (2) of the Wisconsin Statutes.

BE IT FURTHER RESOLVED, that the Town of Two Creeks Plan Commission recommends the Town Board of Two Creeks, Manitowoc County, Wisconsin, pursue necessary and reasonable action to implement the comprehensive plan.

Adopted this 12TH day of MARCH, 2003

Approved by a vote of: 4 ayes, 0 nays.

Thomas P. Sheley
Thomas Sheley, Chair, Planning Advisory Committee

CHAPTER: 1 **(ISSUES & OPPORTUNITIES ELEMENT)**

1-1 Description of Planning Area

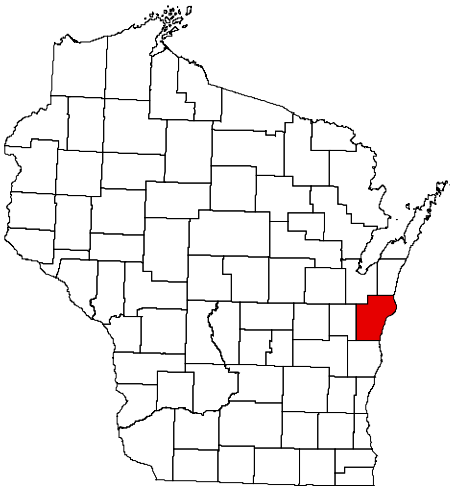
The Township of Two Creeks comprises twelve full and six fractional sections of land. Sections bordering on Lake Michigan are irregular in shape, because of the constant wave action on their banks. In the recollection of early settlers what remained of land areas in Section 1 and Section 12 has been completely washed away. The late P.J. Schroeder, among one of the early settlers in the town, purchased 320 acres of land in 1858 in Section 14, bordering on Lake Michigan for nearly three-quarters of a mile. More recently, and after a period of eighty years (1938) this property was resurveyed when it contained only 295 acres or a loss of twenty-five acres now in the lake. Evidently the shoreline advanced, approximately on the average two and one-half feet annually. Two Creeks comprises 9,652.62 acres of land and is the second smallest township in the county. Two Creeks was the first place to be visited and temporarily settled by white men in the county.

Jacques Vieau, an agent for the Northwest Fur Company, landed on the shore at Section 11 of the township in 1795 in a small boat from the Strait of Mackinac, Upper Peninsula of Michigan. The boat was heavily loaded with goods to be traded with the Indians for fur. Vieau built trading posts at Jambo Creek and later another at Manitowoc Rapids. On June 21, 1836, David Butterfield was the first white man to make entry on all lands covering Section 12, Township 21, and Range 24 East. The above property, together with land in Section 1, has since washed away and no longer exists. What is now the Town of Two Creeks was formerly a part of the territory of Brown County, but in 1838 a separate county government was organized by an act of the territorial legislature. In 1842 Peter Rowley built the first house on Section 24 in the Township of Two Creeks. In 1847 Neal McMillan located on Lot 1, in Section 25. It is of interest to note that the northern boundary line of Manitowoc County was the township line, running between Towns 20 and 21, Ranges 21, 22, 23, 24 and a fraction of 25. Not until February 9, 1850, by an act of the legislature was the northern tier of Towns, now Two Creeks, Cooperstown, Gibson, and a portion of Mishicot within Town 21, taken from Brown County and added to Manitowoc County. On July 28, 1859, the Town of Rowley was set off which represents the area now in the Town of Two Creeks, as was also the body of water bordering on its lake shore. Today it is known as Rowley's Bay, doubtless named after the Rowley families, who early settled there. Evidently the appellation 'Rowley' did not appear satisfactory to the voters of the town, and they requested the County Board of Supervisors change the name to Town of 'Two Creeks'. The name was officially changed as requested, with respect to area and boundary, on November 2, 1861, since two creeks empty into the lake at a point where a village was about to be started, the name appeared to be appropriate. It was the eighteenth and the last township to be organized in the County.

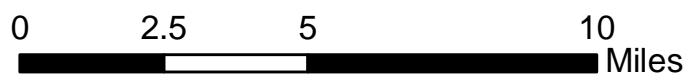
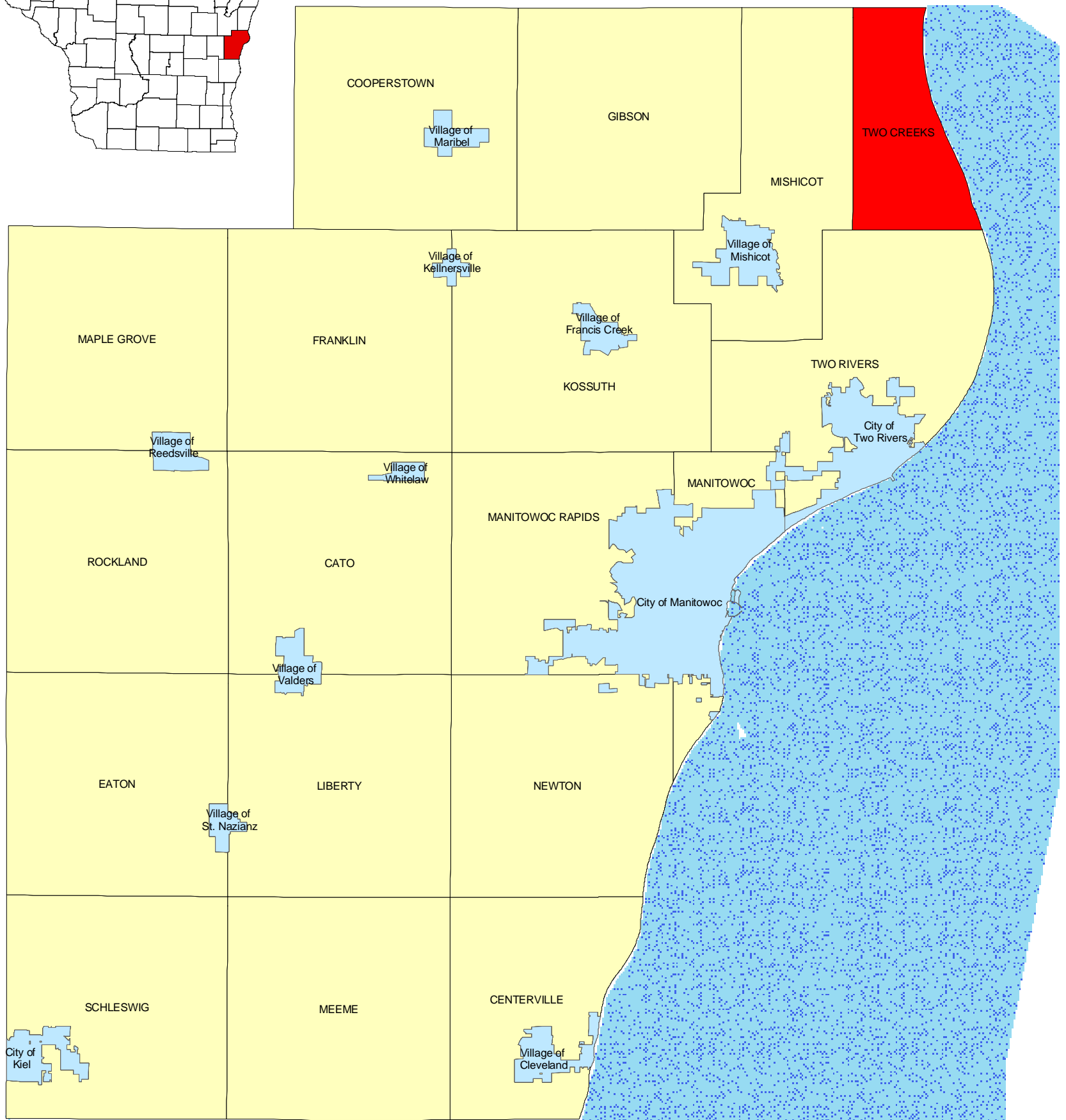
During 1861 the tannery of the Pfister and Vogel Leather Company was established on the site of what later became the Village of Two Creeks, which furnished employment for the pioneers in that region. The Town of Two Creeks, Manitowoc County, was settled and developed by people who came from England, Scotland, Ireland, Norway, Germany, Austria, Bohemia, Poland, and from New York, Massachusetts, Connecticut and other Eastern states. They came during the period ranging from 1836 to 1885, and many of them sought new and better homes in the township because of civil, religious, and economic oppression in the countries from which they emigrated. The Town, once called Rowley and now Two Creeks, was covered with dense forests, giving the opportunity to manufacture wood products and establish related industries. The English and the Irish, among the first to secure land rights in the Township of Two Creeks, were dependable, plain, and businesslike. Most of those who held the original patents to land from the United States Land Office subsequently sold their holdings to later arrivals. In 1860 one-fourth of the foreign-born were Norwegians. In 1870, the descendants of the German immigrants made up 78% of the total population. They have since been the dominant nationality group in the area. The 1860 - 70 decade found heavy immigration to the township from Germany and Bohemia.

In 1863, the unincorporated Village of Two Creeks was created, including in addition to the tannery, a sawmill, planning mill, public school, general store, boarding house, tavern, blacksmith shop, a wagon-maker, tailor and shoemaker, a meat market, telegraph office and a large market for hemlock bark, logs, ties, cordwood, and other forest and farm products. The first resident of the Village was K. K. Jones. In the decade from 1890 to 1900, Two Creeks ranked among the leading ports for shipping of baled hay and seed peas to distant markets on the lake. The general store and hotel were among the last to be operated and finally in about 1920 were destroyed by fire. Since then the land has been sold to adjoining farmers as has all other property. The evidences of the Village are still there, but the once thrifty and industrial Village of Two Creeks is no more.





TOWN OF TWO CREEKS MANITOWOC COUNTY, WISCONSIN



PLANNING AREA

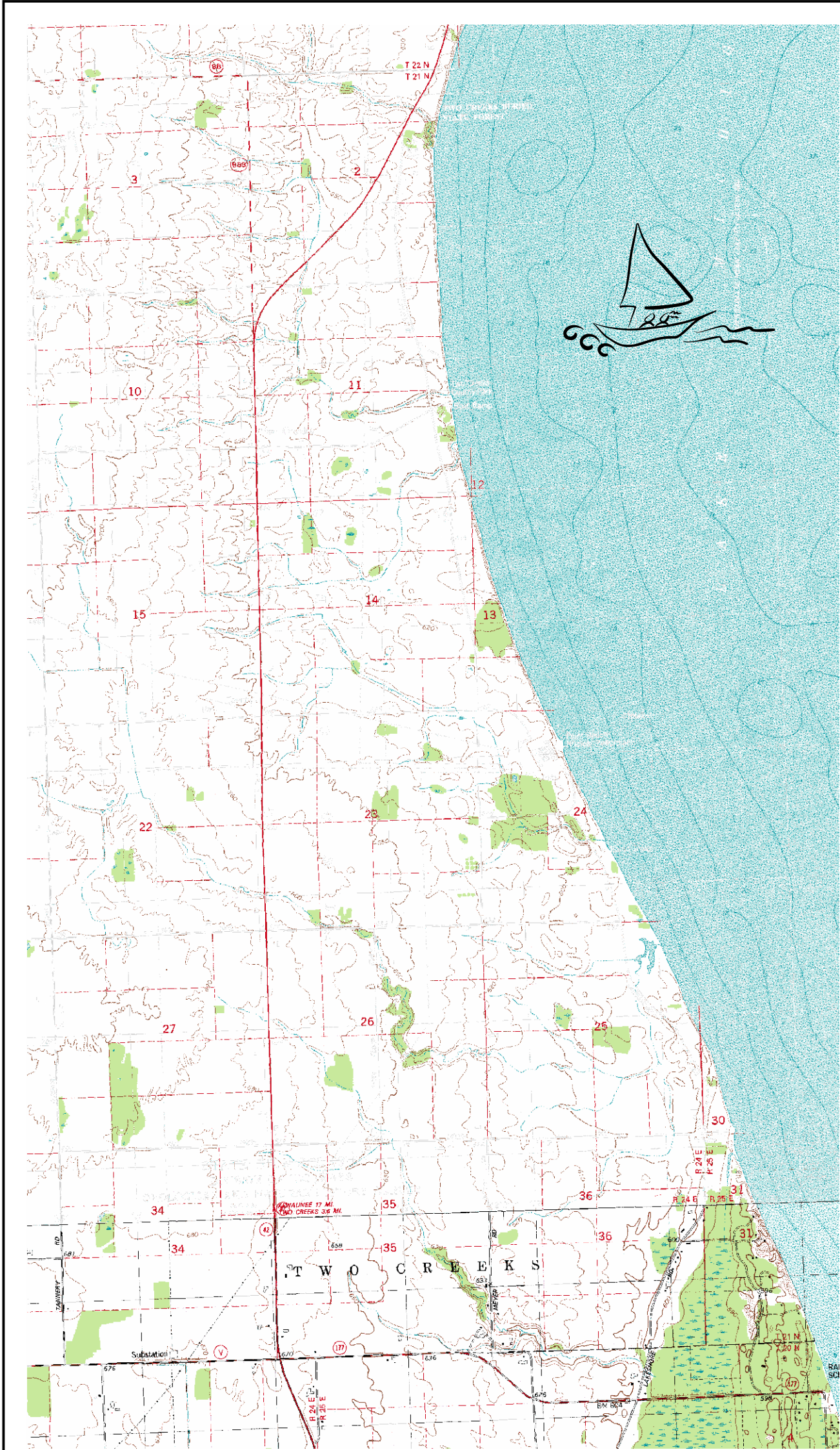
Town of Two Creeks
Manitowoc County, Wisconsin

MAP 1-1



LEGEND

- 25 Section
- Stream
- Wetland
- Wooded Area



USGS TOPOGRAPHICAL MAP

Town of Two Creeks
Manitowoc County, Wisconsin

SOURCE: WiDNR-Enhanced Digital Raster Graphics (DRGs).

1-2 State Planning Enabling Legislation

The State enabling legislation is contained as part of Wisconsin Act 9., of the State's 1999-2000 biennial budget. This legislation is referred to "Smart Growth" with the intent to provide local units of governments, such as the Town of Two Creeks, with the tools to create a comprehensive plan. This plan will promote well-informed land-use decisions while encouraging a balance between policies and land-use rules. This plan specifically follows the requirements set forth in Act 9 by addressing the 14 planning goals identified as follows.

- ❖ Promotion of the redevelopment of lands with existing infrastructure and public services and the maintenance and rehabilitation of existing residential, commercial and industrial structures.
- ❖ Encouragement of neighborhood designs that support a range of transportation choices.
- ❖ Protection of natural areas, including wetlands, wildlife habitats, lakes, woodlands, open spaces, and groundwater resources.
- ❖ Protection of economically productive areas, including farmland and forests.
- ❖ Encouragement of land uses, densities and regulations that promote efficient development patterns and relatively low municipal, state governmental and utility cost.
- ❖ Preservation of cultural, historic and archaeological sites.
- ❖ Encouragement of coordination and cooperation among nearby units of government.
- ❖ Building of community identity by revitalizing main streets and enforcing design standards.
- ❖ Providing an adequate supply of affordable housing for individuals of all income levels throughout each community.
- ❖ Providing adequate infrastructure and public services and an adequate supply of developable land to meet existing and future market demand for residential, commercial and industrial sites.
- ❖ Promoting the expansion or stabilization of the current economic base and the creation of a range of employment opportunities at the state, regional and local levels.
- ❖ Balancing individual property rights with community interests and goals.
- ❖ Planning and development of land uses that create or preserve varied and unique urban and rural communities.
- ❖ Providing an integrated, efficient and economical transportation system that affords mobility, convenience and safety and that meets the needs of all citizens, including transit-dependent and disabled citizens.



1-3 Goals, Objectives and Strategies

The following section include goals, objectives and strategies, in addition to the 14 planning goals identified in “Smart Growth”, intended to guide the Town of Two Creeks over the next 20 years. Each proceeding chapter contains specific goals, objectives, and strategies which, pertain to the nine elements identified in the planning legislation. These statements are distinct in nature and serve different purposes throughout the plan.

GOALS: Broad statements that describe the desired situations in which the town feels planning efforts should be focused.

OBJECTIVES: Statements that describe measurable ends towards reaching the defined goals.

STRATEGIES: A compilation of policies and programs intended to ensure successful implementation of the plan.



OVERALL COMMUNITY GOAL

Protect those physical elements of the landscape in the Town of Two Creeks that define the rural character and contribute to the rural environment.

OBJECTIVE 1 Adopt, and amend as necessary, this comprehensive plan under s 66.1001 as a guide for land use decisions for the next 20 years.

OBJECTIVE 2 Encourage, foster and support community involvement in growth management practices and other issues of local importance.

OBJECTIVE 3 As needed, develop, and/or modify local ordinances to implement the goals and objectives set fourth in this plan.

STRATEGIES:

1. Encourage cooperation between neighboring townships and the County regarding the implementation of this plan.
2. Adequate funding shall be maintained for the implementation and amending of this plan.
3. Update the town's zoning map to be consistent with the 20 year land use map.
4. Maintain an advisory committee that will use this plan/guide in providing land use recommendations to the Town Board.
5. Consider the town's unique tax structure, and residents' desire to maintain this structure, in the implementation of this plan.

1-4 Plan Contents

Why develop a land use planning program? Several reasons exist. Land use planning allows the Town of Two Creeks to anticipate potential problems rather than merely reacting to them. Over the long term, planning for land uses can protect and preserve valuable material, economic and natural resources for future generations. As the year 2022 approaches, our communities will undoubtedly continue to change at a rapid pace. If our community is to realize the kind of future it desires, then they must take the initiative to influence the course of change. A land use plan, simply defined, is a guide for elected and appointed officials, staff, and the general public to manage and direct orderly growth and development in the Town of Two Creeks. The land use planning process consists of inventorying the existing land uses, examining and analyzing the forces shaping those land uses, and setting goals for the future. The following plan elements were identified in harmony with Wisconsin's "Smart Growth".



1. Issues and Opportunities Element

Background information on the local governmental unit and statement of overall objectives, strategies, goals and programs that will guide the future development over a 20 year planning period.

2. Agricultural, Natural and Cultural Resources Element

A compilation of objectives, policies, goals, 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, historical and cultural resources, and other natural resources.

3. Housing Element

A compilation of objectives, policies, goals, maps and programs of the local governmental unit to provide an adequate housing supply that meets existing and forecasted housing demands in the Town of Two Creeks.

4. Transportation Element

A compilation of objectives, policies, goals, maps and programs to guide the future development of the various modes of transportation that include: highways, transit, transportation systems for persons with disabilities, bicycles, pedestrians, railroads, air transportation, trucking and water transportation.

5. Utilities and Community Facilities Element

A compilation of objectives, policies, goals, maps and programs to guide the future development of utilities and community facilities in the Town of Two Creeks such as sanitary sewer service, storm water management, water supply, solid waste disposal, on-site wastewater treatment technologies, recycling facilities, parks, telecommunication facilities, health care facilities, cemeteries and governmental facilities.

6. Economic Development Element

A compilation of objectives, policies, goals, maps and programs to promote the stabilization, retention or expansion of the economic base and quality of employment opportunities in the Town of Two Creeks.

7. Intergovernmental Cooperation Element

A compilation of objectives, policies, goals, maps and programs for the joint planning and decision making with other jurisdictions, including school districts and adjacent local governmental units, for siting and building public facilities and sharing public services.

8. Land Use Element

A compilation of objectives, policies, goals, maps and programs to guide the future development and redevelopment of public and private property within the Town of Two Creeks.

9. Implementation Element

A compilation of programs and specific actions to be completed in a stated sequence, including proposed changes to any applicable ordinances, official maps, or policies to reflect the recommendations proposed within this plan.



1-5 Public Participation in the Planning Process

The Town of Two Creeks has developed a comprehensive plan defined in Section 66.0295 of the Wisconsin State Statutes to promote informed land use decisions and guide community actions into the future. Wis. Stat. 66.0295(4) specifies that a local unit of government preparing a comprehensive plan must adopt written procedures that are, “Designed to foster public participation, including open discussion, communication programs, information services and public meetings for which advance notice has been provided, in every stage of the preparation of a comprehensive plan.” A copy of the “Town of Two Creeks Citizen Participation Plan” is located in Appendix B of this plan.

Town Planning Advisory Committee

The Town Board appointed a seven member planning committee to guide the local planning process and oversee the development of the town's comprehensive land use plan. This appointment was made in early 2000, and has generally met twice a month during the development process. All the educational meetings were open to the public.

1-6 Community Survey

In the summer of 2000, the Two Creeks Land Use Committee mailed a community survey. Of approximately 228 registered landowners, 171 replied, resulting in a 75% return rate. This information was used by the Town's Land Use Committee to formulate community goals and objectives included in this plan.

The results of this survey suggest that town residents favor tight restrictions on development, protection of environmental waterways, and restrictions on development of agricultural land. Most of the residents are not in favor of residential development. The results suggest they would be supportive of light commercial and retail development only in designated areas stated in the Smart Growth Plan. The survey also leads to the conclusion that the town will not support commercial or business development at the loss of farmland.

Key Findings

Key findings developed from the community survey are as follows:

1. The respondents believe that in 10 years most of the land will continue to be agricultural but there will be a slight increase in residential, forested and commercial land.
2. Respondents were very satisfied with various services offered through the Town of Two Creeks. 90 - 99% satisfaction rates were registered for services including: police/sheriff, fire, EMT, roads, road signs, snow plowing, recycling program, hunting & fishing areas, parks and recreation areas.
3. Almost 62% of the respondents indicated concern for the environment has been acceptable and 64.7% indicated that the town should put high priority towards the promotion/maintenance of shore lands and air quality.

1-7 Educational / Informational Meetings

2000

Eleven Land Use Committee Meetings
(public input and Community Survey Development)



September 26, 2001	Introduction to Planning and the Smart Growth Law
October 24, 2001	Survey Analysis, Citizen Participation Plans Developing Community Goals, Objectives and Vision
November 7, 2001	Demographic Data Analysis Economy, Housing, Transportation and Population
December 5, 2001	Existing Land Use, Public Facilities, Farmland Preservation Floodplains and Wetlands
December 19, 2001	Wildlife and Woodlands
January 9, 2002	Environmental Health Issues Water Quality - Surface and Groundwater
January 23, 2002	Agricultural Issues & Soils
February 6, 2002	Community Goals, Objectives and Visions Continued
February 20, 2002	Land Use Mapping
March 6, 2002	Land Use Mapping
March 20, 2002	Land Use Mapping
April 3, 2002	Land Use Tools & Strategies
May 15 , 2002	Goals & Objectives, Implementation Strategies and Priorities
August 28 , 2002	Implementation Strategies and Priorities, Preliminary Plan
October 2, 2002	Finalize Preliminary Plan
November 6, 2002	Public Open House (Plan Presentation)

Planning Document Availability

The Town of Two Creeks will develop a preliminary and final comprehensive land use plan. A copy of these plans will be available at the following locations:

Manitowoc County Planning and Park Commission
4319 Expo Drive, P.O. Box 610
Manitowoc, WI 54221-0610

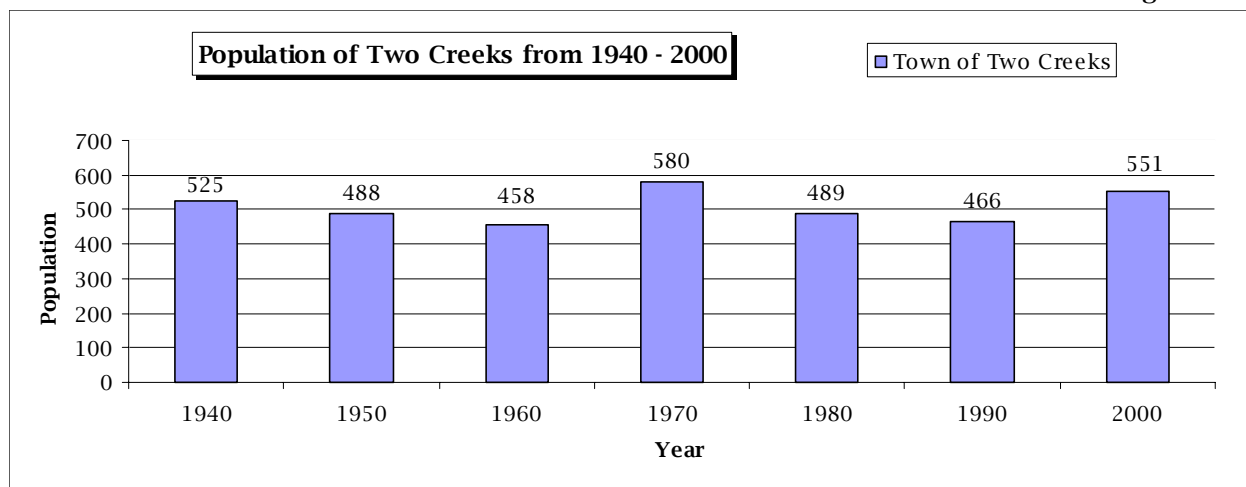
Two Creeks Town Hall
5128 E. Tapawingo Road
Two Rivers, WI 54241



1-8 Historical Population Levels

Figure 1-1 below illustrates that over the past 60 years Two Creeks has experienced minimal fluctuation in population. In 1970, Two Creeks had its highest population of 580. Between 1960 and 1970 it increased nearly 27 percent, which was subsequently followed by a 16 percent decrease in population in the following decade. This fluctuation may be attributed to two factors. First, the construction of the Point Beach Nuclear Plant began in 1967, with Unit 1 opening in 1970, followed by the final unit (unit 2) in 1972. During this period, many construction workers lived within Two Creeks for this employment opportunity at the plant. Secondly, the agricultural economic environment was favorable between 1960 and 1970, a trend which was reversed in the following decade. The Town of Two Creeks seems to be rebounding as its' population rose 18% from 1990 to 2000.

Figure 1-1



SOURCE: U.S. CENSUS BUREAU, AND W.D.O.A.

1-9 Population Forecasts and Estimates

Projecting future populations within the planning area provide an indication of how much land will be required for future land uses. It must be recognized that the population projections are extensions of past trends based on a number of necessary assumptions. The projections are not forecasts and, therefore, must be used with discretion as with any projection. More confidence should be placed on the earlier figures than for the year 2022 projections. Many forces work to influence the population of the region and the distribution of the projected population among various units of government, including geophysical conditions, environmental concerns, existing zoning, taxation, and other factors influence business and residential location decisions. Due to the lack of current population projections for the Town, projections have been calculated at a increase of 3.4 percent per decade for the next 20 years.

Table 1-1

	Actual Population			Population Estimates			
Municipality	1980	1990	2000	2005	2010	2015	2020
Two Creeks	489	466	551	560	570	579	589
County	82,918	80,421	82,887	84,159	85,431	86,742	88,054

Source: U.S. Bureau of the Census, Census of the Population and Housing 1980, 1990 and 2000; Wisconsin Department of Administration, Manitowoc County Planning and Park Commission. **N/A: Not Available



1-10 Population Distribution

Population by Age & Sex

The Township of Two Creeks, for the most part, follows the trends of the State distribution with only slight changes. The age group that increased the most in the past 20 years are the individuals between 35 - 44 years of age. In 1980 this segment of the population rose 9.2% to nearly 20% of the total population. The population of this group went from 52 in 1980 to 109 in 2000. On the other hand, individuals between the ages of 15 - 24 dropped by 7.9%. In 1980 the population of this group was 87 compared to 55 in 2000. For the most part, over the last 20 years the county and State have averaged close to the same percent in every category. As for the percent of the individual township compared to the County and State you will see it fluctuated by as much as 3%. By looking at the tables you can see that the town is aging. The sex ratio has stayed consistent over the past 20 years. The male population only fluctuates by 1 - 2% every year. Males make up about 51 - 53% of the population.

Table 1-2

AGE BY SEX - 1980							AGE BY SEX - 1990						
	Two Creeks				MANITOWOC	WISCONSIN		Two Creeks				MANITOWOC	WISCONSIN
AGE (yrs)	MALE	FEMALE	TOTAL	PERCENT	COUNTY	PERCENT	AGE (yrs)	MALE	FEMALE	TOTAL	PERCENT	COUNTY	PERCENT
0 - 4	15	17	32	6.6%	7.5%	7.4%	0 - 4	24	22	46	9.9%	7.0%	7.4%
5 - 9	22	19	41	8.3%	7.3%	7.3%	5 - 9	19	21	40	8.6%	7.8%	7.7%
10 - 14	28	24	52	10.7%	8.7%	8.3%	10 - 14	16	14	30	6.4%	7.6%	7.2%
15 - 19	24	30	54	11.0%	9.9%	9.9%	15 - 19	15	17	32	6.9%	6.6%	7.1%
20 - 24	22	11	33	6.7%	8.3%	9.6%	20 - 24	20	14	34	7.3%	6.1%	7.4%
25 - 29	20	16	36	7.4%	7.9%	8.5%	25 - 29	21	21	42	9.0%	7.3%	8.2%
30 - 34	20	21	41	8.4%	6.9%	7.4%	30 - 34	20	20	40	8.6%	8.1%	8.6%
35 - 39	16	10	26	5.3%	5.1%	5.3%	35 - 39	14	12	26	5.6%	7.6%	8.0%
40 - 44	16	10	26	5.3%	5.1%	5.3%	40 - 44	17	17	34	7.3%	6.7%	6.9%
45 - 49	8	11	19	3.8%	4.9%	4.8%	45 - 49	7	9	16	3.4%	5.4%	5.3%
50 - 54	7	11	18	3.8%	4.9%	4.8%	50 - 54	19	10	29	6.2%	4.6%	4.5%
55 - 59	11	8	19	3.9%	5.1%	4.9%	55 - 59	7	13	20	4.3%	4.4%	4.2%
60 - 64	12	14	26	5.3%	4.8%	4.4%	60 - 64	6	9	15	3.2%	4.8%	4.3%
65 - 69	12	9	21	4.3%	3.9%	3.5%	65 - 69	11	7	18	3.9%	4.5%	4.0%
70 - 74	11	9	20	4.1%	3.9%	3.5%	70 - 74	9	12	21	4.5%	3.9%	3.3%
75 - 79	6	4	10	2.0%	2.2%	1.9%	75 - 79	11	6	17	3.6%	3.4%	2.7%
80 - 84	5	5	10	2.1%	2.2%	1.9%	80 - 84	2	3	5	1.1%	2.3%	1.8%
85 +	2	3	5	1.0%	1.3%	1.2%	85 +	1	0	1	0.2%	1.8%	1.5%
TOTAL	257	232	489	100 %	100 %	100 %	TOTAL	239	227	466	100 %	100 %	100 %

AGE BY SEX - 2000						
	TWO CREEKS				MANITOWOC	WISCONSIN
AGE (yrs)	MALE	FEMALE	TOTAL	PERCENT	COUNTY	PERCENT
0 - 4	15	21	36	6.5%	5.8%	6.4%
5 - 9	30	26	56	10.2%	7.0%	7.1%
10 - 14	31	26	57	10.3%	7.8%	7.5%
15 - 19	20	18	38	6.9%	7.5%	7.6%
20 - 24	10	6	16	2.9%	5.0%	6.7%
25 - 29	6	11	17	3.1%	5.2%	6.2%
30 - 34	22	16	38	6.9%	6.6%	6.9%
35 - 39	31	33	64	11.6%	8.1%	8.1%
40 - 44	26	19	45	8.2%	8.4%	8.2%
45 - 49	15	10	25	4.5%	7.6%	7.4%
50 - 54	20	20	40	7.3%	6.3%	6.2%
55 - 59	13	7	20	3.6%	5.1%	4.7%
60 - 64	17	13	30	5.4%	4.1%	3.8%
65 - 69	6	12	18	3.3%	3.8%	3.4%
70 - 74	6	9	15	2.7%	3.9%	3.2%
75 - 79	9	6	15	2.7%	3.3%	2.7%
80 - 84	7	7	14	2.5%	2.5%	2.0%
85 +	4	3	7	1.3%	2.0%	1.8%
TOTAL	288	263	551	100 %	100 %	100 %

SOURCE: U.S. CENSUS BUREAU, AND W.D.O.A.

Race & Ethnicity

In 1990 less than 1% of Two Creek's population was made up of minority groups. The census from 2000 indicates that there was an increase to 1.5%. The total population of the minorities in the township of Two Creeks is 8. There are a mix of American Indian, Alaska Natives, Native Hawaiian and Other Pacific Islander, along with other races.



CHAPTER 2:

GENERAL PHYSICAL SETTING, AGRICULTURAL, NATURAL AND CULTURAL RESOURCE ELEMENT

In the Town of Two Creeks, agricultural, natural and cultural elements are key parts in the rural and natural landscape. In this chapter we will address the areas of: goals, objectives, strategies, maps and the programs for the conservation and promotion of the effective management of these qualities. Areas that are of special interest include: groundwater, environmentally sensitive areas, threatened and endangered species, surface water, floodplains, agricultural area, forests, wetlands, wildlife habitat, non-metallic mineral resources, parks and open spaces, historical and cultural resources and other natural resources.

2-1 Goals, Objectives & Strategies

AGRICULTURAL GOAL:

Support agricultural uses and open space as a vital economic activity and recognize its importance in preserving the town of Two Creeks' rural atmosphere.

OBJECTIVE:

1. Encourage the preservation of existing prime farmland for future generations.
2. Manage non-farm uses, including residential, in areas that minimize land use conflicts due to noise, odor, and farm traffic.
3. Maintain the right to farm.
4. Work to prevent the fragmentation of farmland in the Town of Two Creeks.

STRATEGIES:

1. Support local landowner participation in various "Voluntary Programs" dedicated to the preservation and protection of agricultural soil resources. A complete list of programs is located in Chapter 9 of this plan.
2. Recommend properties which are zoned A-3 (Exclusive Agriculture) to participate in the Farmland Preservation Program.
3. The town should closely manage requests for zoning amendments using the Finding of Fact Tool (see Appendix D) developed to be used when evaluating re-zoning applications.
4. Utilize the "Town of Two Creeks 20 year Land Use Map" as a guide for future land use decisions.
5. Recommend making large farming operations, which desire to expand above 500 animal units, to apply for a conditional use permit that could address potential land use conflicts. Conditions applied during this process shall include odor control and manure management.
6. Use the land use map developed through the planning process as a template to preserve large core areas of the town dedicated to agricultural uses. These areas are depicted in orange and are labeled "prime agricultural areas".



7. Recognize working farms as an asset and work to preserve and protect quality farmland to help preserve the towns' rural character.

NATURAL RESOURCE GOAL:

Preserve the role and beauty of the natural landscape of the Town of Two Creeks, which include streams, lakes, woodlands, floodplains and unique wildlife habitats.

OBJECTIVE:

1. Preserve the rural character of the Town of Two Creeks by maintaining Natural Areas.
2. Maintain surface and groundwater quality within the town.
3. Preserve the Lake Michigan shoreline within the town.

STRATEGIES:

1. Utilize Manitowoc County's 20-acre "Natural Area" zoning district to preserve open space in areas that are not currently zoned A3-Exclusive Agriculture.
2. Preserve the Lakeshore Habitat Restoration Area with the assistance of Westshore Sportsman Club, Ducks Unlimited, the Department of Natural Resources, and Fish and Wildlife Service..
3. Promote voluntary participation into government programs such as Wetland Reserve, Conservation Reserve, Waterbank, etc. (see Chapter 9).
4. Utilize the Manitowoc County Soil and Water Department for annual nitrate testing of local well samples.
5. Utilize UW-Extension and Wisconsin DNR educational information regarding yard and well maintenance.
6. The town should identify, and set priority to, portions of the Lake Michigan shoreline, which hold the highest natural and aesthetic value and plan for their preservation.
7. Utilize the Wisconsin Coastal Management Program and others to obtain funds for the purchase and/or preservation of Lake Michigan shoreline identified in strategy #1.

OPEN SPACE GOAL:

Preserve and promote the Town of Two Creeks as a community with distinct open spaces including farmland, woodlands, scenic, historic and cultural areas and Lake Michigan.

OBJECTIVE:

1. Together with Manitowoc County and following the Manitowoc County Park and Open Space Plan, work to maintain, upgrade, and purchase properties for park and open space uses.
2. Use areas in close proximity to high voltage power lines for open space, agricultural and natural uses as mapped on the towns land use map.



3. Work to remove “eyesores” within the town which include inoperable cars, decaying buildings, and other miscellaneous junk, which undermine the rural character of the town.

STRATEGIES:

1. The town should identify a process, working closely with Manitowoc County, to initiate actions for the timely removal of “junk material” in violation of Manitowoc County Code.
2. Utilize the Wisconsin Coastal Management Program and others to obtain funds for the purchase and/or preservation of Lake Michigan .

2-2 Geology and Topography

The Town of Two Creeks, and most of Manitowoc County, is imbedded in the Niagara Escarpment, which extends from the Lake Michigan shoreline of Wisconsin and Illinois in the west to the eastern shore of Lake Ontario in the east. This escarpment extends as far north as the southern shores of Ontario and as far south as central Indiana and Ohio. The Niagara Escarpment is an underlying bedrock composed of dolomite and limestone, which is sloped from west to east and is exposed in numerous regions throughout Manitowoc County. The topography in Two Creeks is gently rolling. There were four sub-stages that created the topography of Manitowoc County. The third sub-stage of glaciation deposited is known as Cary till. This layer was covered by a final glacial surge with Valders till which is primarily gravel and coarse sand, which are rich sources for construction use. These two drift layers have created a variety of glacial landforms like eskers, kames, drumlins, and glacial floodplains, which have characterized the topography, and landscape of Manitowoc County, and most of northeastern Wisconsin. In the period of deglaciation, the ice lobe receded northward and the water resulting from the melting of snow and ice arose to a height of 60 feet when it formed what was called Lake Chicago. The lake extended west to Lake Winnebago and Fox River lowlands. After the recession of ice far enough north to clear the Strait of Mackinac in Upper Peninsula of Michigan, an outlet was formed there and the water dropped to the present level of Lake Michigan. The sediments in the water of this lake were deposited in separate layers with various colors, known as 'Varves' over parts of the area now comprising the Town and adjoining townships. The coarse silty-sandy materials were deposited during the summer months and the fine red clay particles were laid down when the lake was frozen over in the winter. This deposit is about 16 feet deep in most places. It was on this deposit that a rare glacial feature known as the Two Creeks Buried Forest grew and developed. Plants and animals spread northward over the area just freed from the ice and thrived. The interval in which the Forest Bed developed is estimated to have been at least 82 years in duration as shown by the growth of rings of the largest spruce logs found there. Geologist J.W. Goldthwait of Wisconsin, discovered the exposure in 1907. Logs and stumps of trees which lived more than 10,000 years ago have been unearthed from wave cut banks along the shore of Lake Michigan about ½ mile south of the former Village of Two Creeks in Section 11 and 13. The same bed is also exposed three miles to the north from the above point on lake shore, and in a ravine about ¼ mile west in section 35, in Kewaunee County. The plants and animals as were observed in the Two Creeks Forest are representatives of types found in arctic, sub-arctic and the northern distribution. The climate during this interval was like that of northern Minnesota or somewhat colder. Other plants which appear in the Forest Bed level are birch, jack pine, hemlock, heath and grasses. The Forest Bed, however, came to a close with the advance of what is known as the 'Red Ice Glaciers.' In its movement southward from the north, it passed over several iron ranges in Upper Peninsula of Michigan which gave the red color directly to the till. The Red Ice reached the Two Creeks Forest Bed by crossing the



lower portion of Door County and spreading over Lake Michigan low lands. The Red Ice over-rode the Forest Bed as far south as Milwaukee; its waters rose to nearly 40 feet above the present level of Lake Michigan, when an outlet was formed through the Desplains River in Racine County. The retreat of this ice left the Forest Bed buried under a thickness of red clay varying from 15 to 30 feet, which evidently has resulted in the reworking of various deposits of soil types, known as heavy clay, silty-loam, clay loam, muck, peat, gravelly-loam and others.

2-3 Soils

Heavy soil, silt, clay, loam, predominating, covers 86.2% of the area of the town - the highest in the county. Cary and Valders till are the parent drift soils of more than 65% of today's soil in Manitowoc County. These tills break up into many soil offspring. The major soil types in the Township of Two Creeks is Manawa, Kewaunee, Tustin, Udorthents, and Poygan. The soils range from well drained (Kewaunee, Tustin) to poorly drained (Poygan). All except one have a permeability that is slow; the Tustin's is moderately rapid. All have a moderate water capacity and most of these areas can be farmed. They rate from good to fair for the potential to cultivate crops. The only areas that Udorthents are located is by the Nuclear Power Plant. Udorthents soils are ones that either have been moved or have been mixed with earth-moving equipment. Kewaunee, Manawa, and Poygan have poor potential for building site development and sanitary facilities. Some of the minor soils that are contributing factors include: Cosad, Lutzke, Bellevue, and Shiocton. Lutzke soil can be found on outwash plains, kames, and eskers. This soil is usually used for pastures and woodlands. About 95% of all soil in the Town of Two Creeks is Kewaunee—Manawa—Poygan. Most of these soils are dominantly clayey. The rest of the soil is grouped into the Granby—Oakville—Tedrow and Houghton—Palms—Willette. A narrow strip of sandy soil follows the lake shore in the southeastern portion of the town. The black sand found there some years ago was used in the manufacture of matches. Small pieces of floating copper have also been found by some farmers plowing their fields, giving evidence of the early movement of the glacier which gathered material along its coarse at least 300 miles to the north of this region.

Prime Agricultural & Productive Agricultural Soils

The Land Evaluation Site Assessment system was developed by the NRCS-USDA in collaboration with land use planners from Arizona State University and Oregon State University. It is a numeric rating system for scoring sites to help in formulating policy or making land use decisions on farmlands. The system is designed to take into account both soil quality and other factors affecting a site's importance for agriculture.

Soil quality factors are grouped under **Land Evaluation (LE)**. The other factors are grouped under **Site Assessment (SA)**. The SA factors are of three types: non-soil factors related to agricultural use of a site, factors related to development pressures, and other public values of a site. Thus, an agricultural LESA system may contain some or all of the following components:

Land Evaluation

- Soil-based factors

Site Assessment

- SA-1: Factors other than soil-based qualities measuring limitations on agricultural productivity or farm practices.
- SA-2: Factors measuring development pressure or land conversion
- SA-3: Factors measuring other public values, such as historic or scenic

For the purposes of this plan, Manitowoc County provided the land use committees with a GIS data set identifying the prime agricultural lands. This data set was used in conjunction with a GIS data set including lands participating in the Farmland Preservation Program to identify the highly productive agricultural soils within the Town of Two Creeks.



On-Site Sewage Disposal Systems

The State of Wisconsin recently completed a comprehensive revision of Comm 83, dramatically changing the availability of options when treating on-site wastewater within the state. This revision allows for a private on-site wastewater treatment system (POWTS) to be placed upon as little as 6 inches of native soil. The previous version would require a holding tank for sites with less than 24 inches of suitable soil. While there are many options now available for treating on-site wastewater, they can be categorized by three types. First is the conventional in-ground system that treats effluent by using a septic tank and filters to remove solids, allowing the remaining effluent to be treated by native soil. The second type of system is a pressurized system that treats effluent at or above existing grade. As the conventional, it employs a septic tank and filter to remove solids from the effluent. Followed by this septic tank is a dose or pump tank that forces the remaining effluent into the drain field. It is used in areas with 48 inches or less of suitable. The remaining option is a holding tank. This holds wastewater to which time a licensed waste hauler removes the waste and transports it to an appropriate waste disposal site. Below are Figures 2-1 and 2-2. Figure 2-1 includes all systems installed in the Town of Two Creeks since 1980. Of these systems 16% are conventional system, 44% are pressurized grade type systems, 40% are holding tanks, 2% are other. Figure 2-2 includes systems installed in 2000. Of the ones installed in 2000, 66% of the them are pressurized grade type systems, 33% are holding tanks.

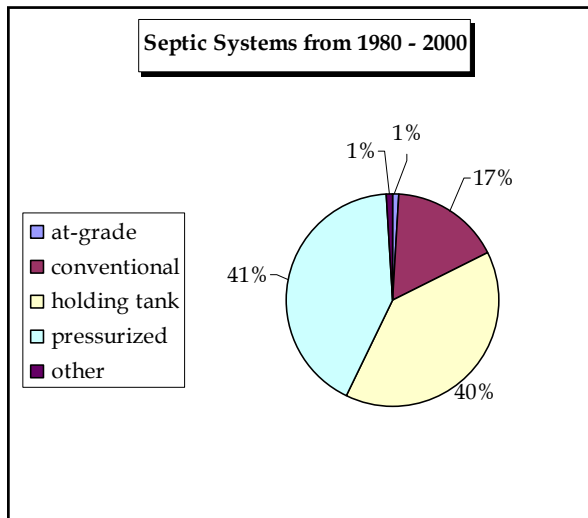


Figure 2-1

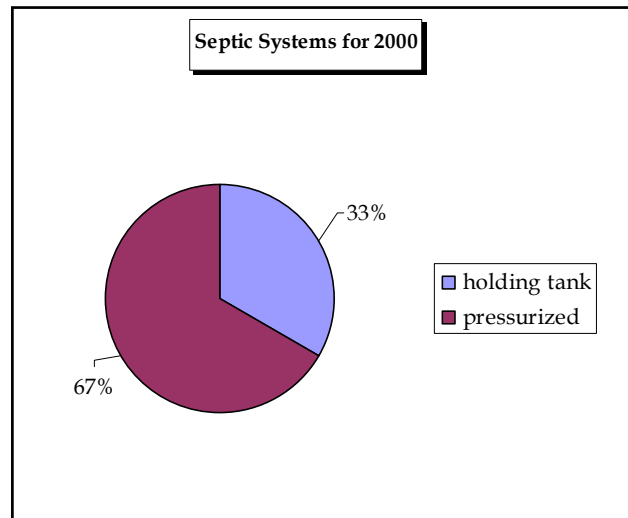


Figure 2-2

SOURCE: Manitowoc County Planning and Park Commission





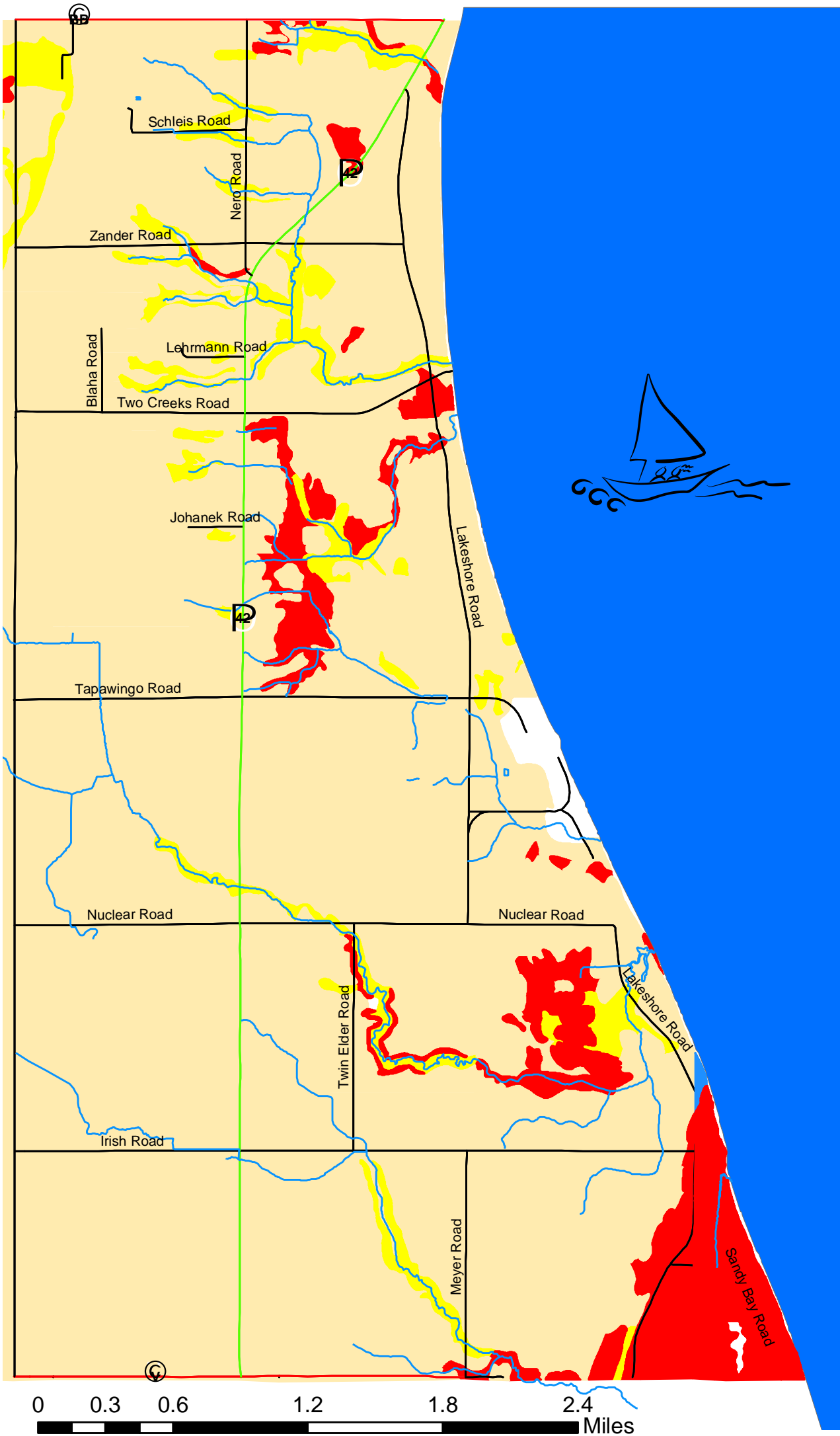
Soil Legend

Best

Good

Fair

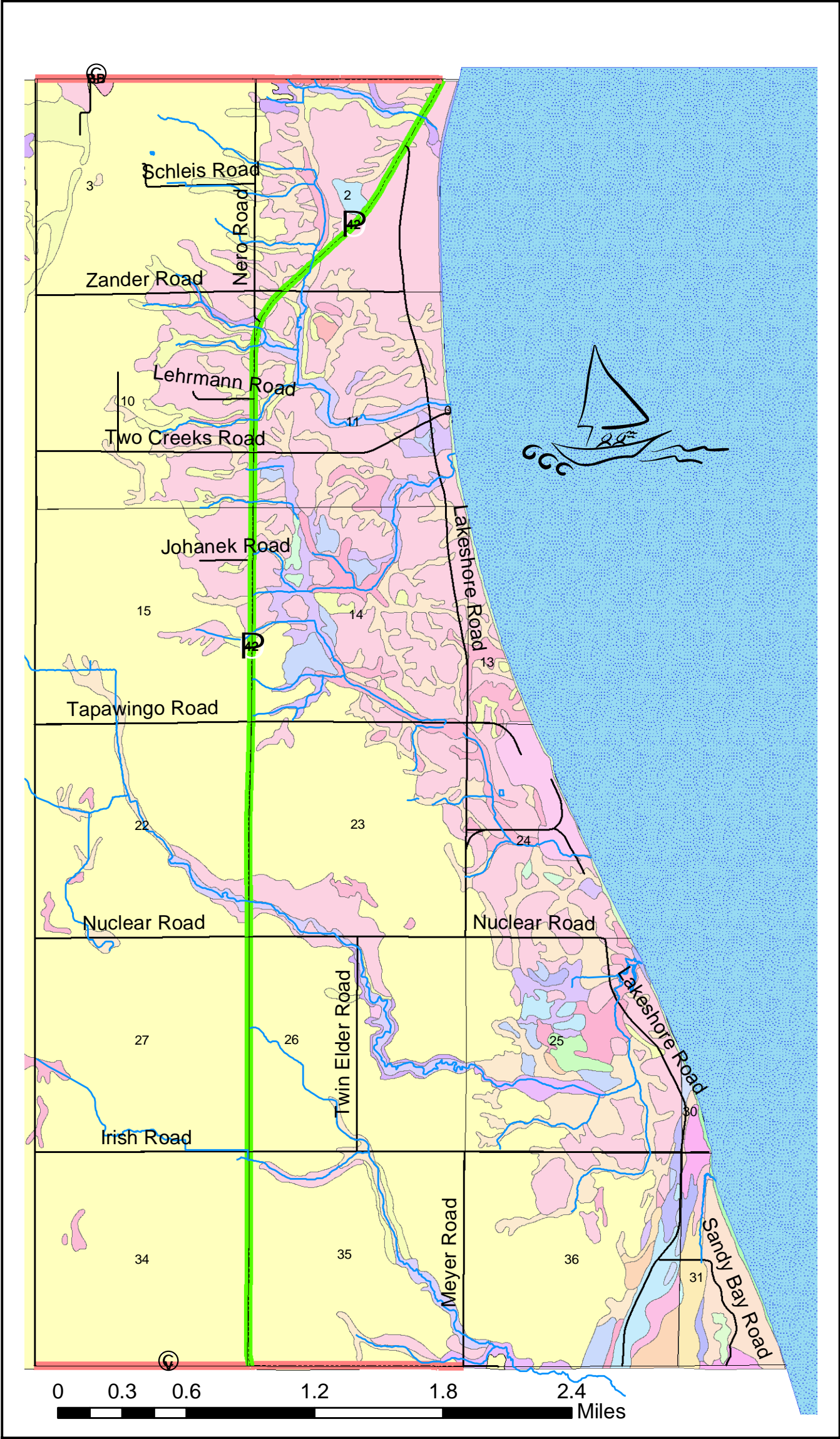
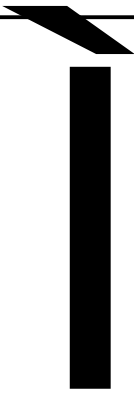
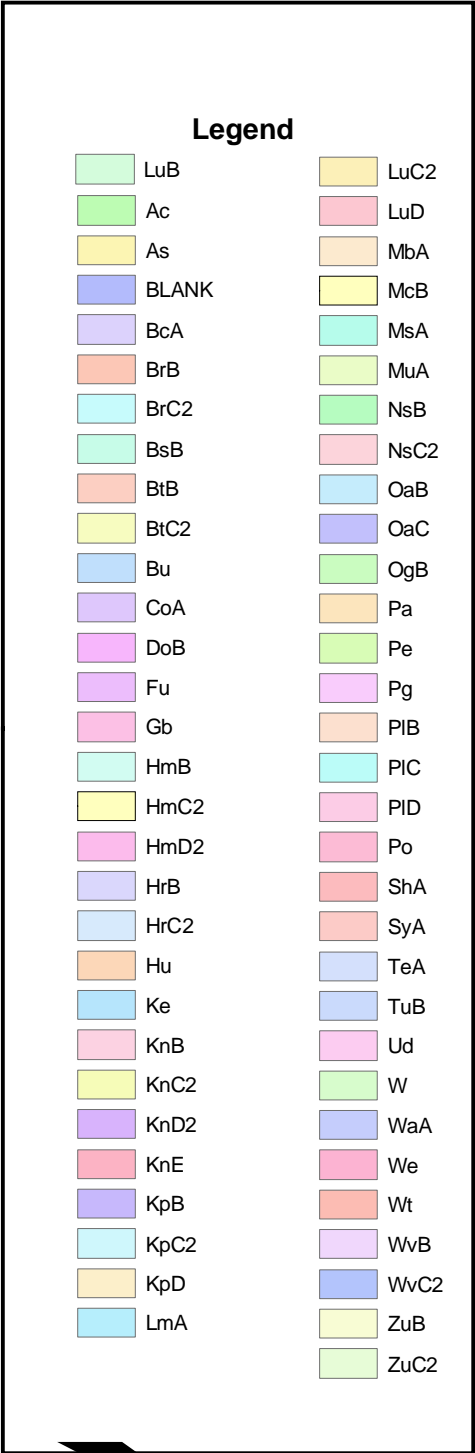
Poor



PRIME AGRICULTURAL SOILS

Town of Two Creeks
Manitowoc County, Wisconsin

MAP 2-1



SOIL TYPES

Town of Two Creeks
Manitowoc County, Wisconsin

MAP 2-2

2-4 Natural Features

Watersheds

The East Twin River Watershed encompasses the entire Town of Two Creeks. Fifty-eight percent of the total land in the East Twin River Watershed is in agriculture, 23% is woodland. Corn is the major crop, 33% with forage 29%. The land has a very high level of conventional tillage at 87%.

Lakes

The only lake that is located in the Town of Two Creeks is Lake Michigan. Of the 35 miles of shoreline in Manitowoc County, 6.36 of those miles are along the shore of the Town of Two Creeks. Lake Michigan's maximum depth of 714 feet is reached 24 miles off of the Michigan. Below the immediate beach, clay, sand, gravel and rock are the basic constituents of the littoral bottom zone. Serious shoreline erosion is evident along the lake in the county. The erosion is primarily caused by undercutting of the existing cliffs by wave action, and erosion of the cliffs through landslides. Clay and silt materials derived from the cliff are easily removed by shoreline currents. This leaves the beach without a large accumulation of residual sand or gravel. The limited protection afforded by the resultant narrow beach renders the cliff behind it vulnerable to further undercutting by waves. Evidence of this can be noted in the Town of Two Creeks.

Rivers and Streams

The Town of Two Creeks does not have any major rivers running through it, but it does have many streams that empty into Lake Michigan.

Flood Plains

Section 87-30, Wis. Stats requires counties to adopt reasonable and effective floodplain zoning ordinances for areas where flooding is likely to occur. NR 116 of the Wisconsin Administrative Code states the minimum criteria for these regulations. Ordinances must contain maps reflecting the best available data on the 100-year floodplain and define the land use restrictions in these areas. Chapter 9 of the Manitowoc County code has been adopted to satisfy these requirements in addition to the Flood Insurance Rate Maps produced by the Federal Emergency Management Agency (F.E.M.A.), indicating floodplain dissemination.


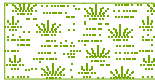



Wetlands

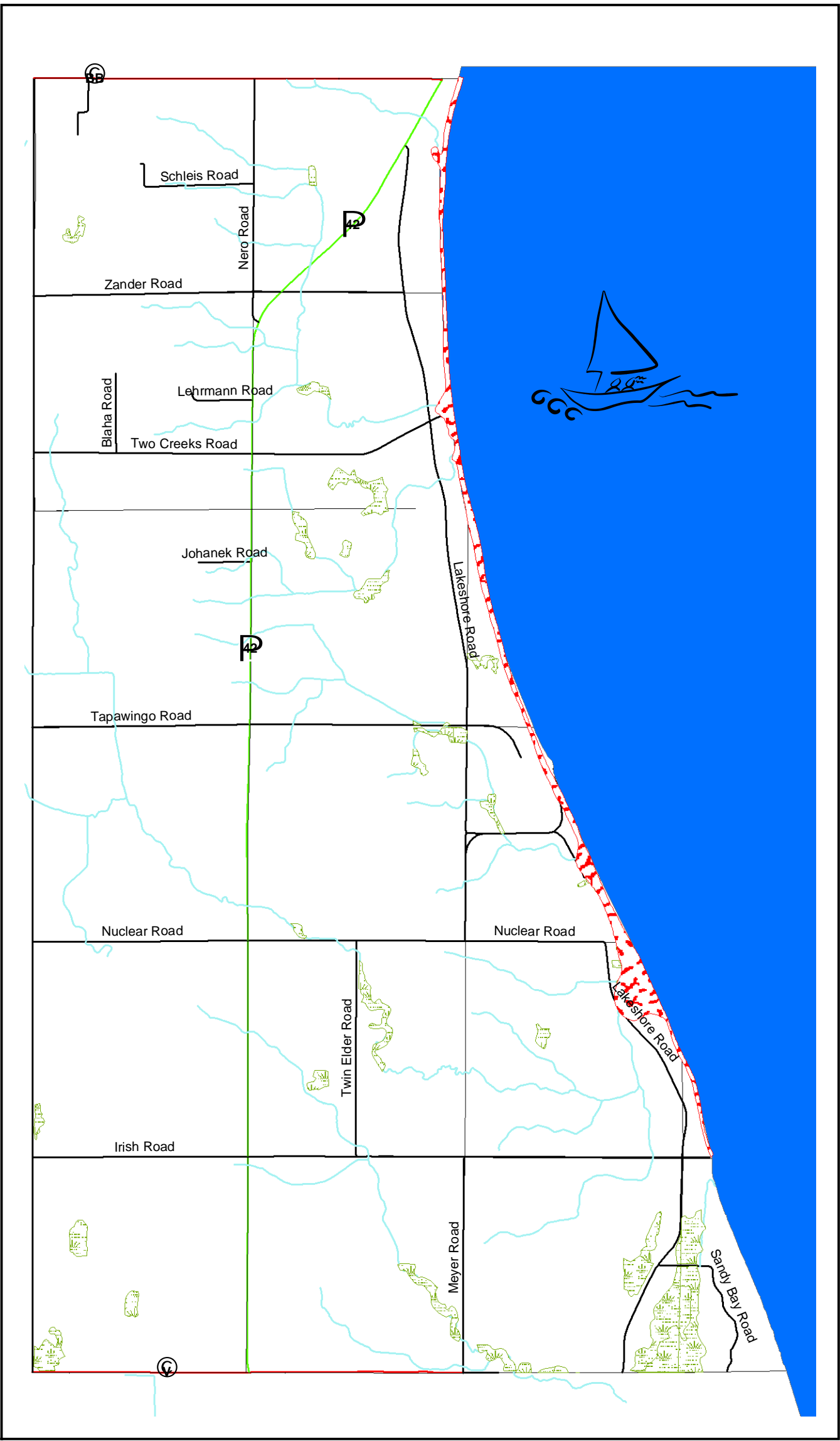
Wetlands contribute to the social, economic and environmental health of the area in many ways. They filter pollutants, nutrients and sediments from runoff, provide essential habitat for fish, waterfowl and a variety of other animals and act as groundwater recharge sources. A GIS analysis of wetlands using digital Wisconsin Wetland Inventory for the Town of Two Creeks revealed approximately 227 acres of wetlands. A little more than 68% of the wetlands are forested broad-leaved deciduous with a hydrologic modifier of wet soil, Palustrine or standing soil, Palustrine. Most of these areas have been incorporated into the town's land use map as "natural areas".





Legend

-  floodplain
-  wetland
-  stream
-  lakes
-  section



WATER RESOURCE MAP

Town of Two Creeks
Manitowoc County, Wisconsin

MAP 2-3

Forest and Woodlands

The native vegetation of this town merits careful consideration because of its rapid disappearance. This area was originally covered with virgin growth of maple, birch, beech, elm, basswood, oak, ash, poplar and wild cherry. Among the conifers that may be mentioned are the hemlock, pine, cedar, spruce, and balsam. During the early eighties and eighties lumbering, bark peeling, tie hewing, cordwood chopping, and fence post cutting were at the zenith of production. In approximately two decades, the lumberman and the settler had harvested the major portion of the virgin growing timber but had left a sufficient quantity to build farm buildings and supply firewood for years. The most destructive element to timber was the great forest fire, the so-called 'Peshtigo Fire,' of 1870, which not only brought death to many settlers - though all escaped in the Town of Two Creeks - but destroyed the forests, the farm homes, barns, and other buildings. About one-half of timber was 'burnt out', in the town which had influenced the clearing of land by farmers for cultivation more easily. Now the forested and woodland areas in the Township of Two Creeks covers roughly 508 acres. The trees that are within the 508 acres include: 49% Mixed/Other Broad-Leaved Deciduous, 18% Mixed/Other Coniferous, 17% Broad-Leaved Deciduous, 14% Mixed Deciduous/Coniferous and a little less than 1% of Coniferous. Some programs that benefit the forested areas are the Managed Forest Law, Wisconsin Forest Landowner Grant Program and Forestry Incentive Program (FIP). Eligibility for the Managed Forest Law and FIP is having 10 or more acres of forested land. Eligibility for the Wisconsin Forest Landowner Grant Program is by application. You must get approval from the DNR before beginning practice to receive funding for the Wisconsin Forest Landowner Grant Program.





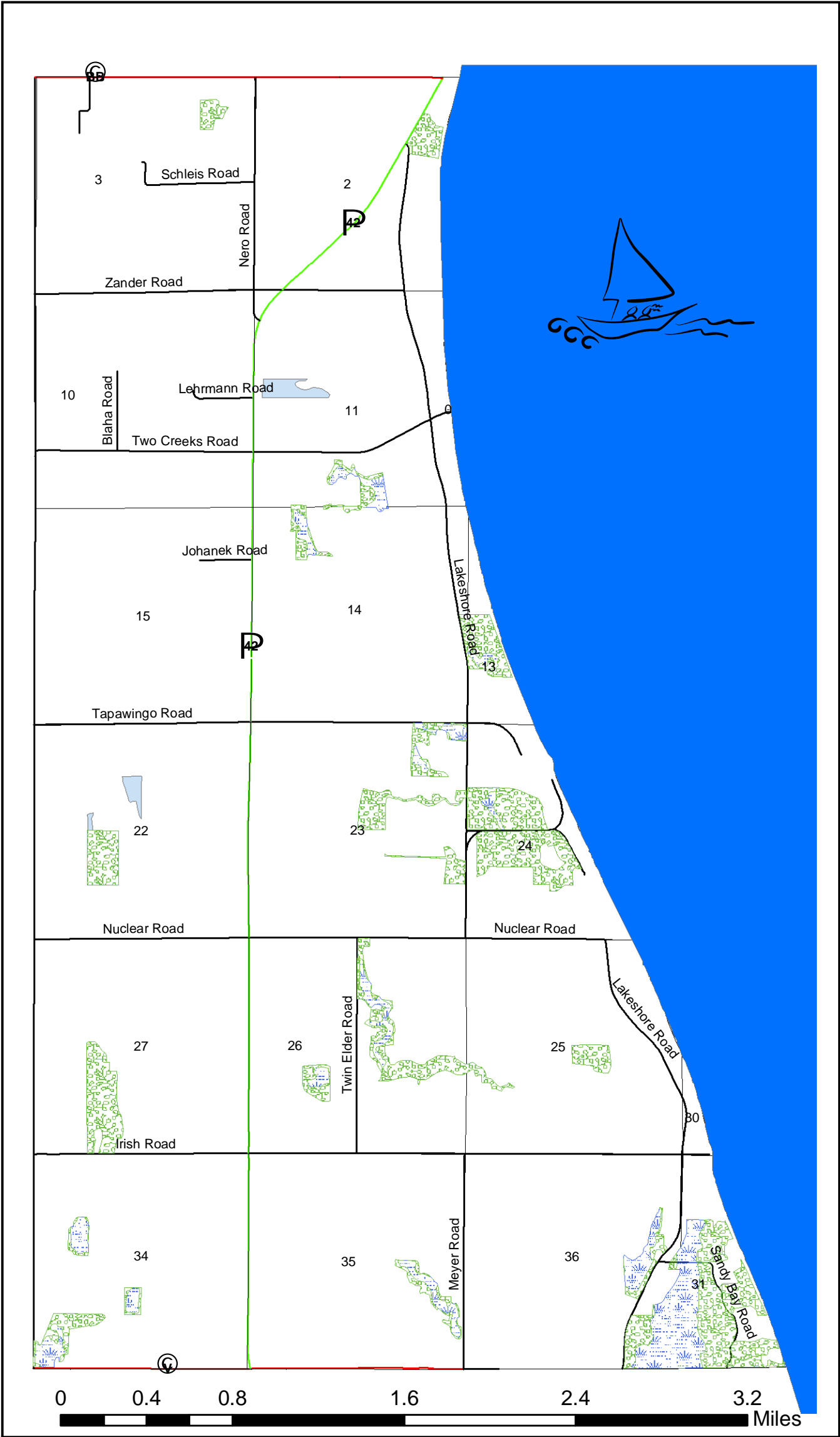
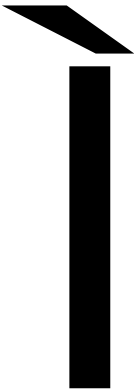
Legend

- upland forests
- tree plantations
- low land forest

ROAD

- CNTY
- STAT
- TWN

- section



WOODLAND MAP

Town of Two Creeks
Manitowoc County, Wisconsin

2-5 Wildlife and Fisheries

Some of the common wildlife found in the Manitowoc County area includes white tailed deer, turkey, squirrel, fox, and rabbit. Different species of fish also occupy the rivers, streams and small lakes in the area. There are two programs that are available to protect wildlife: Partners for Fish and Wildlife program, that may be used for land that can be restored to wetland conditions, or restored to provide habitat for threatened and endangered species. Wildlife Habitat Incentives Program (WHIP) The W.H.I.P. program is for almost any type of land, including agricultural and non-agricultural land, woodlots, pastures, and stream banks. Up to 75% of restoration costs may be reimbursed to a maximum of \$10,000. The U.S. Fish and Wildlife service and WDNR list Threatened and Endangered Species for the State of Wisconsin. A species is listed as Endangered when there is possibility that it may become endangered within the foreseeable future. In addition to these listings, the WDNR also list species of Special Concern that appear to be experiencing a problem with abundance or distribution, but not contain information from the inventory (Wisconsin Natural Heritage Inventory). While this plan does not contain information from the inventory, it is recommended that prior to any large land altering activity within the town that the Bureau be contacted and a "Wisconsin Natural Heritage Inventory Information Request Form" is submitted and processed through the department.

2-6 Parks and Open Spaces

The Township of Two Creeks contains 1 special purpose park and 1 preservation area. The special purpose park is located along Lake Michigan at the end of Two Creeks Road. The preservation area is located just north of the special purpose park. The preservation area is also known as the Two Creeks Buried (Spruce) Forest, consisting of about 30 acres along Lake Michigan. This area is now part of the Ice Age National Scientific Reserve.



2-7 Natural Areas—Environmental Corridors

An Environmental Corridor is termed as any open space system based on natural resources and environmentally important lands. The Township of Two Creeks is covered roughly by about 780 acres of Natural Area. Environmental Corridors are usually associated with water features such as rivers, streams, lakes and wetlands; federal, state, county and local public parks and recreation areas; State or Federal wildlife areas, areas of steep slope (12% or greater), unique or isolated woodland areas, historic and archeological sites. The Natural Areas are located around the small streams in the area that empty into Lake Michigan. These areas provide essential habitat for the various types of wildlife in the township.

2-8 Historical and Archaeological Resources

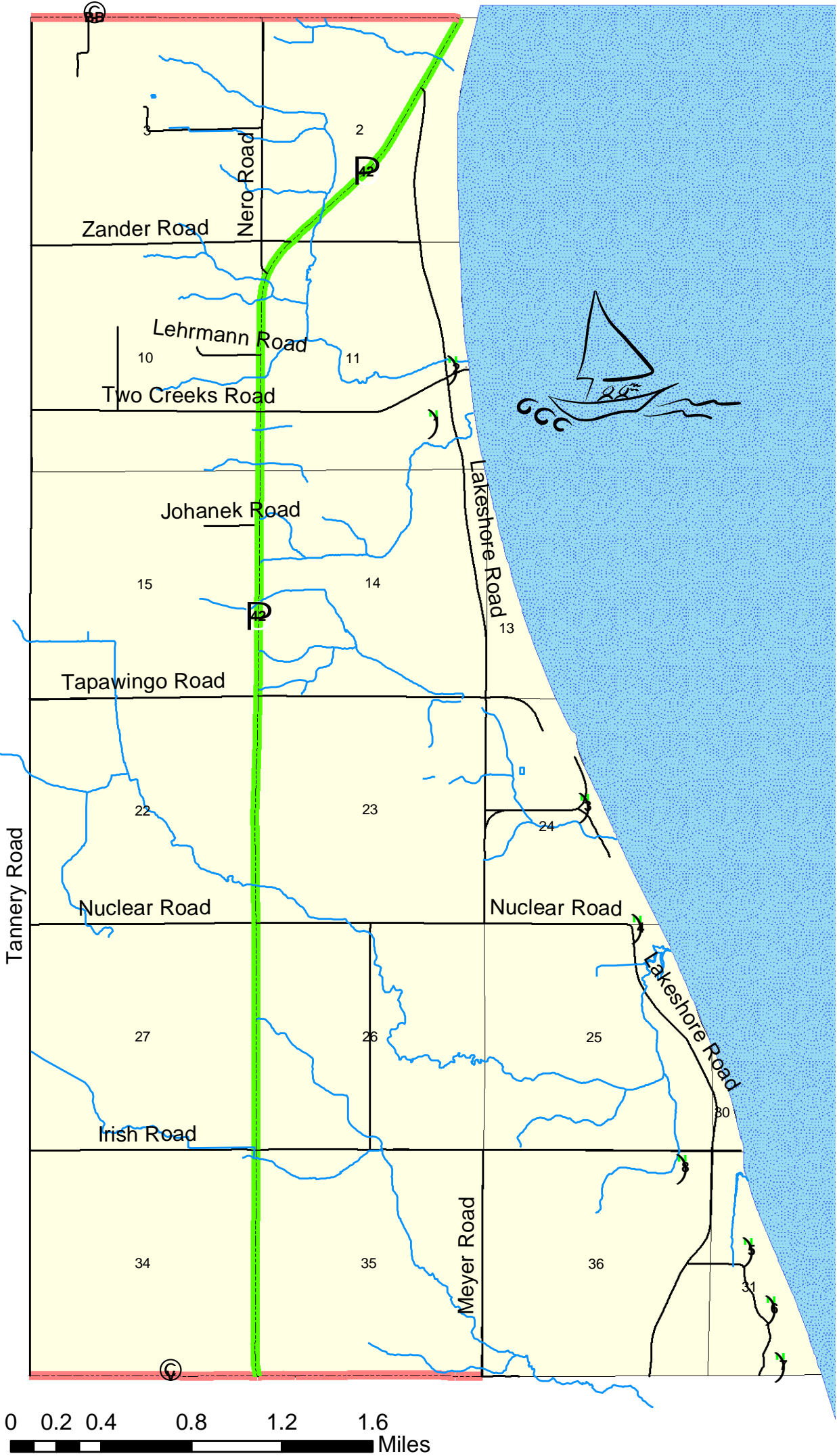
The town land use committee obtained a historical and archeological sites list from the State Historical Society of Wisconsin Summer Survey Files. Of the 8 sites that were identified, 7 of those sites are archeological. 5 out of the 7 are campsites which are scattered throughout the Township of Two Creeks. The two that are not campsites are Jean Vieau's Landing Place (Trading Post Site), and the Village Site. The last remaining one is a historical site known as the Point Beach Nuclear Power Plant.





**SITE
LEGEND**

- Jean Vieau's Landing Place
Trading Post Village
- Village Site
- Point Beach Nuclear Plant
- Campsite
- Two Creeks Village
Campsite and Worksite
- O'Neil #1 Campsite
- School Forest Sites,
Campsite
- Campsite



**HISTORIC AND ARCHEOLOGICAL
SITES**

**Town of Two Creeks
Manitowoc County, Wisconsin**

MAP 2-5

Source: State Historical Society of Wisconsin,
Summer Survey Files, March, 1980.

2-9 Non-Metallic Mining Resources

These mineral resources are natural resources just like groundwater, forests, or agricultural lands. While the land use committee realizes the importance of these sites, it also understands that sound planning must occur in regards to the siting, size and reclamation of these sites. A specific objective was to require that all resource extraction activities be conducted in a way that minimizes their impact on the surrounding environment and that a reclamation plan is in place before extraction begins.

An analysis of existing non-metallic extraction sites was conducted as part of the land use planning process. There are less than 7 acres of land identified as non-metallic mining in the Township of Two Creeks on Map 8-4. This area is associated with the nuclear power plant and was utilized during the construction of the facility.

The Manitowoc County Planning and Park Commission currently is the regulating authority regarding non-metallic mining sites. Chapter 295, Wisconsin Statutes required that the Department of Natural Resources draft rules pertaining to the reclamation of non-metallic mining sites, resulting in the creation of Chapter NR 135 of the Wisconsin Administrative Code. This rule took affect on December 1, 2000 and requires that all counties must adopt an ordinance regarding site reclamation by June 1, 2001. Manitowoc County completed their draft proposal on May 24, 2001.



Chapter 3: **HOUSING ELEMENT**

In this section, population composition, as well as, housing unit trends will be identified utilizing the most recent population and housing data. In addition, county permit data is utilized to determine the most recent housing trends. Provided below is a compilation and analysis of goals, objectives, strategies, and programs relating housing and population in the Town of Two Creeks.

3-1 Goals, Objectives & Strategies

HOUSING GOAL:

Promote residential development in harmony with the rural character of the town and in a manner that does not increase land use conflict through individual land uses, increased traffic, and/or degradation of the town's natural beauty.

OBJECTIVES:

1. Accept housing development in areas of need that can be done in an environmentally cost effective manner (both to the individual and the community).
2. Utilize zone plans that promote residential development in harmony with the rural character of the town and in a manner that does not increase land use conflict, increase traffic, or degrade the town's natural beauty.
3. Explore ideas that encourage the preservation of open space, natural and unique areas in relation to residential development.

STRATEGIES:

1. Create conservation options and incentives promoting conservation subdivisions and other tools to minimize the impacts to open spaces and rural character of the town.
2. Due to the lack of community services (i.e. water and sewer) in the town, areas in nearby cities and villages should be utilized.
3. Identify future land uses such as Large Farming Operations and limit the location of residential development in relation to these areas to minimize land use conflict.
4. Any new development projects should be located as to reduce the possibility of land use conflict between incompatible uses.
5. The "Land Use Evaluation Checklist (gauged against the 2001 land use survey and supporting analysis conducted by the Land Use Advisory Committee) will be utilized as a management tool, by the Town Board in approving future improvements/change in the town pertaining to smart growth.



3-2 Housing Inventory

The brief set of information presented in this section will provide local officials with information about the current housing configuration as well as identify significant changes that have occurred in the area of housing over the last twenty years. Information was presented to the committee concerning the structural and occupancy characteristics as well as details on housing values and projected housing. Housing is not just a big city concern. Many small towns throughout the country lack adequate housing. But what is adequate in small towns today? What are the housing needs? An inventory and analysis of the existing housing stock and factors influencing the development of new housing in the town is important to the preparation of a land use plan for the Town of Two Creeks. Information concerning the quantity and characteristics of the existing housing is necessary to determine the extent to which that housing is able to satisfy the requirements of the Town of Two Creeks population and employment base. The physical location of housing determines the location and cost of many public services and facilities. Furthermore, housing characteristics are related to the social and economic conditions of the community's residents.

3-3 Total Housing Units

Table 3-1 illustrates that over the past 10 years the total amount of housing units (occupied units, vacant units, and seasonal units) increased from 164 in 1990 to 202 in 2000. This is an increase of 38 units in 10 years. Over the past 10 years the Town of Two Creeks has increased its rate of increase to 23.1%. The rate of increase for the Town of Two Creeks is almost double that of the State (12.9%) and almost triple that of the County (8.8%).

3-4 Building Permit Data

Table 3-1

AREA	TOTAL HOUSING UNITS					
	1970	1980	1990	2000	# change	% change
Wisconsin	1,472,322	1,863,857	2,055,774	2,321,144	848,822	57.6
County	25,411	30,140	31,843	34,651	9,240	36.4
Two Creeks	161	162	164	202	41	25.5

Source: U.S. Census Bureau, and W.D.O.A.

Housing Permits (1992-2000)

Information was gathered from the Manitowoc County zoning permits that were issued for single family homes in the Town of Two Creeks from 1992 - 2000 (see figure 3-2). The Town of Two Creeks does not follow any certain pattern. Instead of having a constant increase or decrease it jumps all over the place. The most permits ever issued in one year was in 1992 with a total of 6. The lowest being in 1999 when there was no permits issued. The biggest drop happened between 1998 - 1999 which dropped from 3 to 0. Between 1992 and 2000, a total of 24 home permits were issued in the Town of Two Creeks.

Total Zoning Permits (1992-2000)

Figure 3-3 shows all the permits that were issued from 1992 - 2000 for the Town of Two Creeks. These permits are for things such as: all homes, seasonal cottages, additions, garages, mobile homes, agricultural buildings and additions, signs, business and industrial buildings and additions, along with miscellaneous structures. 1998 was the peak year when 21 permits were issued in the Town of Two Creeks. 2000 found to be the year with the lowest amount of permits to be issued for the Town of Two Creeks. Only 10 permits were issued that year. A total of 142 zoning permits were issued in the Town of Two Creeks between 1992 and 2000.

3-5 Household Characteristics



Figure 3-2

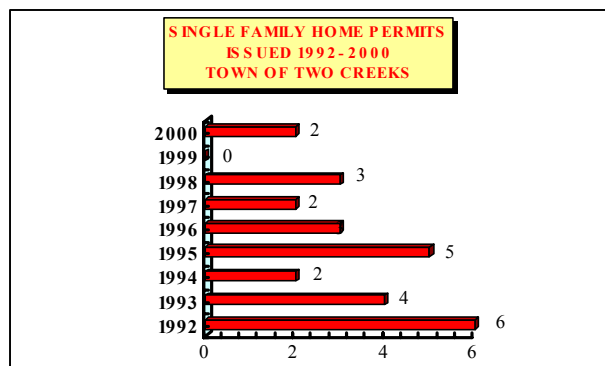
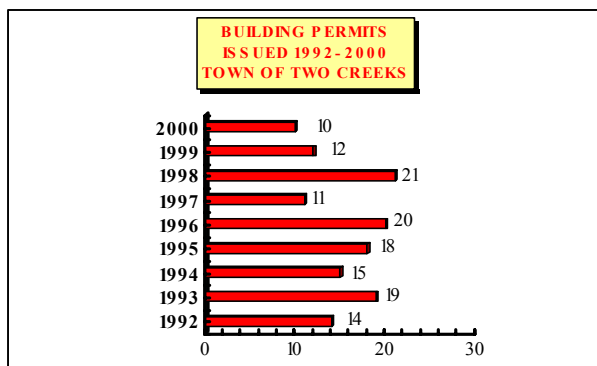


Figure 3-3



SOURCE: U.S. CENSUS BUREAU, AND W.D.O.A.

Historic and Projected Household Size

Table 3-2 illustrates how household and family size has decreased over the years. While the number of housing units has increased over the previous two decades, the number of persons per household and family has declined. If this trend should continue, there will be a slight increased in demand for new housing.

Table 3-2

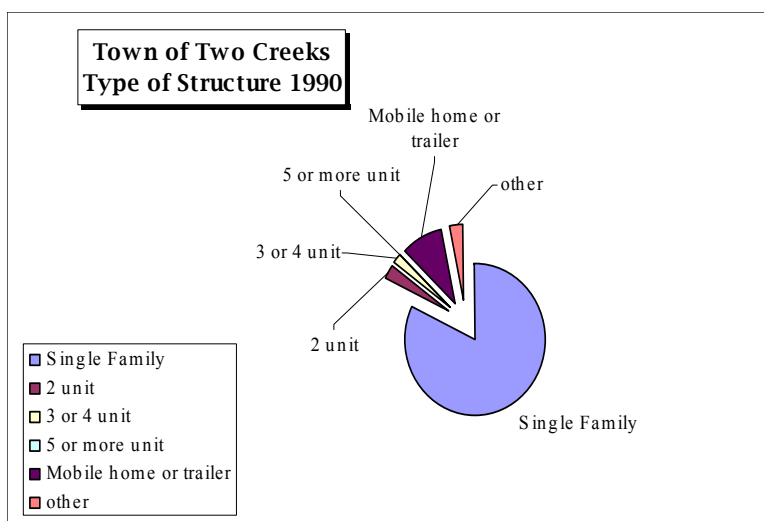
Town of Two Creeks	CHARACTERISTICS OF HOUSEHOLDS AND FAMILIES					
	1990		2000		% CHANGE	
	Household	Family	Household	Family	Household	Family
Average # of persons	3.15	3.38	2.99	3.28	-0.05	-0.03

Source: U.S. Census Bureau and W.D.O.A.

Figure 3-4

Housing Types—Units in Structure

Figure 3-4 and 3-5 show that in 1990, 82% of all structures in the Town of Two Creeks consisted of single family. In 2000, this increased to 83%. Mobile homes and trailers made up 10% of the structures in 1990, while in 2000 they made up 14%. 2 unit structures and structures that fall under other made up 6% in 1990 but fell to 1% in 2000, while the 3-4 unit structures stayed the same from 1990 to 2000 with 2%. Structures that are 5 or more did not exist in the Town of Two



Source: U.S. Census Bureau and W.D.O.A.



Creeks in 1990 or 2000. The main reason for this is that public services are not offered in the rural areas. Installing a private on-site wastewater treatment system for this size would be cost prohibitive.

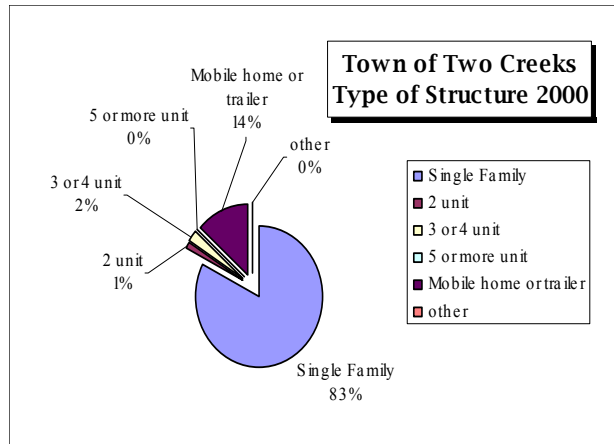
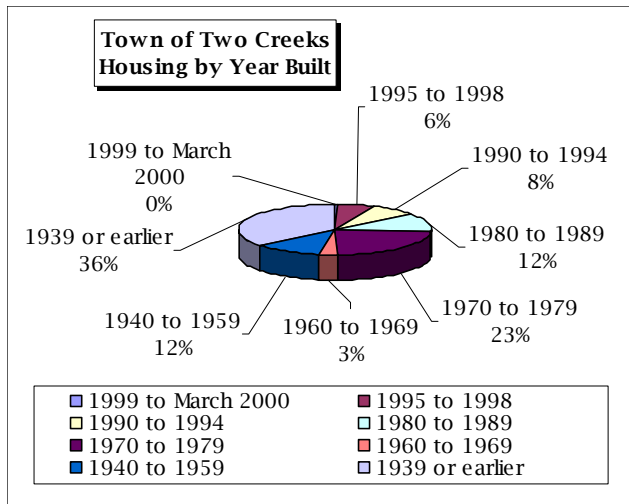


Figure 3-6 Source: U.S. Census Bureau and W.D.O.A.



Source: U.S. Census Bureau and W.D.O.A. Figure 3-5

Age of Housing

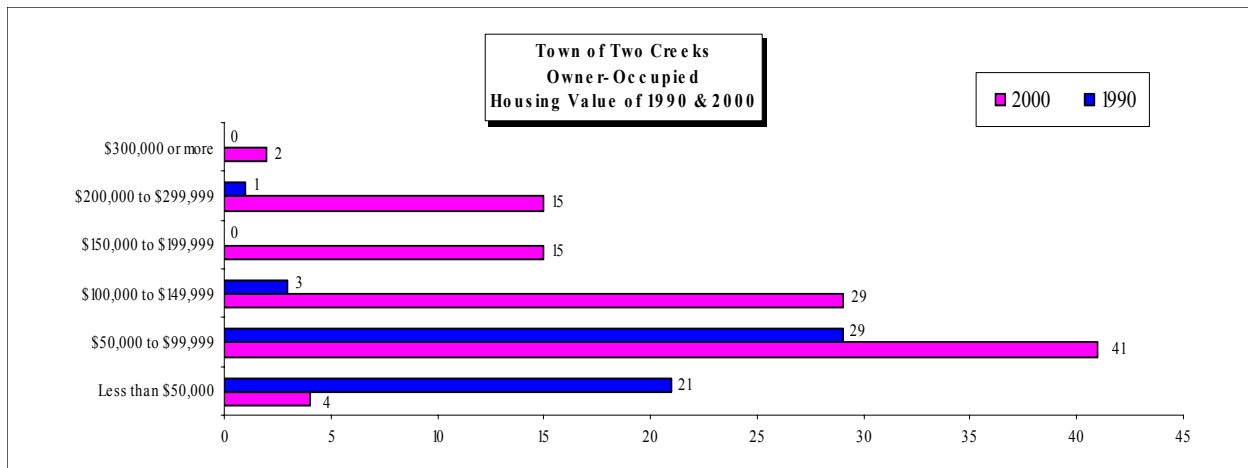
On average, the Town of Two Creeks housing appears to be older than the County and State. According to Figure 3-6, approximately 36% of the homes were constructed prior to 1940 compared with 33.4% for Manitowoc County and 23.4% for the State.

Value of Housing

According to the 1990 census the median value of an owner-occupied housing in the Town of Two Creeks was \$56,000. This value was exactly between Manitowoc County (\$49,500) and the State (\$62,500). In 2000 the median value of the 106 respondents of owner-occupied houses rose to \$110,000. This value is close to \$10,000 more than the County (\$90,900) and approximately \$2,000 less than the State (\$112,200).

Persons per Housing Type

Figure 3-7



Source: U.S. Census Bureau and W.D.O.A.



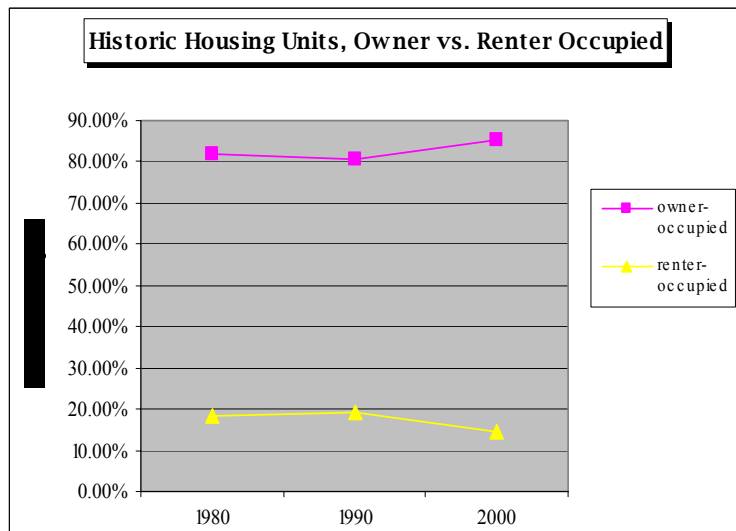
The data provided in Table 3-3 was gathered from the 1980, 1990 and 2000 censuses. According to this data, there has been an increase in percentage for owner-occupied housing in the Town of Two Creeks.

Table 3-3

PERSONS PER HOUSING TYPE - OWNER/RENTER OCCUPIED 1980-2000						
	1980		1990		2000	
Two Creeks	persons		persons		persons	
owner-occupied	381	81.8%	395	80.8%	471	85.5%
renter-occupied	85	18.2%	94	19.2%	80	14.5%

Source: U.S. Census Bureau and W.D.O.A.

Figure 3-8



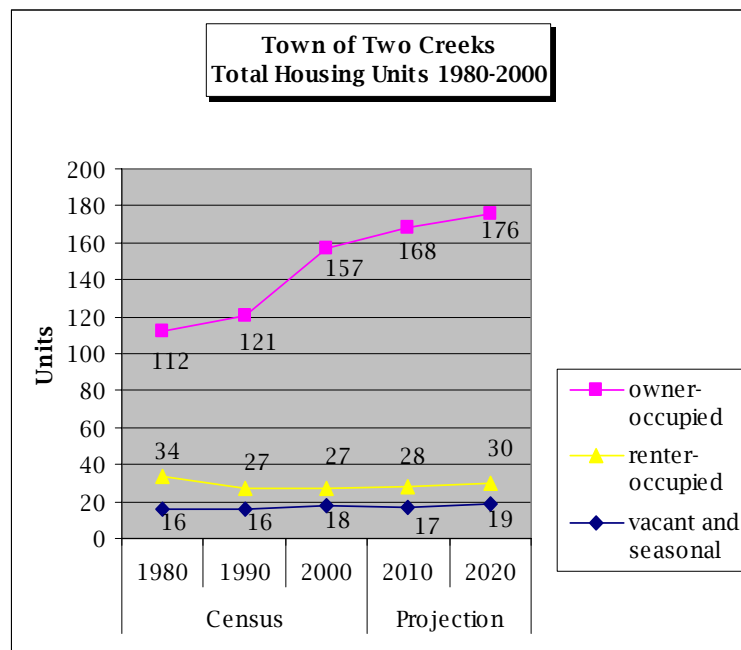
Source: U.S. Census Bureau and W.D.O.A.

Total Housing Units Owner & Renter Occupied

Corresponding with Table 3-3, percent of owner-occupied and renter-occupied units have remained the same. With very little to no municipal sewer and water in the area the percent of renter-occupied units is low.

Projections

According to the 2000 census, the Town of Two Creeks has 157 owner-occupied and 27 renter-occupied housing units for a total of 202 including 18 vacant and seasonal units. This is an increase of 38 units from 1990 and a 40 unit increase from 1980. Based on these figures, and building permits data stated previously in this section, it is estimated that by the year 2022 the Town of Two Creeks will gain an additional 19 housing units for a total of 221. The majority of the units are projected to be mostly owner-occupied units with only a small gain in renter-occupied units.



Source: U.S. Census Bureau and W.D.O.A.



CHAPTER 4: **TRANSPORTATION ELEMENT**

This element will address the Town of Two Creeks goals, objectives, strategies, and programs to guide the future development of the various modes of transportation including highways, transit, transportation services for elderly and disabled persons, railroads, air transportation, and water transportation. Highways within the Town of Two Creeks will be classified by function and will incorporate state, regional and other applicable plans.

4-1 Goals, Objectives & Strategies

TRANSPORTATION GOAL:

Balance traffic patterns and safety issues with the rural character of the Town of Two Creeks.

OBJECTIVE:

1. Provide a transportation system that provides mobility, convenience and safety while maintaining the rural character of the Town of Two Creeks.
2. Maintain and improve existing road quality.

STRATEGIES:

1. Develop and adopt driveway access standards for town roads which address dimensional standards that ensure efficient emergency vehicle access.
2. Utilize the Pavement Management System Road Inventory maintenance system, which inventories and analyzes existing roads within the town. Information gathered would be used to properly budget funds and set priority for projects.

4-2 Inventory of Transportation Modes

Waterborne

The Port of Manitowoc is the nearest port to the Town of Two Creeks. Over the past ten year's the port has averaged 341,000 tons of cargo. The primary commodities shipped inbound are cement, coal, barley, and wood.

In addition, the S.S. Badger provides ferry service across Lake Michigan from Manitowoc to Ludington, Michigan. The car ferry dock is located along South Lakeview Drive, to the north of the City of Manitowoc's Wastewater Treatment Facility. The ship accommodates 620 passengers, 180 automobiles, tour buses, R.V.s and semi-trucks. The first day of sailing is May 17 and the last day of sailing is October 14. Between May 17 and June 6 the Car Ferry only leaves once from Manitowoc. June 7 to September 2 the Car Ferry departs twice from Manitowoc. Then from September 3 to October 14 the Car Ferry only has one departure from Manitowoc. In 1997, the Car Ferry carried approximately 125,000 passengers.

Air Service

The nearest airport to the Town of Two Creeks is located in the City of Manitowoc. It is a 400-acre publicly owned facility used for "General Use Aviation". This airport serves aircraft up to 60,000 pounds, while servicing private, corporate, and industrial flights. The airport has two hard surface runways, 26 hangars, and a terminal building. The east/west runway is 3,343 feet in length, while the north/south runway is 5,002 feet. The nearest commercial air service is Austin-Straubel Airport located approximately 25-30 miles northwest, in the Village of Ashwaubenon.



Rail Service

There is no rail service in the Town of Two Creeks.

Elderly and Disabled Transportation System

Currently the Manitowoc County Aging Resource Center coordinates two programs addressing the needs of elderly and disabled persons. Transportation is provided every Tuesday and Thursday to the elderly rural population in the county. These services require an advanced 24-hour request and are demand responsive. Disabled persons are provided with service Monday through Friday via 3 routes. Participants must be ADA certified and are provided service to disabled workshops through the Holiday House and New Beginnings in the City of Manitowoc.

As the elderly population grows in size and the disabled population becomes more mobile, the number of persons requesting specialized transportation will increase. Increasing demand, rising costs, limited funding, and the need for alternate providers are the emerging issues that will be addressed in the coming years. In a recent transportation community survey conducted by the Manitowoc County Aging Resource Center, nearly 20% of the respondents recognized the need for an elderly and disabled transportation system.

Recreational and Bicycle Trail Systems

The Town of Two Creeks currently has a Secondary Bicycle Route. The route travels north on Lakeshore Road, west on Nuclear Road, north on Tannery Road, east on Zander Road, finally heading north on Nero Road. You can also go south on Tannery Road, then east on Benzinger Road.

Snowmobile is a recreational system that is given special consideration. The Manitowoc County Snowmobile alliance and Manitowoc County began working towards establishing a public trail system in 1973. The initial effort provided a 32-mile public trail, through designated crew chiefs, negotiating land use agreements and performing labor necessary to develop trails. Today approximately 135 miles of public trail system is being used, which serves as a link to an estimated 550 miles of private club trails found in the County. The closest trails to the Town of Two Creeks are in the Town of Mishicot and Two Rivers and both are State Trails.

4-3 Inventory and Analysis of Road System

Functional Classification

The transportation system within the Town of Two Creeks provides the basis for movement. The roadway system within the Town of Two Creeks includes more than 45 miles of state, county trunk highway, and local roads. The principle components of the Town of Two Creeks transportation circulation system are divided into the primary categories, arterial roads, collector roads, and local roads.

The Town of Two Creeks does not have any principal arterial roads. Minor arterial roads serve in conjunction with principal arterial roads serving cities, large communities and major traffic generators on an intra-regional scale. STH 42, which traverses north and south through the township, is classified as a minor arterial recording up to 3,700 vehicles per day in 1996.

The Town of Two Creeks is also served by several major collector roads (county trunk highways) that link the township to cities and villages within the county and to those state and interstate highways, which provide access to other regions.





Major Collectors

Roads that are classified as major collectors provide service to moderately sized communities and intra-area traffic generators. Collectors also provide secondary linkage to large population centers and arterial routes.

CTH 'BB' from CTH 'R' east to STH 42. It borders the north side of the township and traverses east and west.

CTH 'V' from the Village of Mishicot east to STH 42. It borders the southwest side of the township and traverses east and west.

Minor Collectors

Roads classified as minor collectors provide service to all remaining smaller communities and link the smaller local roads to the major collector system.

CTH 'V' from CTH 'O' west to STH 42. It lies on part of the southern border of the township and traverses east and west.

Traffic Counts

Traffic counts for the plan were analyzed from 1993 to projected 2005. See Map 4-1.

Access Controls

All or portions of these county trunk highways have been designated as controlled-access highways. Highway access management is planning the number and location of driveways and intersection to help maintain safe, efficient movement of traffic and to provide safer access to and from adjacent property. Designated controlled-access highways are as follows:

1. CTH 'V' from Mishicot to STH 42.



4-4 Inventory and Analysis of Applicable Transportation Plans

New Road Alignments

While growth and development are usually good for area economies, they often result in too many access points located too close together. As a result, traffic congestion increases, conflicts between land use and highway traffic grow, accidents increase, owners become frustrated and property values may fall as some owners move away. Speed limits may have to be lowered as a result of increasing congestion and accidents. Ultimately, the highway may even have to be relocated as the only way to restore safe and efficient operations. Access management can be used to help reduce or better manage congestion problems and, thus, delay or prevent such changes.

The town is also serviced by an interconnected system of local roads, which provide efficient links between farms, rural residences and rural commercial properties to other areas within the town, county and region. Wisconsin passed a law that required all municipalities and counties to assess the physical condition of highways in their jurisdiction by December 15, 2001, using a pavement rating system that was approved by WDOT (Wisconsin Department of Transportation).

County Highway Projects

Manitowoc County Highway Department officials do not have any tentative construction plans for the Town of Two Creeks for the next 5 years.

Airport Master Plan

The Manitowoc County Airport is participating in a Master Plan that will describe the improvement for the next five years. In 2001, the airport will reconstruct the north General Aviation apron and modify the fencing with funding by a Block Grant. In 2002, the airport will reconstruct the General Aviation Terminal Apron & Hangar Taxiway; they will also reconstruct the service road. This will be funded by a Block Grant. Then State Aid will fund the design for the reconstruction of Runway 7/25. In 2003, reconstruction will take place on Runway 7/25 and will be funded by a Block Grant. Then in 2004, designing for the reconstruction for Runway 17/35 will begin, which is funded by State Aid. Finally in 2005, reconstruction of Runway 17/35 will be completed and funded by State Aid. So far, no plans have been made for any improvements after 2005.

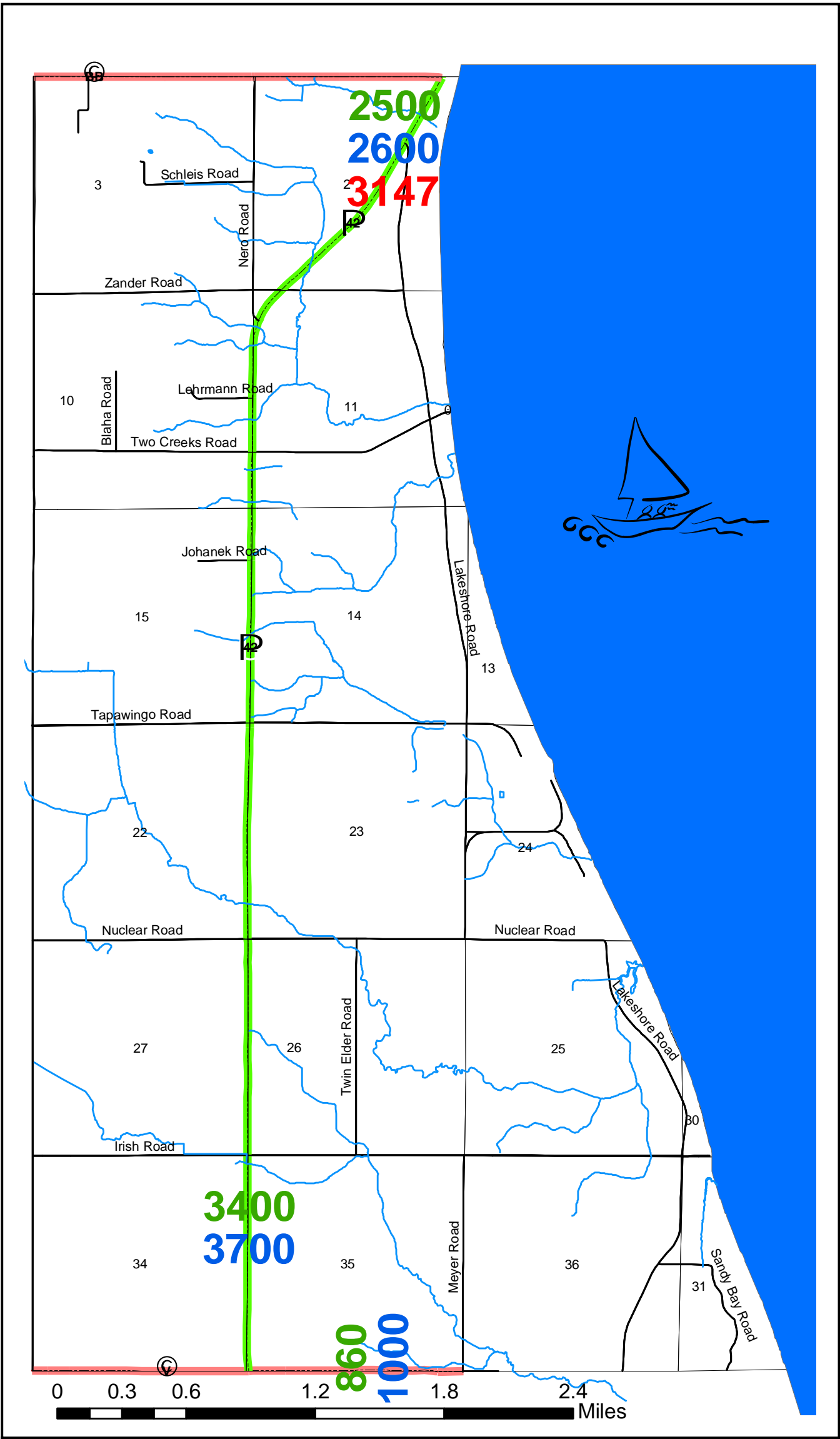




1993

1996

2000
(projected)





AVERAGE DAILY TRAFFIC COUNTS

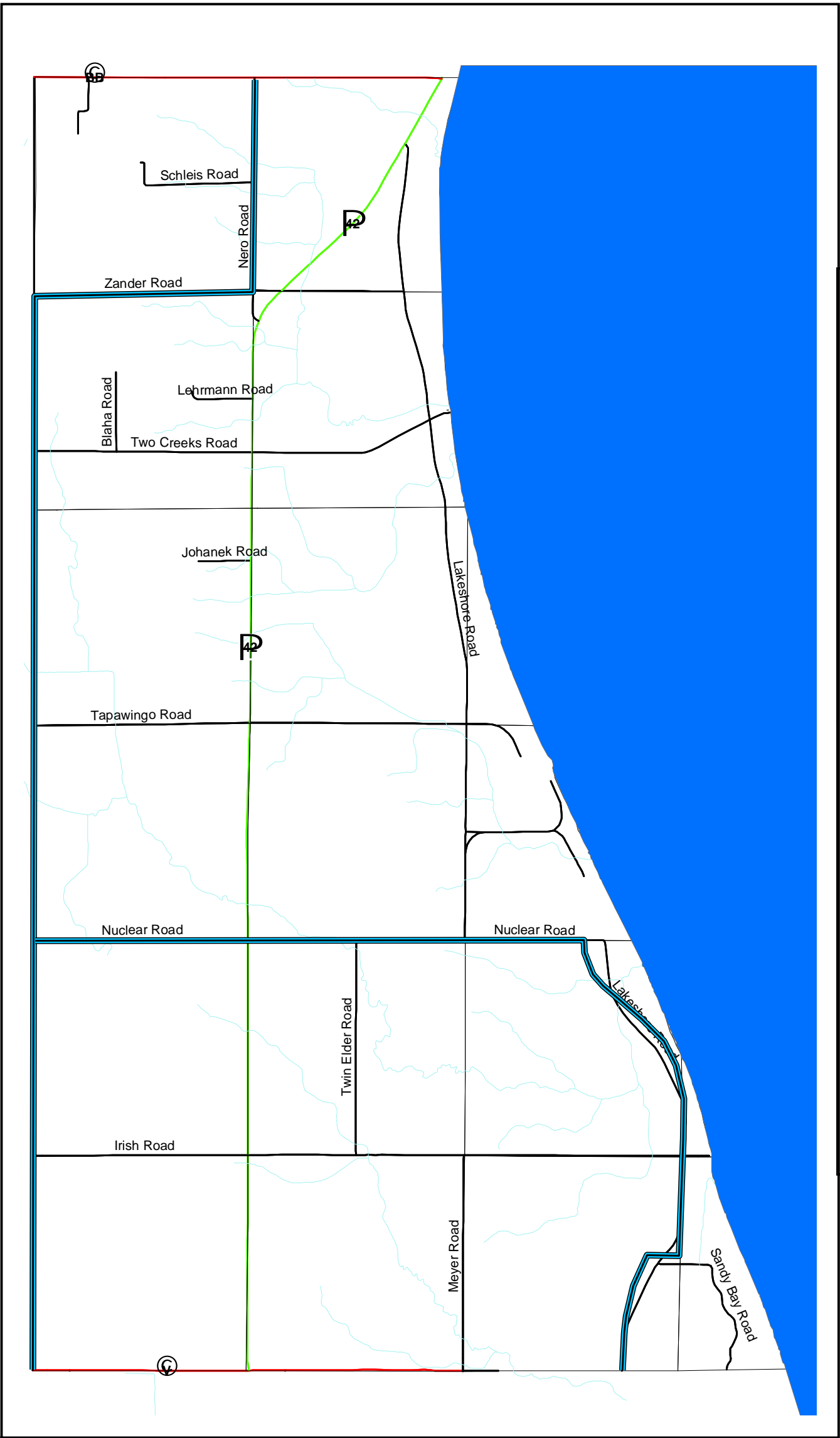
Town of Two Creeks
Manitowoc County, Wisconsin

MAP 4-1



Legend

-  Secondary Bicycle Route
-  Streams



BICYCLE ROUTE MAP

Town of Two Creeks
Manitowoc County, Wisconsin

MAP 4-2

CHAPTER 5:

UTILITIES & COMMUNITY FACILITIES ELEMENT

This section includes a compilation of goals, objectives, strategies and programs to guide the future development of community facilities and utilities in the Town of Two Creeks. Areas addressed include private on-site wastewater treatment technologies, solid waste disposal, recycling facilities, parks, telecommunication facilities, cemeteries, health care facilities, and other services such as schools, libraries, police, fire, and rescue facilities. Understanding the location, use and capacity of community facilities and utilities is an important consideration when planning for the future. This information, coupled with the demographic trends and projections, provides a realistic picture of service supply and demand.

5-1 Goals, Objectives & Strategies

UTILITIES AND COMMUNITY FACILITIES GOAL:

Continue to provide the quality, safe, and reliable community services and facilities which town residents currently enjoy.

OBJECTIVE:

1. With over 50% of the community survey respondents believing they could be more informed about town issues, the town should promote an improved awareness factor for town residents toward general information, activity and change.
2. Promote development in a cost effective manner associated with providing community services to the town.
3. Work to provide a well maintained town.

STRATEGIES:

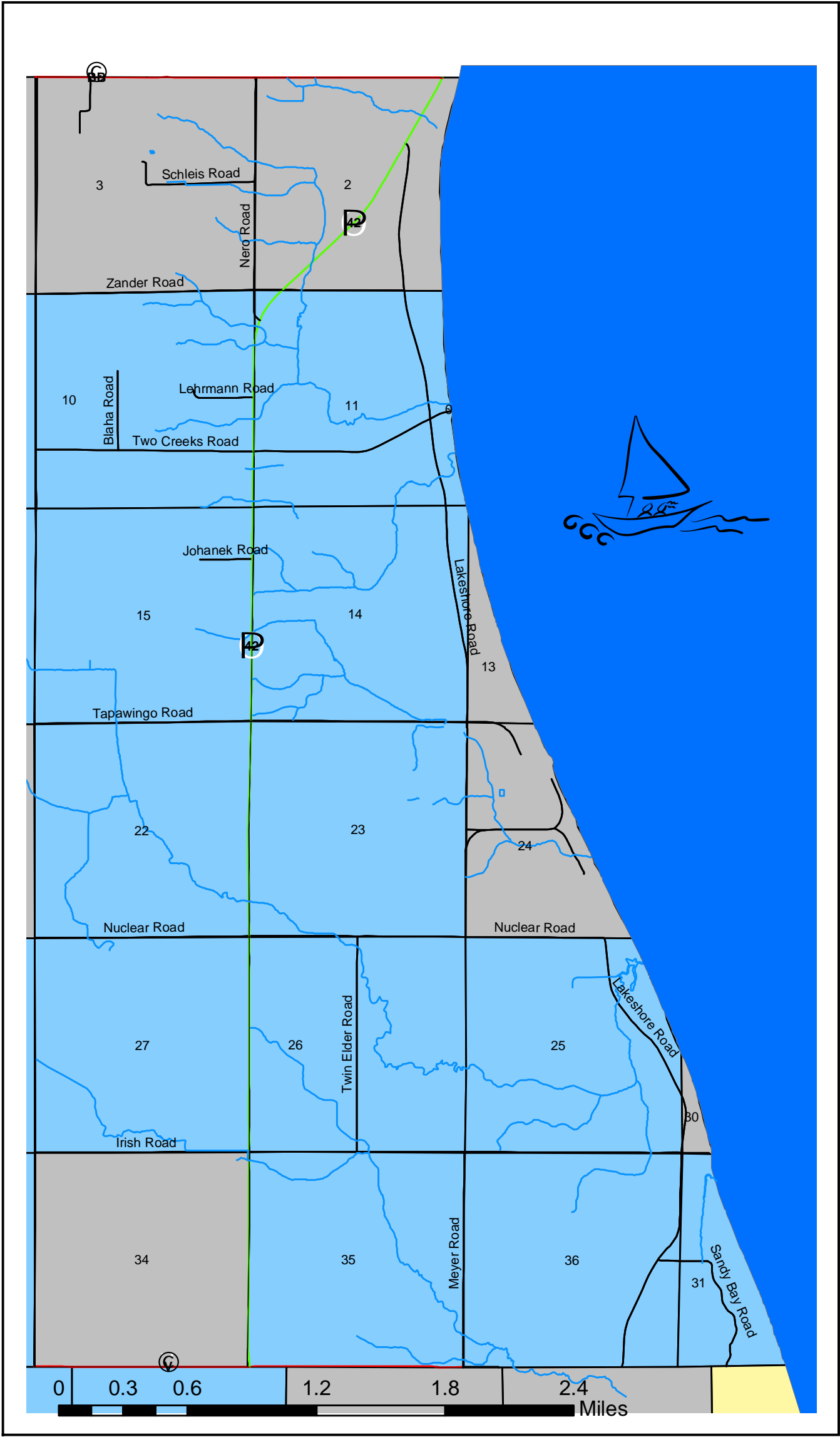
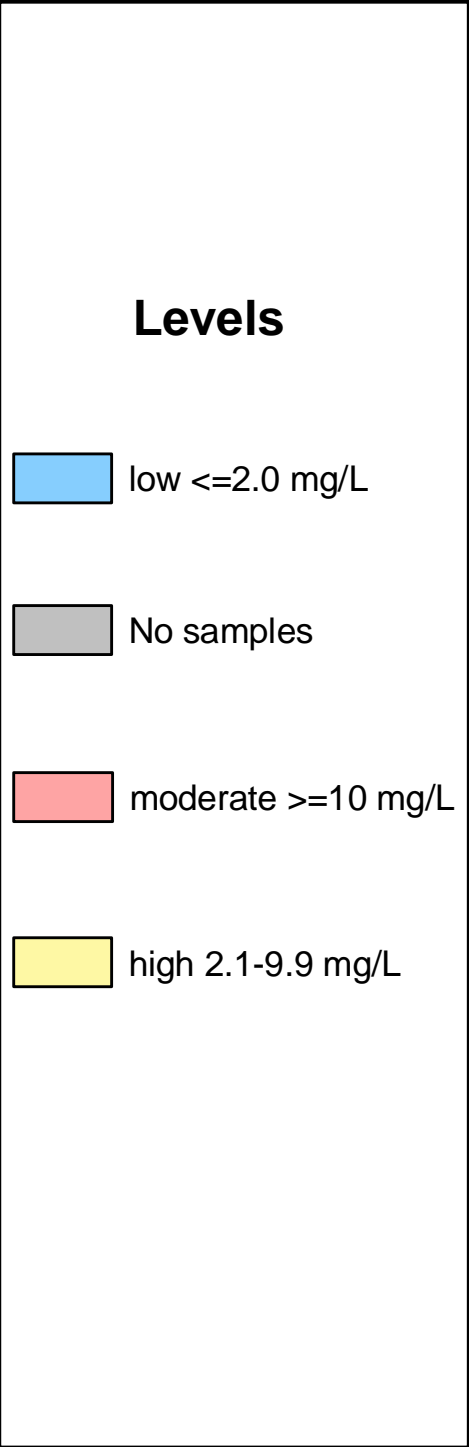
1. The town should publish some form of annual, semiannual, or quarterly newsletter to inform residents on town issues.
2. For 2002 - 2003, the town governing body should be aware of the desire to continue existing services but limit cost to maintain minimum resources at 95% (\$8,296,628) of the available assets (\$8,733,293 fund balance) as reported in the April 9, 2002 annual financial report.
3. Work closely with Manitowoc County regarding the existing county ordinances and restrictions already in place or under development.
4. Limit future housing or farm animal production in areas of high voltage transmission lines.
5. Limit the placement of towers (>100 ft in height), Billboards, and the growth of large business facilities within the town.
6. Reduce / maintain the cost associated with providing community services to the town within a ratio of town assets (money in interest drawing swings, within 5% of any previous end-of-year total.)



5-2 Groundwater Resources

The subsurface geology is divided into three aquifer units based on their hydro geologic properties. The lowest unit is the sandstone aquifer, which includes geologic units from the Cambrian sandstone and lower Ordovician groups, and lies directly above the Precambrian basement rock. Dipping slightly to the east under Lake Michigan, this aquifer is a regional groundwater flow system, carrying water from its recharge areas along the Niagara Escarpment and Kettle Moraine to its charge beneath the lake. The second aquifer unit is the Niagara aquifer, which lies above the Maquoketa shale within dolomite of the Silurian age. The Maquoketa shale acts as a confining unit, inhibiting the flow of water between the sandstone and Niagara aquifers. Like the lower sandstone aquifer, its recharge areas are along the Niagara Escarpment and Kettle Moraine. Due to the chemical nature of the dolomite rocks and the long residence time of water within this aquifer, water discharging from it has a high conductivity, carries a significant amount of dissolved minerals, and has a more constant temperature than surface waters. Drawdown within these aquifers may, overtime, alter the functioning of wetlands whose primary water source is groundwater. The third and shallowest groundwater unit lies within unconsolidated glacial till and outwash consisting of interbedded clay, silt, sand and gravel. Since water within this unit has the shortest residence time and discharges near its recharge point, there is little opportunity for its chemistry to be greatly changed. Thus, substances that are in the water at the recharge area are generally still present at the point of discharge and sometimes have a noticeable effect on the resulting vegetation. Due to the variable nature of groundwater flow in this aquifer, its use as a water source is primarily restricted to private wells.





NITRATE TESTING

Town of Two Creeks
Manitowoc County, Wisconsin

5-3 Wastewater Treatment Options

On-site Treatment Options

The State of Wisconsin recently completed a comprehensive revision of Comm. 83, dramatically changing the availability of options when treating on-site wastewater within the state. This revision allows for a private on-site wastewater treatment system (POWTS) to be placed upon as little as 6 inches of native soil. The previous version would require a holding tank for sites with less than 24 inches of suitable soil. According to the Wisconsin Department of Commerce this increases the number of acres that will allow for an in-ground septic system by 34%, through new technologies such as sand filters and pre-treatment aerobic units. While the use of these new technologies increases the number of available acres for an in-ground system the exact increase in acres for the Town of Two Creeks is unknown.

Recycling Facilities

A trash collecting facility (transfer station) is currently in use, located at CTH V and Tannery Road. Trash is compacted and shipped to an in-ground burial site. The facility also accepts and recycles paper, plastic, glass and tin. Operational hours are 8:30 a.m. to 2:00 p.m. on alternate Saturdays.

Town Facilities

Town facilities generally include such things as fire stations, meeting halls and any equipment. The Town of Two Creeks has a Town Hall, which is located at 5128 E. Tapawingo Road.

5-4 Community Facilities Inventory and Locations

Health Care Facilities

Given the Town of Two Creeks proximity to the cities of Manitowoc, Green Bay and Kewaunee, residents of the Town have close access to health care facilities provided in both cities. The population in the Town of Two Creeks cannot support its own hospital, primary care, or clinic facility.

There are two hospitals located in the Manitowoc area serving the Town of Two Creeks. What follows is a brief description of each facility:

Aurora Medical Center, 5000 Memorial Drive, Two Rivers, WI

Aurora Health Care is a community-owned Wisconsin health care provider and a nationally recognized leader in efforts to improve the quality of health care. Aurora Health Care sites in 65 communities in eastern Wisconsin and is Eastern Wisconsin's largest health care provider. With more than 230 facilities, Aurora offers a continuum of health care services.

The Aurora Medical Center in Two Rivers opened in 2000. Built to replace the aging Two Rivers Community Hospital, the new medical center offers modern facilities, new technologies and amenities for patients and family members. The new, four-story facility includes 183,000-square-feet of space. The hospital offers primary, acute, tertiary, and extended care services. The facility is designed to support patient comfort and enhanced family involvement in a technologically advanced environment with better communication, more access to information and greater efficiency.

All 73 patient rooms are private with individual showers and home-like furnishings that promote patient rest and healing. Each room is within 40 feet of a nursing station.

Allergy Asthma and Immunology Clinic, 4100 Dewey St., Manitowoc
Vince Lombardi Cancer Clinic, 601 Reed Avenue, Manitowoc
Manitowoc Clinic, 601 Reed Avenue, Manitowoc



Manitowoc Clinic – South, 4100 Dewey Street, Manitowoc
Aurora Health Care-Walk-In Care, 4100 Dewey Street, Manitowoc

Holy Family Memorial, 2300 Western Avenue, Manitowoc, WI

Founded by the Franciscan Sisters of Christian Charity, Holy Family Hospital has evolved into Holy Family Memorial - a comprehensive health care network made up of highly qualified health professionals who are dedicated to providing quality medical care to the residents of Manitowoc County, Wisconsin.

The network of clinics and hospitals under the Holy Family Memorial umbrella provide a host of services including: cancer treatment, heart services, women and infant specialty care, family practice, physical and emotional support therapy, emergency services, and more. Some local clinics managed by Holy Family Memorial include:

CARENOW, 2300 Western Avenue & 4303 Michigan Avenue, Manitowoc
Pain Rehabilitation Center, 2300 Western Avenue, Manitowoc
Sleeping Disorders Center, 2300 Western Avenue, Manitowoc
Work Health Options, 2300 Western Avenue, Manitowoc
Cancer Care Center, 2300 Western Avenue, Manitowoc
The Heart Center, 2300 Western Avenue, Manitowoc
Manitowoc Family Practice, 4303 Michigan Avenue, Manitowoc
Woodland Clinic, 1900 Woodland Drive, Manitowoc

In addition to the hospitals and clinics listed above, residents of the Town of Two Creeks can access many specialty, family practice, and emergency care clinics located in the City of Manitowoc, City of Two Rivers and City of Kewaunee or possibly the City of Green Bay.

Apple Medical Clinic, 814 Jay Street, Manitowoc
Dialysis Center, 333 Reed Avenue, Manitowoc
Ear, Nose & Throat Associates, 300 E Reed Avenue, Manitowoc
Lakeshore Pediatrics, 601 Buffalo Street, Manitowoc
Lakeshore Urology, 1818 Memorial Drive, Manitowoc
Manitowoc Foot Health Center, 4303 Maritime Drive, Manitowoc
Manitowoc Surgical Associates, 600 York Street, Manitowoc
Orthopedic Associates of Manitowoc LTD, 501 N. 10th Street, Manitowoc
Park Medical Center, 601 N. 8th Street, Manitowoc
Rehab Plus, 3310 Calumet Avenue, Manitowoc
Tamarack Behavioral Health Center, 339 Reed Avenue, Manitowoc
Thomas and Willhite Chiropractic Clinic, 2 N. 8th Street, Manitowoc
Two Rivers Clinic, 2219 Garfield Street, Two Rivers
Medical Arts Center, 600 York Street, Manitowoc
Bay Care Surgery Center, 1340 Hubble Street, Green Bay
Dental Park, SC 602 N 9th Street, Manitowoc
Shoreline Dental, 1415 N. 8th Street, Manitowoc
Smile Clinic, 1602 N. 18th Street, Manitowoc
Family Dentistry, 201 E. Waldo Blvd., Manitowoc
Lakeshore Dental SC, 910 N. 8th Street, Manitowoc
Oral & Maxillofacial Associates: A BayCare Clinic Provider, 930 Maritime Dr., Manitowoc
Eye Clinic of Manitowoc, 4801 Expo Drive, Manitowoc
Eye Clinic of Two Rivers, 1603 Washington Street, Two Rivers
Eye Care Center of Two Rivers, 1413 22nd Street, Two Rivers
Eye Care Center of Manitowoc, 811 Franklin Street, Manitowoc
Shopko Optical, 3415 Calumet Avenue, Manitowoc



Childcare Facilities

According to the 2000 U.S. Census, of the Town's 551 residents, 187 or 33.9 percent are under the age of 19. This is a large portion of the local population that has particular service demands (i.e. schools, parks, child care facilities). Schools and Park Facilities will also be discussed elsewhere in the chapter, in this section though we will discuss the childcare facilities available to residents of the Town of Two Creeks.

There are no commercial childcare facilities located in the Town of Two Creeks at this time. However, residents may have informal networks of child care (i.e. family or friends) and some residents may provide childcare from their home for their neighbors.

The nearest commercial childcare centers to the Town of Two Creeks are located in Manitowoc and Two Rivers. What follows is a partial list of some of the childcare centers in these two cities:

Cathey's Day Care Center, 1314 Manila Street, Manitowoc
Child's Play, 3304 Superior Avenue, Manitowoc
Creative Learning Child Enrichment Center, 4404 Bellevue Street, Two Rivers
Harbor House Family Child Care, 909 Glenview Drive, Manitowoc
Kinderheit Haus Child Care, 1845 Michigan Avenue, Manitowoc
Kueter Child Care Center, 2005 Johnston Drive, Manitowoc
Lakeshore Child Care Center, 3400 Division Street, Manitowoc
Little Tykes, 115-A N. 10th Street, Manitowoc
Parent's Choice Child Care Center, 2411 Wollmer Street, Manitowoc
Salvation Army Day Care Center, 415 N. 6th Street, Manitowoc
The Learning Center Inc., 1630 26th, Two Rivers
Tiny Tot Day Care Center, 2214 Washington, Two Rivers
YMCA, 205 Maritime Drive, Manitowoc

Senior Care Facilities

According to the 2000 U.S. Census, 69 people (12.5%) living in the Town of Two Creeks are over the age of 65. Like youth populations, seniors also demand particular services and housing options to meet their specific needs.

The Town of Two Creeks does not have any assisted living, senior housing, or retirement communities located within its boundaries. Seniors living in the Town of Two Creeks must be able to live independently or find assistance from family members, friends, and neighbors. There are some programs serving Manitowoc County that provide services and opportunities for older persons living in the Town of Two Creeks. Most common ones are, the Manitowoc County Commission on Aging provides meal programs (i.e. meals on wheels), limited transportation services (i.e. dial-a-ride to doctor and other appointments and errands), programs to help with chores and home care, and a Benefits Specialist Program for seniors having problems with private or government benefits such as Medicare and Social Security. These programs provide vital services that make independent living possible.

If a senior living in the Town of Two Creeks is unable to live independently or desires a living arrangement with other seniors, he or she would find quality assisted living, nursing homes, and retirement homes in Manitowoc. What follows is a partial listing of senior care facilities serving the area. Available space and waiting lists depend on the location and cost of the facility and can fluctuate regularly.

Alterra Sterling House of Manitowoc, 5005 Vista Road, Manitowoc
Encore Senior Villa at Manitowoc, 3720 Menasha Avenue, Manitowoc
Felician Village, 1700 S. 18th Street, Manitowoc



Fieldcrest Manor, 1510 S. 30th Street, Manitowoc
Hanna Home LLC, 4025 Delta Street, Manitowoc
Harmony of Manitowoc East, 1480 N. 7th Street, Manitowoc
Harmony of Manitowoc West, 2215 Cappaert Road, Manitowoc
Laurel Grove Assisted Living Center, 1308 S. 22nd Street, Manitowoc
Manitou Manor Apartments, 1433 N. 6th Street, Manitowoc
Parkview Haven, 1325 N. 8th Street, Manitowoc
River's Bend Health & Rehab Center, 960 S. Rapids Road, Manitowoc
Sacred Heart Court, 1903 Division Street, Manitowoc
Saint Mary's Home, 2005 Division Street, Manitowoc
Whitetail Estates, 4705 W. Whitetail Court, Manitowoc
Wildwood Estates, 3407 Wildwood Drive, Manitowoc

Since the Town's population base is not large enough to support a local senior care facility, retirement home, or nursing home, it is critical that the informal networks of friends, family and support services continue to provide needed assistance to seniors living in the Town of Two Creeks. The Town of Two Creeks must continue to pay particular attention to the special needs of seniors when providing utilities and community facilities.

Libraries

The Town of Two Creeks is located within the Manitowoc-Calumet Library System (MCLS). The MCLS is a cooperative network of six public libraries in east central Wisconsin: Kiel, Manitowoc and Two Rivers in Manitowoc County, and Brillion, Chilton and New Holstein in Calumet County. The MCLS serves as a link to improve access to materials and services and to foster cooperation among all libraries in the two counties.

Manitowoc-Calumet is one of seventeen public library systems in Wisconsin. It was established in 1973 in Manitowoc County, and expanded in 1977 to include Calumet County. MCLS is funded primarily by state aids. System services include interlibrary loan, delivery, backup reference, consulting, continuing education for library staff, planning and support for library technology, and other assistance. MCLS has a professional staff and a board of 15 trustees who are appointed by the county boards and follows the guidelines of a Mission Statement. System offices are located in the Manitowoc Public Library, which is the System's resource library.

All MCLS member libraries are open to all residents of the two counties. The two closest libraries to the Town of Two Creeks are in Manitowoc (707 Quay Street) and Two Rivers (1001 Adams)

Residents of the six cities that maintain libraries support those libraries with their city taxes. Each county reimburses the city libraries for serving rural residents. Manitowoc and Calumet counties each maintain a plan for library services. These plans help to ensure that the library facilities and services are meeting local demands. Through MCLS agreements with other Wisconsin library systems, Town residents can also use most other public libraries in the state.

All of the libraries in MCLS are part of a web catalogue that can be accessed 24 hours a day from the Internet. WISCAT is the statewide bibliographic database and catalogue for Wisconsin. It contains 6.7 million bibliographic records with local holdings statements for 1,270 libraries of all types throughout Wisconsin. The libraries listed in WISCAT are willing to loan many of the materials through established statewide interlibrary loan channels. WISCAT has been on-line since the summer of 2000. Users can simply connect to the Internet web page, search for the materials they are interested in, and place a hold on those materials so that they can be picked up during regular library hours.



Given the improved access to resources via the web catalogue and the interlibrary loan program, in addition to the resources the internet makes available to town residents and the continual planning efforts for future library services coordinated by Manitowoc County, it is anticipated that the library services will be adequate to meet future demands through 2022.

5-5 Police and Emergency Services

Police service for the Town of Two Creeks is provided through the Manitowoc County Sheriffs Department. Staffing consists of 12 officers during the day shift, 3 officers on second shift with an additional officer on duty during the P.M shift. The department has a total of 54 sworn personnel and a fleet of 12 marked patrol cars and 10 unmarked patrol cars. While these officers cover all of Manitowoc County, they timely respond within 1 to 10 minutes to calls from the Town of Two Creeks. National standards for police protection generally recommend 1 officer for every 2,600 persons. The Manitowoc County Sheriff's Department serves a population base of approximately 40,000 people (2000 WI DOA Estimates) with a sworn staff of 54. As a result, the officer to citizen ratio is approximately 1:740. However, the actual on-duty ratio of protection for the daytime hours is 1:3,333 and for the nighttime shift it is 1:13,333. In the City of Manitowoc, the Manitowoc County Sheriff's Department maintains a jail facility. The facility can hold up to 200 inmates. Right now the count is at 190, 30 of them being state prisoner that can be relocated to any of the state facilities at anytime if additional space is required. As of right now there is no plans of expanding the facility since the capacity is adequate to meet anticipated future needs. Along with protecting the citizens and maintaining the jail, the Manitowoc County Sheriff's Department also participates in community outreach and education programs, including DARE sponsorship. In the event of a crisis situation, the Village of Mishicot Police Department, Wisconsin State Police Department Manitowoc Police Department, Two Rivers Police Department, and Kewaunee County Sheriff are also assigned to this area if County personnel need assistance. In the table below are statistics obtained from the Manitowoc County Sheriffs Department, you can see that in 1998 there were a total of 124 incidents with 129 officers being dispatched. In 2000, the incidents dropped to 116 with 115 officers being dispatched. In 1999 the most ambulances (20) were dispatched in the town.

Table 5-1 Police & Emergency Data

	1998	1999	2000	2001 (up until June 7)
Total Incidents	124	132	116	29
Total units dispatched	129	144	115	24
Ambulance Requests	16	20	18	8
Fire Department Requests	9	14	8	4

Fire Service

The town of Two Creeks has a voluntary fire department. It has approximately 30 active members with five response vehicles. In addition, there are shared service agreements with adjoining fire departments.

5-6 Electric and Natural Gas Service

Electric service is provided through Wisconsin Public Service Corporation. Currently most of the town has access to this service, which is extended on an as needed basis. As of right now, there is no natural gas service in the Town of Two Creeks.



Point Beach Nuclear Plant

Wisconsin Electric Power's 2-unit Point Beach Nuclear Plant is located on the western shore of Lake Michigan north of Two Rivers and Manitowoc. Management of the site has recently been consolidated under a nuclear management company that also manages the Kewaunee plant, about 10 miles to the north. The site has a general permit for dry storage of nuclear waste and had 8 casks in the spring of 2000.

Unit 1

Operator: Nuclear Management Co.

Owner: Wisconsin Electric Power Co. (100%)

Reactor Supplier: Westinghouse Corporation

Capacity: 505 net MWe

Reactor Type: Pressurized water reactor

License Expiration Date: 10/05/2010

Electricity Produced in 2000: 4.13 billion kWh

2000 Average Capacity Factor: 93.21%

Unit 2

Operator: Nuclear Management Co.

Owner: Wisconsin Electric Power Co. (100%)

Reactor Supplier: Westinghouse Corporation

Capacity: 507 net MWe

Reactor Type: Pressurized water reactor

License Expiration Date: 03/08/2013

Electricity Produced in 2000: 3.58 billion kWh

2000 Average Capacity Factor: 80.33%

Location:	Two Creeks, Wis., approximately 20 miles north of Manitowoc and 100 miles north of Milwaukee.
Power:	Produces one-third of electricity for Wisconsin Electric service territory. Produces one-sixth of electricity for the state.
Employees:	750.
Generating Units:	Two nuclear units, each with one reactor, one steam turbine and two steam generators. Each unit had a net capacity of 500 megawatts upon inauguration.
Turbine-Generator Manufacturer:	Westinghouse Electric Corp.
Engineer-Constructor:	Bechtel Corp.
Cooling Water Source:	Lake Michigan – 375,000 gallons per minute pumped through each unit's condenser.
Fuel:	107,000 pounds of slightly enriched uranium dioxide. About one-fourth of the 121 fuel assemblies in each unit are replaced every 18 months.
Groundbreaking:	November 28, 1966 (Unit 1)
Operating License:	Issued – October 5, 1970 (Unit 1) May 25, 1972 (Unit 2)
Commercial Operation:	December 21, 1970 (Unit 1) October 1, 1972 (Unit 2)
License Expiration:	October 5, 2010 (Unit 1) March 8, 2013 (Unit 2)

Nuclear Regulatory Commission (NRC) regulation and engineering design ensure that radiation from the reactor and fuel source is contained within redundant barriers, which are designed to work automatically and immediately:

- The fuel source, ceramic pellets of uranium, is the first barrier of protection. Because the fuel is solid, many of the radioactive byproducts of fission remain locked inside the fuel pellets.



- The fuel rods that hold the pellets are the second barrier. The fuel rods are made of a zirconium alloy that resists heat, radiation and corrosion.
- The steel pressure vessel that contains the fuel rods is the third barrier and is up to 6.5 inches thick.
- The containment structure, a steel-reinforced concrete, steel-lined building with three-and-a-half-foot-thick walls, houses the reactor, steam generators and other critical components. It is the fourth barrier of protection.

Uranium pellets are contained in fuel rods that are grouped together to form a fuel assembly. There are approximately 240 pellets in a rod, 179 rods in an assembly, and 121 assemblies in a reactor core at Point Beach.



5-7 School Districts

The Town of Two Creeks has two public school districts within its' boundaries. Beyond the public schools, there are private schools operating in Manitowoc, Mishicot and Reedsville that may be utilized by town residents who desire their services. All of these schools provide a faith-based education to their students.

Mishicot Area School District. The Mishicot Area School District serves approximately 1,100 students with a staff of 86 professionals. The district includes: 1 elementary school, 1 middle school, and 1 high school. There are no Mishicot Area School District Facilities located in the Town of Two Creeks.

Kewaunee Area School District. The Kewaunee Area School District includes approximately 1,160 students with about 135 professionals. The district includes: 1 grade school/middle school, and 1 high school. All the facilities are located in Kewaunee.



5-8 Cellular/PCS Towers

The advent of new communication technologies, such as cell phones, has greatly increased the need for towers to provide receiving and sending capabilities. This need was formally recognized by the federal government by the passage of the Federal Telecommunications Act of 1996. Currently there is one cellular tower located in the town located in Section 10. In addition, the Nuclear plant operates a microwave tower at the north end of the facility.

Federal Telecommunications Act of 1996. The federal Telecommunications Act of 1996 has increased the need for many local governments to examine their zoning ordinances to make sure that they do not discriminate against cellular communications in land use and zoning decisions. Under Section 704 of the act, townships do have the power to regulate the placement, construction and modification of personal wireless facilities, as long as the rules do not unreasonably discriminate between providers or prohibit service.

When seeking to regulate cellular towers, it is important to understand the Telecommunications Act and its intent. The Telecommunications Act of 1996 is the first major overhaul of telecommunications law in almost 62 years. The Act deregulated the cellular communication industry. The goal of this law is to let any communications business compete in any market against any other to foster competition between providers. Simply stated, the law seeks to establish competitive networks of cellular service across the country. The Federal Communications Commission (FCC) administers the law by issuing licenses to carriers. The licenses have specific timing requirements for companies to complete network coverage areas. Carriers work feverishly to complete these coverage areas (i.e. erect towers) before the license expires.

Initially, the FCC divided the United States into 734 different markets where it licensed two entities for each market. Of these markets there were 306 Metropolitan Statistical Areas (MSAs) and the remaining 428 markets were classified as Rural Service Areas (RSAs). The Town of Two Creeks is in the Wisconsin Rural Service Area market, which includes all of Manitowoc, Door, Kewaunee and Sheboygan Counties. Each of the MSA and RSA licensees were provided five years to build out their systems within their designated market area. At the end of the five-year build-out period, licensees were required to notify the Commission of what area they actually covered within the market area. This covered market area is called their Cellular Geographic Service Area or CGSA. Any area within the MSA or RSA that was not in a particular company's CGSA after five years was classified as an unserved area and open for additional licensing to other providers. There is an ongoing filing process that allows carriers to apply for a license to serve any unserved areas that may remain in a market. There is no limit to the number of applications that may be granted in each market.

Tower Location and Coverage. How large is the service area for a single cellular tower? This is a very complicated question to answer. Coverage areas depend on topography and tower height. In order to provide a complete network, towers must be able to "see" one another.

When cellular technology first came about, analog service required towers of a height of 300 feet or more. These towers could provide coverage within a five mile radius of the tower. Today, new digital technologies, PCS, and the wireless internet operate at a higher frequency than the older analog towers. This increased frequency reduces the coverage from a five-mile radius to a 2-3 mile radius. As a result, there is a need for more towers to serve the same area.



There are groups that prefer several shorter towers in a community while another group prefers the use of fewer taller towers. Each of these approaches can provide adequate coverage within a community, but do not necessarily eliminate the need for additional towers.

Communities like Two Creeks do have options to reduce the overall number of towers and minimize their visual impact. For example, co-location of several antennas on a single tower reduces the need for additional towers. Carriers also are more and more willing to camouflage their towers by locating the antenna on church steeples, tall buildings, silos, tall power transmission lines and water towers. Each of these techniques can help to minimize the impact of the wireless industry in the Town of Two Creeks.

Future Tower Needs in the Town of Two Creeks.

Unfortunately, it is not possible to develop a map of specific locations to site towers in the Town of Two Creeks. This is because networks provided by different carriers have different location requirements for towers. Moreover, as technologies change and new licenses are granted for additional carriers to move into the area, locations identified on a map would quickly become outdated.

One problem with 1996 Telecommunications Act, from a local perspective, is that simply providing coverage is not enough. Communities must provide for networks from competing carriers licensed in an area. The number of licenses granted, and in turn, the number of towers needed is controlled by the FCC.

It is anticipated that in the next 5-10 years the primary coverage for wireless service in the Town of Two Creeks will be along Hwy 42 corridor. Beyond this timeframe, coverage will likely extend next to the county trunk lines and finally to other remote areas of the Town. The rate of tower construction will depend on local demand, the number of licenses granted by the FCC, and the capacity of new towers to accommodate additional carriers.

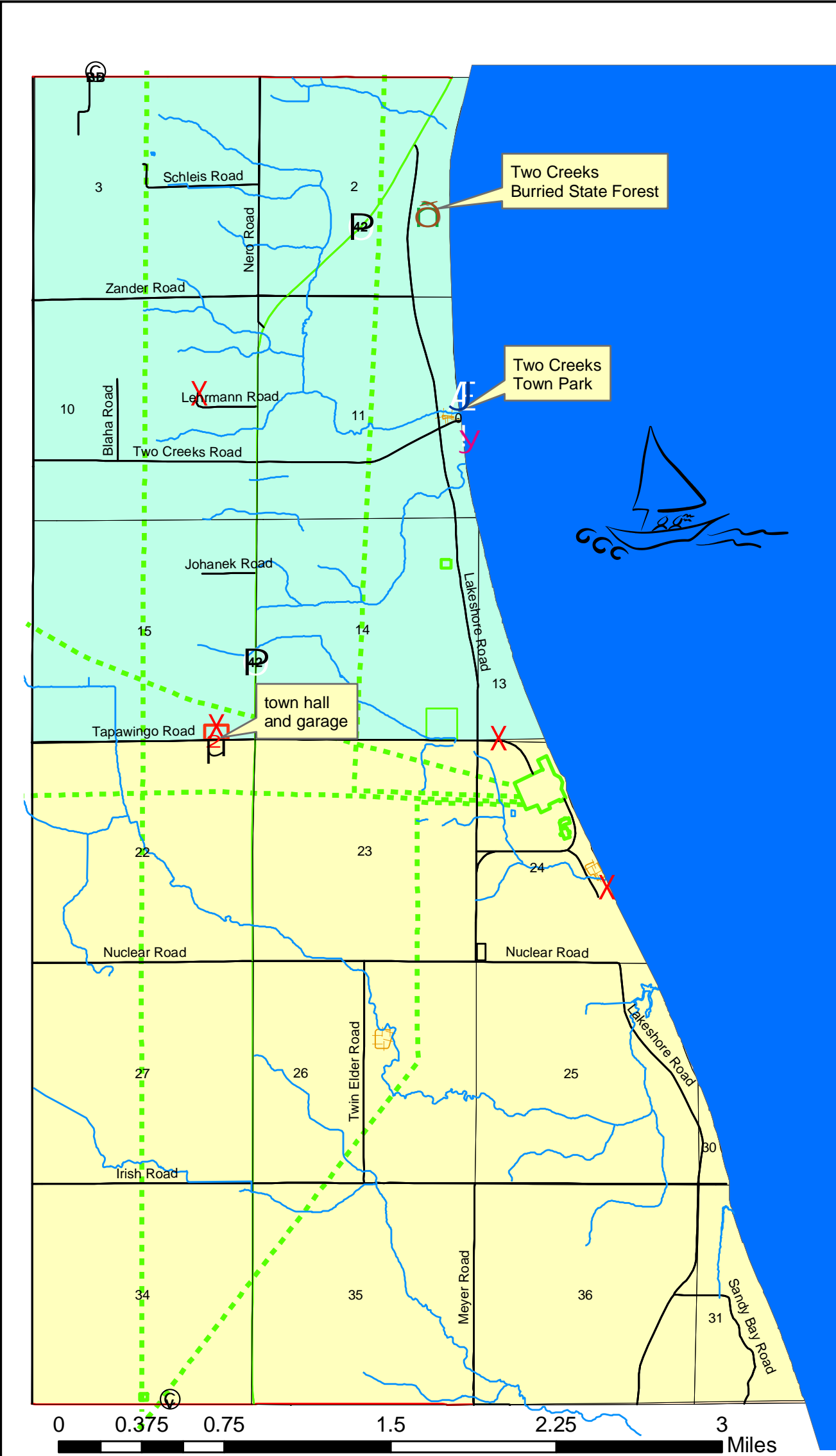
5-9 Public And Community Facilities Recommendation

All the Community Facilities (Police/Sheriff, Fire Protection, EMT Services, Roads, Road Signs, Snow Plowing, Recycling Program, Hunting/Fishing Areas, and Parks and Recreation areas) in the Community Survey received higher than 90% for satisfaction. The only one that didn't meet the 90% was Ditch Maintenance. Fire protection received the highest satisfaction with 99.4%. With the level of satisfaction of services in the Town of Two Creeks and adequate building facilities in place, the Town of Two Creeks has no major expansions or rehabilitation projects planned, although matters may be addressed as they arise.





- Legend**
- X tower sites
 - streams
 - lakes
 - section
 - Kewaunee School
 - Mishicot School
 - Nuclear plant
 - old landfill
 - power line
 - substation



COMMUNITY FACILITIES MAP

Town of Two Creeks
Manitowoc County, Wisconsin

MAP 5-2

CHAPTER 6: **ECONOMIC DEVELOPMENT ELEMENT**

This section contains a compilation of goals, objectives, strategies and programs to promote the stabilization, retention, or expansion of the current economic base on the Town of Two Creeks. With a predominant agricultural economic base and the lack of municipal sewer and water services available to the needs of intense industrial and commercial operations, this section focuses on smaller non-agricultural businesses, in addition to, agricultural use.

6-1 Goals, Objectives & Strategies

ECONOMIC GOAL:

Allow for economic development (i.e. commercial and industrial) in appropriate locations, which address the town's strong interest in preserving its rural character.

OBJECTIVE:

1. Any new development projects should be located as to reduce the possibility of land use conflict between incompatible uses.
2. Any economic development project will be planned to preserve and promote the rural character of the Town of Two Creeks and preserve the town's current tax structure.

STRATEGIES:

1. Encourage large industrial, commercial, retail and service development to locate in areas where municipal services can be provided economically without creating land use conflicts.
2. Support small and home-based businesses, which do not harm the rural atmosphere of the township and/or create land use conflict.
3. Recognize working farms as an economic asset and work to preserve and protect quality farmland.
4. Identify future land uses such as Large Farming Operations and limit residential development in relation to these areas.
5. The "Land Use Evaluation Checklist (gauged against the 2001 land use survey and supporting analysis conducted by the Land Use Committee) will be utilized as a management tool, by the Town Board in approving future improvements/change in the town pertaining to smart growth.



6-2 Labor Force Characteristics

A brief review of the socio-economic characteristics of the planning area and an analysis of the changes that have occurred will be discussed in this section to portray the general overall condition of the areas economy. Shifts in the age and sex characteristics of residents, seasonal changes, and employment opportunities can all cause fluctuations in the number of persons in the civilian labor force. According to the Bay Lake Regional Planning Commission, the 1999 civilian labor force in Manitowoc County was 43,594, which is a 5.28 percent increase from 1990. Over 16 percent of this labor force worked outside the County, with Sheboygan County being the largest recipient with 2,395 commuters. Other counties include Brown and Calumet with slightly over 1,000 commuters each. Nearly 1,900 workers travel into the County for employment, over 6,176 workers travel out of the County for employment. This results in a net migration of 4,278 workers out of Manitowoc County. While specific destination of commute are unavailable for the Town of Two Creeks, Table 6-1 illustrates that 46 percent of the people travel 20 minutes or longer to their place of employment, down 23.8 percent from 1980.

Table 6-1

Travel Time in Minutes	Town of Two Creeks			
	1980	%	1990	%
Under 10	15	10.6%	73	11.0%
10 to 19	28	19.7%	196	31.0%
20 to 44	86	60.6%	253	40.0%
45 or more	13	9.2%	38	6.0%
Worked at home	NA	NA	77	12.0%
NA - Not Available				

Source: U.S. Census of Population and Housing. WIS.

TABLE 6-2

MANITOWOC COUNTY COMMUTING PATTERNS

	Commute Into	Commute From	Net Commute
Brown	1,106	497	-609
Calumet	1,370	507	-863
Kewaunee	275	268	-7
Sheboygan	2,395	538	-1,857
Elsewhere	1,030	88	-942
Total	6,176	1,898	-4,278
Work Within Manitowoc County			

Source: WI DWD, Bureau of Workforce Information. Wisconsin Commuting Patterns, 1994

Place of Work

Figure 6-1, 6-2 and 6-3 compare relevant census data from the 1980, 1990 and 2000 census. The largest industry in Manitowoc County in 2000 was the manufacturing industry, which accounted for 35.2 percent of employment. The largest change in the employing industry for the Town of Two Creeks is in Services. Persons employed rose from 16 in 1980 to 69 in 2000. During the same period, retail trade, transportation and warehousing, and utilities suffered slight decrease in employees. In 1980 they had 13 and 20 employees, now in 2000 they only have 8 and 16. Manufacturing had a significant growth from 1980 to 2000 with 17 more employees. Agriculture, Forestry, Fisheries and Mining dropped significantly from 1990 to 2000 losing 45 employees to other industries. In addition, since 1990 whole sale trade and public administration enjoyed modest growth, matching the growth in the civilian labor force.

Occupation



Figure 6-1

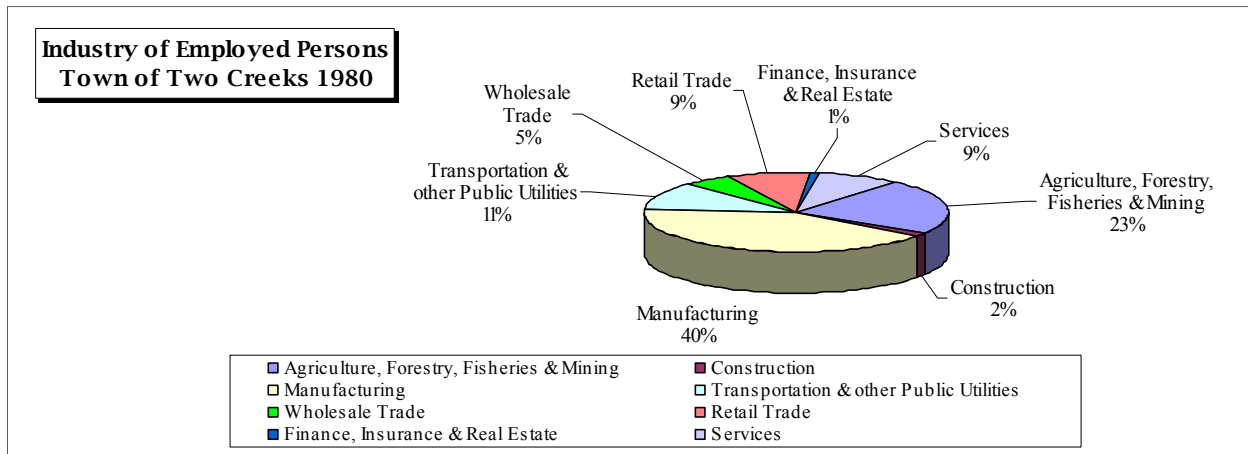


Figure 6-2

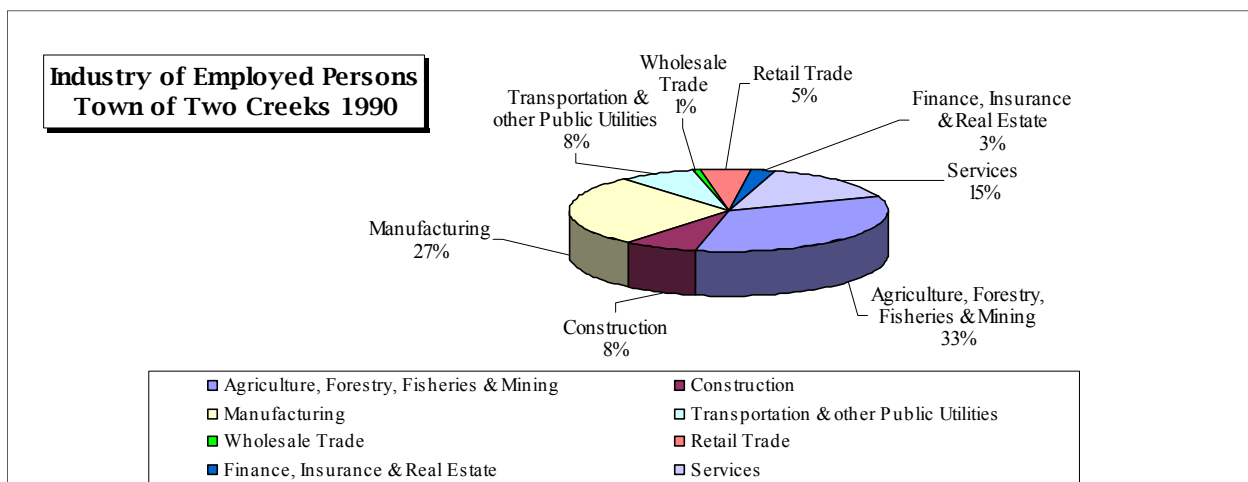
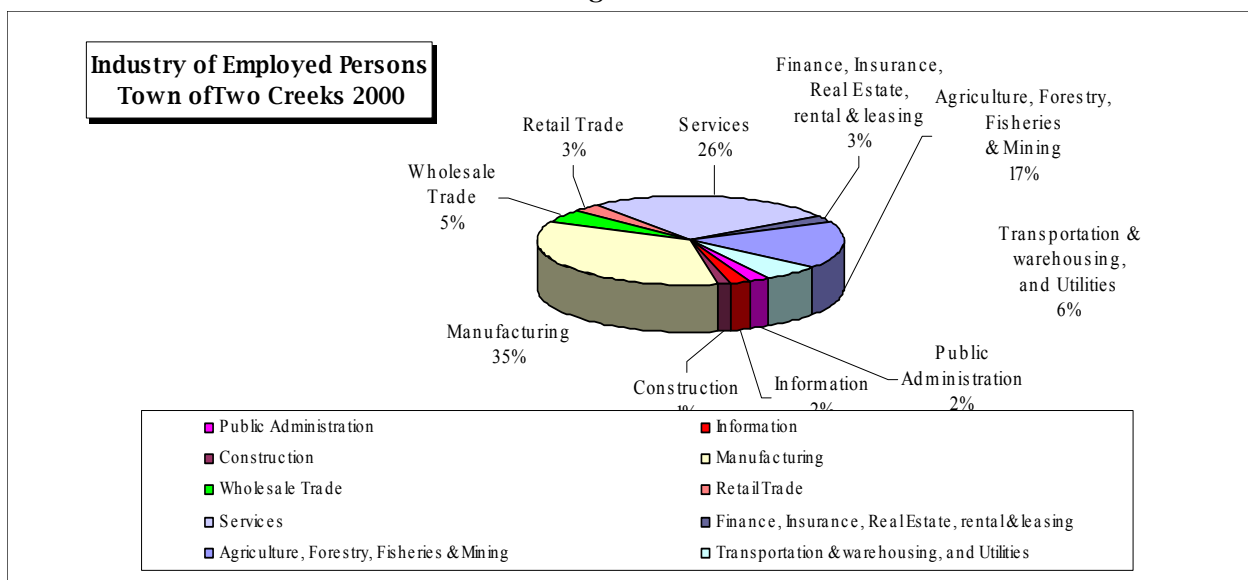


Figure 6-3



Source: U.S. Census of Population and Housing. WIS. POP



Manitowoc County Planning and Park Commission

In comparing occupational related data from the 1980, 1990 and 2000 census it appears that there was a considerable shift in farming, forestry & fishing. In 1980, 37 persons in the Town of Two Creeks had an occupation in farming, forestry and fishing fields compared to 90 in 1990, then dropping again to 14 in 2000. At the same time, technicians, sales and administrative, managers and professional specialists remained at nearly level numbers, while transportation and material movers, operative, fabricators and labor, precision production, crafts and repairs and services had modest increases. Handlers, equipment cleaners and helpers suffered a 75% decrease since 1980.

6-3 Unemployment Rate & Forecast

Figure 6-4

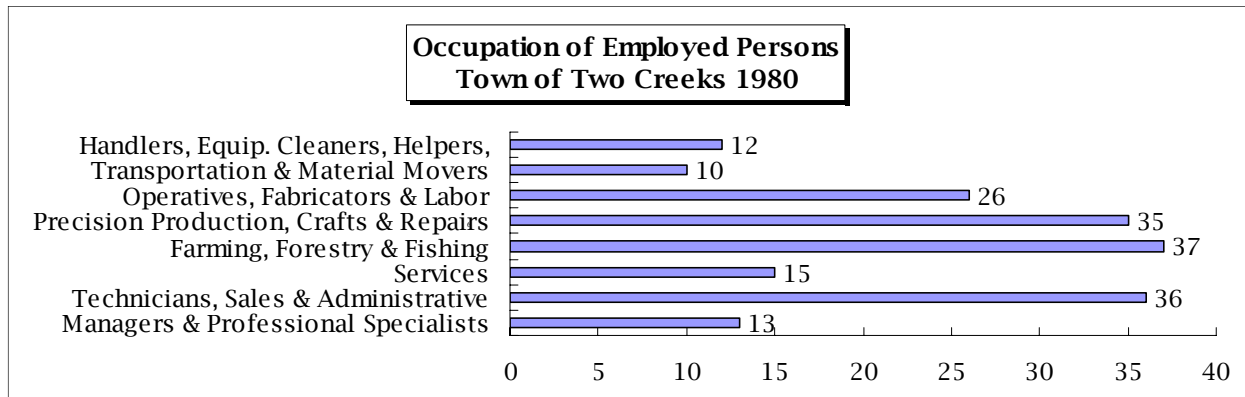


Figure 6-5

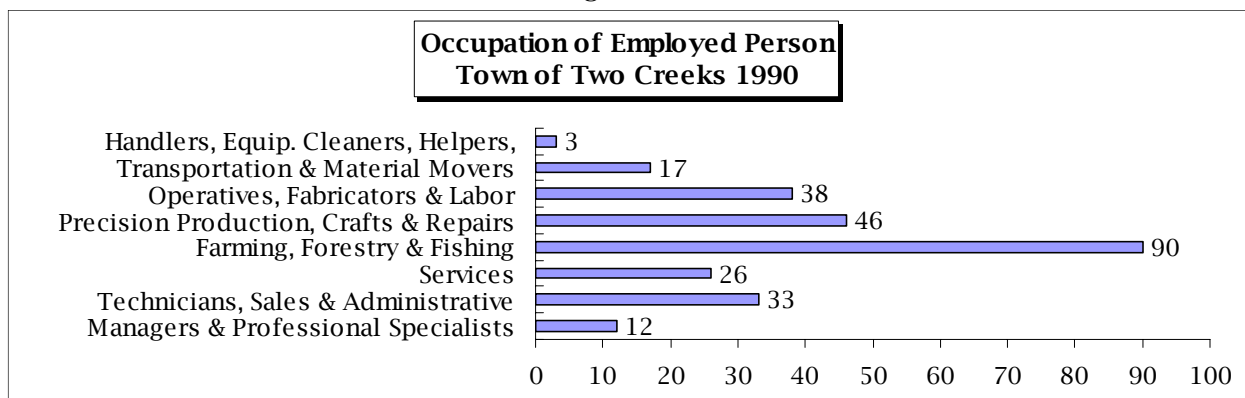
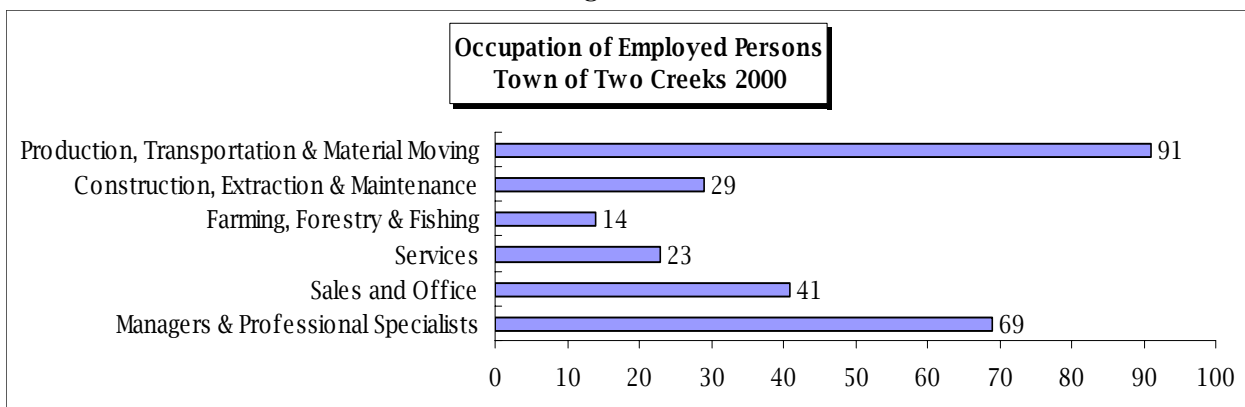


Figure 6-6



Source: U.S. Census of Population and Housing. WIS. POP



Table 6-3 shows the labor force aspects for the study area. The labor force is the sum of employed and unemployed persons who are 16 years and older. (People who are not working include people who are not in the labor force. Examples of people who are not working but who are not unemployed are retirees or people who choose not to work.) According to the 1980 Census, there were 205 persons in the civilian labor force of the town. Of this total, 127 were male and 78 were female. At the time of the 1980 Census, 19 persons (15 male & 4 female) were unemployed, representing an unemployment rate of 9.27 percent. This is nearly 2 ½ the County rate of 3.8 percent and slightly more than 2 times the State rate of 4.2 percent. Then in 1990, the unemployment rate for the town declined significantly to 5.36 percent. In 1990 there were 280 persons in the civilian labor force in the town. Of this total, 173 were male and 107 were female. Of the 280 persons, 15 (7 males & 8 females) were unemployed. Now in the 2000 Census, there were 275 persons in the civilian labor force. Of the 275 persons, 8 were unemployed. Unemployment rate for 2000 was at 2.91 percent. Another significant drop since 1990.

6-4 Income Characteristics

Table 6-3

	TWO CREEKS	COUNTY	STATE
1980	9.27	3.80	4.20
1990	5.36	3.30	3.50
2000	2.91	2.40	2.30

UNEMPLOYMENT RATES OF PERSONS 16 YEARS AND OLDER

* * * * information not available

SOURCE: U.S. CENSUS BUREAU, AND W.D.O.A.

From the 2000 population census, data was collected to estimate that the Median Household Income in the Township of Two Creeks is around \$45,625. It was estimated that in 2000, 81.6% of the resident income came from salaries and wages. About 12% of resident income came from self-employed workers in own not incorporated businesses. Table 6-4 compares personal per capita incomes of Manitowoc County, the State and the United States. It appears the even though the per capita income has increased for the County it is still lower than the per capita income of the State for the last decade.

6-5 Sites For Business and Industrial Development

TABLE 6-4 PER CAPITA PERSONAL INCOME								
	1995	1996	1997	1998	1999	2000	1 Year	5 Year
U.S.	\$23,562	\$24,651	\$25,874	\$27,321	\$28,546	\$	4.5%	26.4%
Wisconsin	\$22,573	\$23,554	\$24,791	\$26,227	\$27,370	\$	4.4%	26.1%
Manitowoc	\$20,591	\$21,666	\$22,705	\$24,184	\$24,865	\$	2.8%	23.3%
Source: U.S. Department of Commerce, Bureau of Economic Analysis. Regional Economic Information System								

The majority of the persons in Two Creeks are employed outside the Township. In 2000 the mean travel time to work was 24.6 minutes. This length of commute would be long enough to drive completely out of the town from any location within it. The Town had minimal interest in promoting the development of Hwy 42 for commercial services.



CHAPTER 7: **INTERGOVERNMENTAL COOPERATION ELEMENT**

This section identifies existing and potential conflict between the Town of Two Creeks and other units of government within its areas. A compilation of goals, objectives, strategies and programs have been identified to promote the joint planning with other jurisdictions, including school districts.

7-1 Goals and Objectives

INTERGOVERNMENTAL COOPERATION GOAL:

Promote cooperation among neighboring units of government (Townships of Mishicot, Two Rivers, and Carlton (Kewaunee County)).

OBJECTIVE

1. Consolidate community resources when possible.
2. Consolidate community planning efforts when possible.

STRATEGIES:

1. Expand joint recycling and waste services with neighboring units of government.
2. Work with the Village of Mishicot, addressing future boundary issues to minimize possible conflicts.
3. Promote cooperation with Manitowoc County regarding plan updates and amendments to the Town's Plan.
4. Work with Manitowoc County regarding various zoning issues (i.e. variances, special exception permits, and zoning amendments) for consistency with this plan.

7-2 Planning Documents

Most of the Town of Two Creeks land use controls are administered through the Manitowoc County Planning and Park Commission. The County uses the following planning documents and ordinance sections to address planning, parks and open spaces and zoning issues. Neither Manitowoc County, nor the Town of Two Creeks currently has a comprehensive land use plan. It is envisioned that this planning document will be compiled with previous town land use plans completed in the County and plans yet started to form a Comprehensive Land Use Plan for Manitowoc County.

Parks and Open Spaces

The primary purpose of this document is to provide guidance to the County, Cities, Villages and Towns of Manitowoc County in their efforts to meet the recreation needs of the people and to aid in preserving the bountiful natural resources of the area. Under Section 27.04 of the Wisconsin Statutes, the Commission prepared a plan for the County park system in 1997, officially updating plans completed in 1963, 1972, 1978 and 1985. This plan was also designed to meet the statutory responsibilities of the Commission and to obtain eligibility for another five-year period under LAWCON and for the Acquisition and Development of the Local Parks Programs. Two Creeks currently does not have a county park, but they do have a



natural area and a Town park. The Two Creeks Buried Forest which is located in Section 2 and the Two Creeks Town Park is located in Section 11

Farmland Preservation Plan

As a result of the State of Wisconsin Farmland Preservation Act of 1977, Manitowoc County prepared the Manitowoc County Farmland Preservation Plan. This 1980 plan provided guidance to both units of government and County residents in their attempts to preserve agricultural lands and planned urban growth. This plan met the necessary State Farmland Preservation Act requirements to qualify land zoned Restrictive Agricultural (A-3) for a tax credit based on the landowner's income and property taxes. The plan was revisited in 1986 to include changes in land use resulting in urban growth and in farmland reduction. In addition, 1994 changes to the State Farmland Preservation Act that increased the tax credits and added soil conservation requirements to the Act were included in the 1986 update.



Priority Watershed Plan

A plan created to assist the towns with erosion and land use control for urban areas by preventing runoff into natural water areas. One watershed plan has been developed within the Town of Two Creeks. Below is the key derived from the plan.

East Twin River Watershed

- 1.3 tons of erosion per acre along the East Twin River, which is below the County average. The East Twin River is a relatively clean river according to these analysis. Sandy soils in this area may be a contributing factor. There are a number of high quality tributary streams on this river.



County Development Plan

To date, the County has not prepared a countywide development plan. Under s. 59.69(3) of the Wisconsin Statutes, counties are authorized to develop a plan for the physical development of the unincorporated territory within the County. Under the current environment, the County is assisting some of the unincorporated townships within its planning area in the development of town land use plans. The remaining townships are working with outside consultants in development of plans. Once these plans are prepared, the County will gather the information within each and merge them into a countywide development plan that is “Smart Growth” compliant.

Lakes Classification Project

In 1999, a citizen advisory group was formed to make recommendations to the Manitowoc County Land Conservation Committee and Zoning Committee regarding the classification and management of the County’s lakes and streams. These recommendations will be used to update the County’s Shoreland/Floodplain Zoning Ordinance which regulates areas within 1,000 feet of a lake and 300 feet of a river or stream.

Through the project, all lakes, rivers and streams were placed into three classes: natural waters, semi-developed waters and developed waters. Lakes were placed into these categories according to the potential development, current development patterns, and the quality of existing and potential aesthetic quality and habitat. Development standards were recommended for each class to include setback for structures, lot sizes, impervious areas, shoreline buffer areas and erosion control practices for development projects. In total, four public meetings were held throughout the County at which the recommendations were presented and comments received and analyzed from the public. One major concern of the public was, existing non-conforming structures in these areas. The intent of the recommendations was to thoroughly address these concerns by calculating building area based more on a formula calculation lot coverage area of impervious areas rather than the strait set back dimensions currently used.

State Transportation Plans

In November 1994, the Wisconsin Department of Transportation adopted a comprehensive, long-range inter-modal transportation plan called *Translinks 21*. The plan, which is required by the federal Inter-modal Surface Transportation Efficiency Act (ISTEA), will guide transportation policies, programs and investments through the year 2020. Overall, the plan calls for a total investment of approximately \$39 billion (1994 constant dollars) by 2020. As part of *Translinks 21*, the following transportation modal plans have been, or are in the process of being developed.

Wisconsin State Airport System Plan 2020

Wisconsin State Bicycle Transportation Plan 2020

Wisconsin State Highway Plan 2020

Wisconsin State Pedestrian Policy Plan 2020

Wisconsin State Rail Plan 2020

Wisconsin State Transit Plan 2020

State Recreational Trails Network Plan

This plan identifies a series of potential trail corridors across Wisconsin that would link existing trails, public lands, natural features and communities. It describes a vision of a statewide network of interconnected trails into which smaller state, partnership, county, municipal and private trails feed. Preserving corridors for future use is a very important consideration when converting a rail line to a recreational and alternative transportation corridor. Under current Federal Law, once preserved the corridor will remain available for future rail use.



Watersheds

One watershed encompasses the whole Township of Two Creeks. The watershed that covers all of Two Creeks is the East Twin River Watershed.

Wisconsin Basin Initiative

The East Twin River Watershed is part of the Lakeshore Basin Partnership team. Developed in 1998, a partnership referred to as the “Wisconsin Basin Initiative” was begun by the Department of Natural Resources, University of Wisconsin-Extension, and the Natural Resources Conservation Service to promote citizen-based watershed programs. The initiative has pulled together Basin Partnership Teams to promote clean water, wise land-use, and protection and stewardship of Wisconsin’s natural resources. The Basin Partnership Teams are comprised of citizens, organizations, businesses, agencies, and others, and are meant to provide a forum for collaborative efforts related to natural resource management. Specifically, the Basin Partnership Teams work to identify, prioritize and address natural resource management issues within their basin. By bringing individuals from all sectors of society together, it is envisioned that innovative and collaborative approaches to resource management will evolve.

7-3 Inventory of Existing or Potential Conflicts

Proposed Conflict Resolution Process

A chief purpose of a comprehensive plan is to devise a useful strategy for the orderly transition of land within “proper” aesthetics of the community’s vision and goals. It is imperative to recognize the existing or possible conflicts between land uses in the town, in order to achieve the community’s vision and goals. This would involve an analysis of uses, where the characteristics of a particular land use are incompatible with an adjoining use.

This discussion is somewhat relative because there may be some level of undesirability between various land use combinations. Nonetheless, there are some typical associations that may produce problems. A typical example might be a residential development in close proximity to a particular industrial or commercial development that might conflict with sight, sound, odor or other undesirable characteristics. Another example could be an auto salvage yard in proximity to a recreational or natural area, or a home occupational, commercial-type uses in a single-family area that has outgrown its roots.

Loss of Agricultural Land - Preserving productive farmland and maintaining agricultural production efficiencies are vital components to sustaining agriculture as a local business opportunity and part of the community’s character. Loss of productive farmland soils to development, will directly impact the Town’s overall potential for agricultural productivity. In addition, fragmentation of town agricultural lands by non-farm related development can indirectly impact or eliminate agricultural resource production that are better suited on larger tracts of contiguous resource lands. For example, the construction of homes in the middle of fields or splitting larger farm tracts into several residential ownerships may cause a much greater loss of agricultural land than the actual acres taken up by home construction.

Conflicts Between Residential and Farm Uses - Demand for rural residential living environments and recreational lands has resulted in a number of potential land use issues: 1) increased conflicts between farming operations and rural residents; and 2) loss of farming efficiency as homes and new subdivisions are built or designed with little regard to continued use of surrounding lands for agricultural production. The potential for conflict between farm and non-farm residential uses is often greatest near the active farm site when farm-related activities such as operating machinery, animal management (e.g., housing, feeding, product



processing, manure storage), farm traffic, etc..., operations occur on a daily, seasonal or year-round basis. Establishing residential building setbacks is one of a number of land use management techniques, which can help evade or lessen potential nuisance complaints and land use conflicts.

Loss of Other Traditional Rural Land Uses - Conserving larger tracts of contiguous town agricultural lands, woodlands, and other rural open spaces is important to sustain non-agricultural, rural land uses such as hunting, snowmobiling, wildlife habitat, etc... that are carried out on private lands. Development and fragmentation of such areas into home sites, businesses, roads, parking and landscaped areas can considerably impact or eliminate all or some of these desirable traditional rural land uses which are often better suited on larger tracts of contiguous resource lands.

7-4 Units of Government

Surrounding Townships

The Town of Two Creeks is neighbored by 3 townships, Two Rivers, Mishicot and Carlton in Kewaunee County. The Town of Two Creeks should be aware of land use policies and decisions in these towns, especially when near common borders. Contradiction of land uses near these borders has the potential to produce conflict, being incompatible with individual town planning efforts.

The Town of Two Creeks provides many services to town residents. Likewise, the surrounding townships and villages offer many of the same services. Cooperation between towns and villages may enable Two Creeks to provide the same services more efficiently and cost effective.

Manitowoc County

The Town of Two Creeks relies on Manitowoc County to regulate many land uses, with zoning being used as the primary tool. County zoning has been in affect in the town since April 13, 1966. Since that time, few revisions have taken place. This being said, Two Creeks should work with the County to not only update zoning text, but also update classifications and districts which are included on the Town of Two Creeks zoning map. These efforts should coincide with the issues identified in this plan and the 2022 Land Use Map, which were developed during the planning process.

In addition, Two Creeks should work with the County in regards to any proposed zoning amendments. Currently, both units of government hold separate meetings that address these issues. A fixed procedure in which the applicant first applies with the town for approval should be followed. If the town recommends approval of the zoning amendment, then the County can proceed with their zoning amendment process.

Lastly, the town should request that the Two Creeks Comprehensive Land Use Plan be incorporated into a countywide development plan, which should be developed prior to 2010.



CHAPTER 8: **LAND USE ELEMENT**

This element includes a compilation of goals, objectives, strategies, and programs to guide the future development and re-development of properties located within Two Creeks. The amount, type, intensity and net density of existing land uses are disseminated to allow analysis of supply, demand, price, and opportunities for development in uses providing the least amount of potential land use conflicts. Included in the analysis are projections of future residential, agricultural, commercial and industrial land uses in five-year increments. The future desired land uses have been identified on a "Town Land Use Map" grouping these areas into categories as they pertain to the development and prosperity of the Town of Two Creeks.

8-1 Goals, Objectives & Strategies

LAND USE GOAL:

Provide a mix of land uses which are consistent with the goals and objectives of this plan which continue to provide the rural environment desired within the Town of Two Creeks

OBJECTIVES:

1. Maintain the area designated as "Prime Agricultural" on the 2022 Year Preferred Land Use Map as an Agricultural Core Area.
2. Maintain a mix of agricultural, rural residential, open space, and small business uses in designated areas.
3. Promote development in a manner that reduces the cost associated with providing community services to the town.
4. Focus growth in or near areas of existing development.

8-2 Inventory of Existing Land Use Controls

Land Use Regulations

The land use controls for the Town of Two Creeks are administered through the Manitowoc County Planning and Park Commission. On April 13, 1966 the town adopted County Zoning under the Wisconsin State Statutes. The following regulations are included in the November 15, 1988 codification of the Manitowoc County Code.

Manitowoc County General Zoning Ordinance

The Town of Two Creeks adopted the Manitowoc County Comprehensive Zoning on April 13, 1966. Administered through the Manitowoc County Planning and Park Commission, this ordinance pertains to the regulating and restricting of the locations, construction and use of buildings, structures, and the use of land in County of Manitowoc. It provides for the public health, safety and general welfare of the unincorporated areas of Manitowoc County. This ordinance, as amended in 1980, 1981, 1982 and 1988, serves as the main land use control in the Town of Two Creeks. It is understood by the administering body that the ordinance is in need of many revisions, an issue to be addressed after the comprehensive land use process for the County is complete.



Manitowoc County Subdivision Ordinance

Under Chapter 236 of the Wisconsin Revised Statutes, Manitowoc County has established the Manitowoc County Subdivision Ordinance governing the subdivision or other division of land. The purpose of the ordinance is to promote public health, safety and general welfare by lessening road congestion, promoting the orderly layout of land, as well as other problems associated with land divisions.

Manitowoc County Shoreland/Floodplain Ordinance

The Town of Two Creeks shoreland and floodplain ordinance derives from the Manitowoc County Ordinance that was adopted from the Wisconsin State Statutes. The Shoreland Ordinance is designed to help protect and promote healthful conditions for both humans and wildlife. While the floodplain ordinance was designed to protect human life and property and reduce the hazard of floods.

Manitowoc County Setbacks Ordinance

The Town of Two Creeks adopted the Manitowoc County Setbacks Ordinance, which was drafted in 1960. Administered through the Manitowoc County Planning and Park Commission, this ordinance pertains to the regulating and siting of structures near all roadways in the township. According to this ordinance, roads within Two Creeks are broken into five categories: class 1 highways which are town roads, class 2 highways which are county trunks, class 3 being state trunks, class 5 which are expressways, freeways and divided highways and class 4 highways that include any class or portion of class in which frontage has been developed to densities with principle structure closer than 300 feet. Amended in 1973, 1977 and 1980, this ordinance provides for the public health, safety and general welfare of the incorporated areas of Manitowoc County.

Manitowoc County Wireless Communication Facilities Ordinance

In July of 1999, Manitowoc County adopted a new wireless communication ordinance. This rule was designed to address the placement and co-location of towers and paraphernalia in the growing telecommunication industry. The current rule regulating the siting of such facilities is the Manitowoc County General Zoning Ordinance. While this ordinance is adequate for the time being, it does not include the comprehensive overview of the Wireless Communication Facilities rule.

Manitowoc County Private Sewage Systems Ordinance/Comm 83

In July of 2000, the Wisconsin Department of Commerce adopted revisions to the State on-site wastewater disposal code. The revisions in the New COMM 83 added numerous options for treating wastewater with Private On-site Wastewater Treatment Systems (P.O.W.T.S.). Previous to the revisions, 24 inches of suitable, native soil was required to place a septic system. With the new COMM 83, land with as little as 6 inches of suitable soil may qualify for a septic system by using new technologies such as aerobic systems, sand filters and other technologies. With the ratification of the new COMM 83 by Manitowoc County, there is more land considered developable within the Town of Two Creeks. While the exact numbers for Two Creeks are unavailable, the Wisconsin Department of Commerce estimated that the amount of land permitting an on-site sewage system have increased by 37% in the State with the New COMM 83. While this may have some impact on previously un-developed lands in the town, the aforementioned County ordinances should keep this impact to a minimum. In addition, this comprehensive land use plan will provide the insight to curtail development in areas not deemed suitable.

Erosion Control Ordinance

There is no erosion control ordinance for the Town of Two Creeks; erosion control is practiced in the Town and in the County. The Soil and Water Department controls most of the erosion plans, which are spelled out in the "Wisconsin Best Management Practices for Erosion". The plans mainly revolve around agricultural practices.



Special Boards

In addition to the Town Board, the 7 member County Planning and Park Commission consider re-zoning requests and variances to the County's land division ordinance. In addition, the 5 members on the County Board of Adjustments hear conditional use requests and all other area variances requested under County Zoning within the Town of Two Creeks.

8-3 Existing Land Use

The concept of "Land Use" consists of identifying and classifying activities and their relation to how the land is used. In order to address land use issues to affect the Town of Two Creeks through 2022 the plan must address past and present land uses as well.

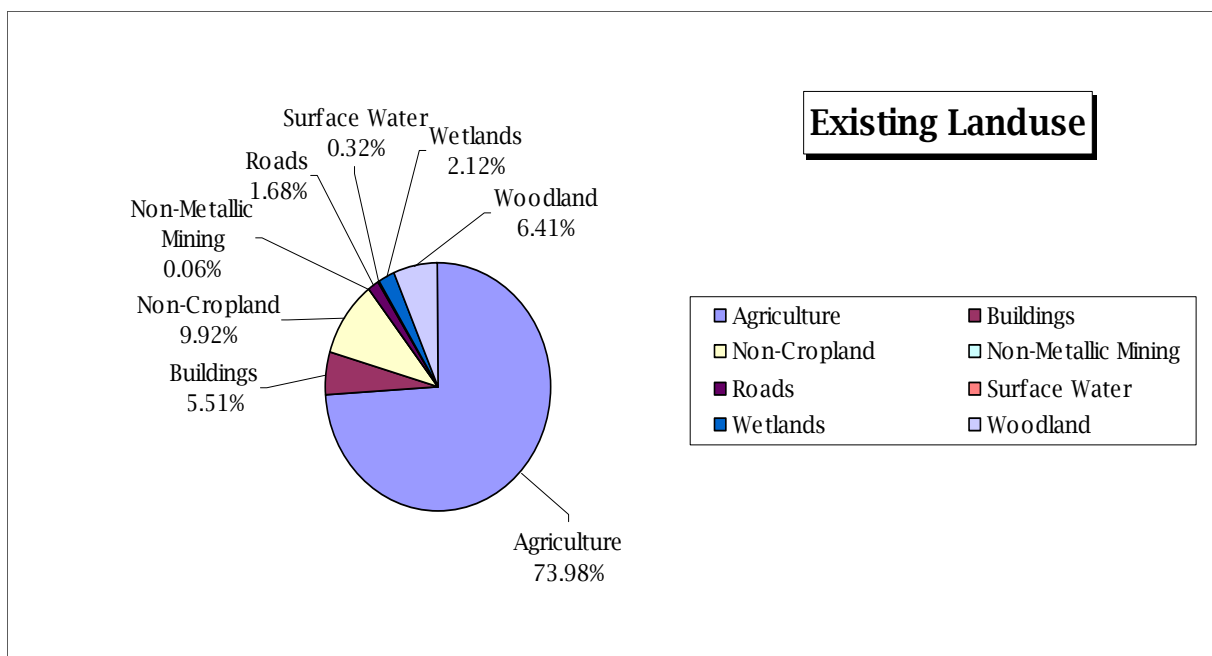
Current Land Use Inventory

Current land use data used for this analysis was developed by the Manitowoc County Soil and Water Department in 1998. This data (1998 Generalized Land Use Map) includes seven defined categories that consist of woodland, surface water, roads, non-metallic mining, non-cropland, buildings and agricultural uses.

The most predominant land use in the Town of Two Creeks is Agriculture accounting for 74% of the town. Non-Cropland areas contain 10% of the town's area while woodland contains 6% and wetlands 2%. The total passive land use totals are approximately 92% of Two Creek's land area. This solidifies the fact that the town is a rural community in nature. This rural character is something that the residents identified as important when planning for the Town's future.

The remaining 8% of the current land uses within the town are more intensive. Roads make up 2%, with the remaining 6% consisting of uses such as single-family residential, industrial, commercial, cemeteries, public use areas, and active farms and farmsteads.

Figure 8-1



SOURCE: Manitowoc County Soil & Water Department, 1998



8-4 Existing Zoning Classifications

The table listed on the previous page includes all the zoning districts in the Town of Two Creeks as administered through Manitowoc County. These general zoning districts are the main land use control implemented throughout the town. A-3 Agricultural District is by far the largest, covering nearly 80 - 90%. This district allows owners to enroll into the Farmland Preservation Program if the parcel or parcels contain more than 35 acres and its designation provides for few non-agricultural uses. The remaining agricultural districts (A-2 & A-1) allow for agricultural uses, as well as, low density residential. In some instances, light business uses may be permitted upon the issuance of a conditional use permit. There is one residential area that exists in the Town and it is located in un-incorporated Two Creeks. There are also two business districts located in the Town. One is located in un-incorporated Two Creeks, the other is located at the intersection of Irish Road and Meyer Road.



EXISTING ZONING CLASSIFICATIONS

DISTRICTS	AREA IN SQ. FEET	LOT WIDTH IN FEET	MAXIMUM HEIGHT	ROAD (B)	SIDE YARD (C) Principle/ Accessory	REAR YARD (D)	MINIMUM SETBACK FROM HIGH WATER (E)
R-1 RESIDENTIAL	43,560 1 ACRE	150	35	60' OR 100'	25'/10'	NONE	75'
R-2 RESIDENTIAL	21,780** .5 ACRE	120	35	60' OR 100'	15'/10'	NONE	75'
R-3 RESIDENTIAL	15,000** .35 ACRE	100	35	60' OR 100'	10'	NONE	75'
A-1 AGRICULTURAL	43,560 1 ACRE	150	60	60' OR 100'	25'/10'	NONE	75'
A-2 AGRICULTURAL	217,800 5 ACRE	330	60	60' OR 100'	25'/10'	NONE	75'
A-3 AGRICULTURAL	35 ACRE	NONE	60	60' OR 100'	25'	NONE	75'
B-1 BUSINESS	10,000	NONE	35	60' OR 100'	NONE	25'	75'
B-2 BUSINESS	20,000	150	N/A	60' OR 100'	NONE	50'	75'
I-1 INDUSTRIAL	12,000	NONE	35	60' OR 100'	25'	NONE	75'
ES ESTATE	217,800 5 ACRE	330	35	60' OR 100'	25'/10'	NONE	75'
SE SMALL ESTATE	108,900 2.5 ACRE	250	35	60' OR 100'	25'/10'	NONE	75'
LR LAKE RESIDENTIAL	20,000	100	35	60' OR 100'	10'/5'	NONE	75'
PA PRINCIPAL AGRICULTURE	20 ACRE	500	35	60' OR 100'	25'/15'	NONE	75'
GA GENERAL AGRICULTURAL	10 ACRE	450	35	60' OR 100'	25'/15'	NONE	75'
NA NATURAL AREA	20 ACRE	500	35	60' OR 100'	25'/15'	NONE	75'
C-1 CONSERVANCY	20,000	100	N/A	60' OR 100'	25'	NONE	75'

Source: Manitowoc County Planning and Park Commission

Table 8-1

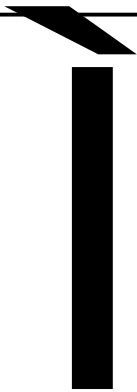
**highlighted districts exist in the Town of Two Creeks





ZONING

-  A1
-  A2
-  A3
-  B1
-  R1



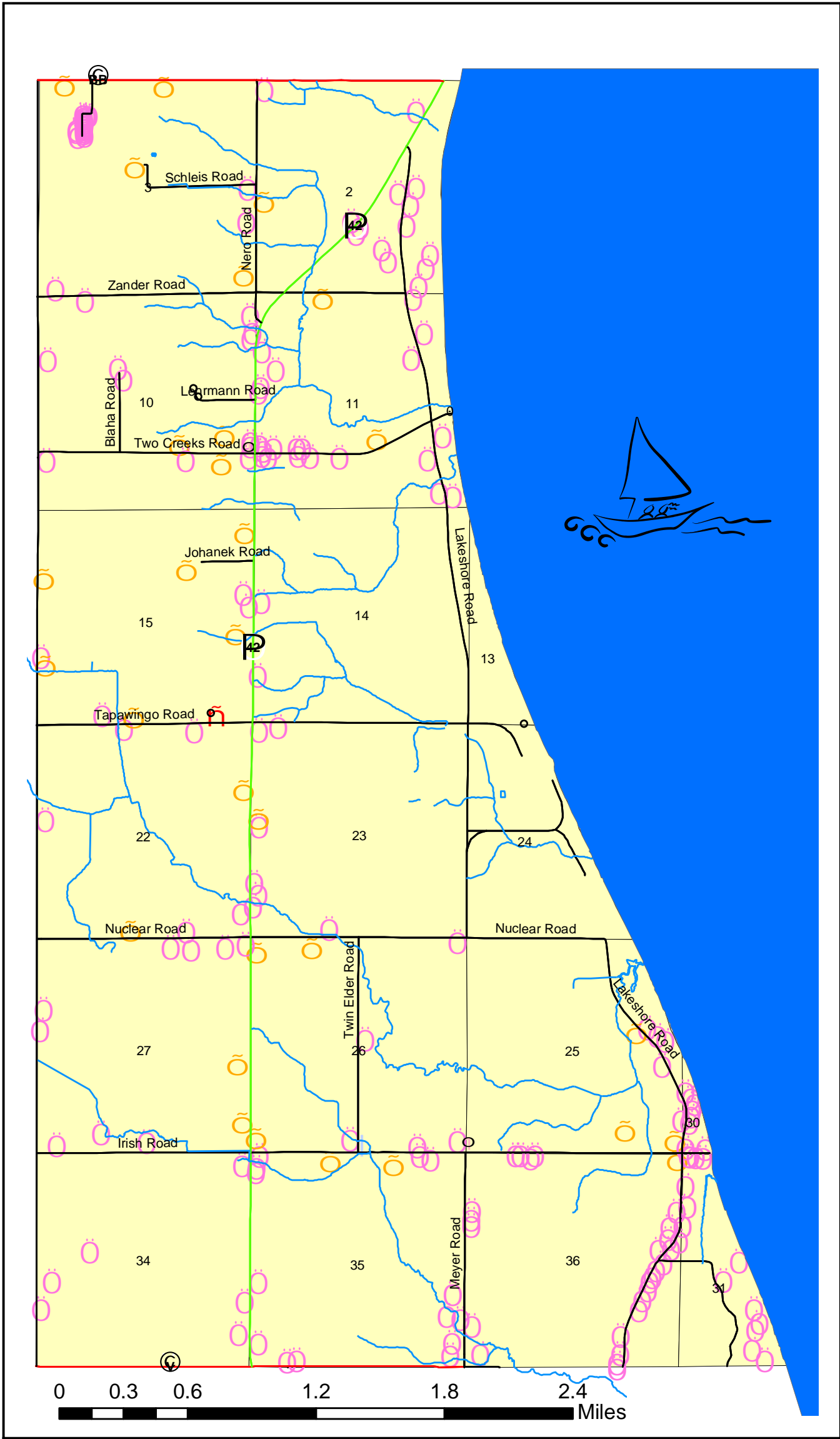
EXISTING ZONING MAP

Town of Two Creeks
Manitowoc County, Wisconsin



STRUCTURE TYPE

- business
- farm
- out building
- town hall
- single-family home



EXISTING DEVELOPMENT

Town of Two Creeks
Manitowoc County, Wisconsin

8-5 Existing Land Use Issues and Conflicts

A chief purpose of a comprehensive plan is to devise a useful strategy for the orderly transition of land within “proper” aesthetics of the community’s vision and goals. It is imperative to recognize the existing or possible conflicts between land uses in the town, in order to achieve the community’s vision and goals. This would involve an analysis of uses, where the characteristics of a particular land use are incompatible with an adjoining use. This discussion is somewhat relative because there may be some level of undesirability between various land use combinations. Nonetheless, there are some typical associations that may produce problems. A typical example might be a residential development in close proximity to a particular industrial or commercial development that might conflict with sight, sound, odor or other undesirable characteristics. Another example could be an auto salvage yard in proximity to a recreational or natural area, or a home occupational, commercial-type uses in a single-family area that has outgrown its roots.

Loss of Agricultural Land - Preserving productive farmland and maintaining agricultural production efficiencies are vital components to sustaining agriculture as a local business opportunity and part of the community’s character. Loss of productive farmland soils to development, will directly impact the Town’s overall potential for agricultural productivity. In addition, fragmentation of town agricultural lands by non-farm related development could indirectly impact or eliminate agricultural resource production that is better suited on larger tracts of contiguous resource lands. For example, the construction of homes in the middle of fields or splitting larger farm tracts into several residential ownerships may cause a much greater loss of agricultural land than the actual acres taken up by home construction.

Conflicts Between Residential and Farm Uses - Demand for rural residential living environments and recreational lands has resulted in a number of potential land use issues: 1) increased conflicts between farming operations and rural residents; and 2) loss of farming efficiency as homes and new subdivisions are built or designed with little regard to continued use of surrounding lands for agricultural production. The potential for conflict between farm and non-farm residential uses is often greatest near the active farm site where farm-related activities such as operating machinery, animal management (e.g., housing, feeding, product processing, manure storage), farm traffic, etc... operations occur on a daily, seasonal or year-round basis. Establishing residential building setbacks is one of a number of land use management techniques, which can help evade or lessen potential nuisance complaints and land use conflicts.

Home Based Businesses - Home businesses are becoming more popular as the workforce is disseminated from the office environment, and more people with entrepreneurial spirit are “testing the waters” of self-employment from their homes. In addition, employees can be networked to the home office with Internet services and overnight mail. The transformation of the worldwide web and fiber optic technology will literally change the way people work and do business, now and in the future. Land use conflicts such as increased neighborhood noise, glare, traffic or rural aesthetics may occur related to such home-based businesses if such impacts are not properly considered or the business becomes the primary use of the property. To address this issue, specific policies must be generated in the plan to minimize any potential impacts.

Loss of Other Traditional Rural Land Uses - Conserving larger tracts of contiguous Town agricultural lands, woodlands, and other rural open spaces is important to sustain non-agricultural, rural land uses such as hunting, snowmobiling, wildlife habitat, etc... that are carried out on private lands. Development and fragmentation of such areas into home sites, businesses, roads, parking and landscaped areas can considerably impact or eliminate all or some of these desirable traditional rural land uses which are often better suited on larger tracts of contiguous resource lands.





AGRICULTURAL PROTECTION AREAS

AGRICULTURAL USE

- 1000' Buffer of Farmsteads
- 1000' Buffer of Manure Storage Facilities

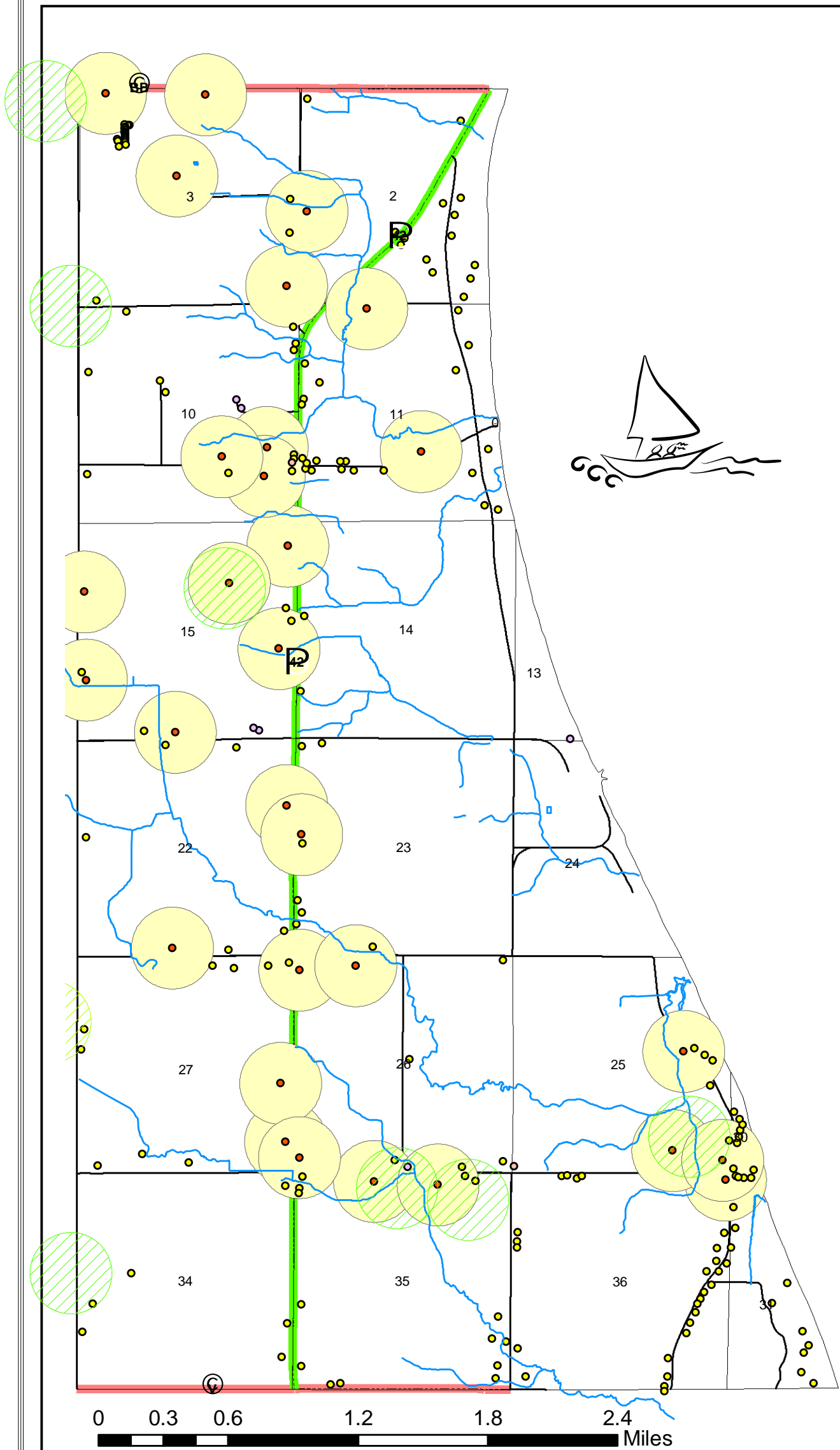
LAND USE TYPE

- Business
- Farmsteads
- Single-Family Homes
- Other

Other

ROAD TYPE

- CNTY
- STAT
- TWN
- streams



AGRICULTURAL BUFFER AREAS


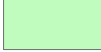

Town of Two Creeks
Manitowoc County, Wisconsin

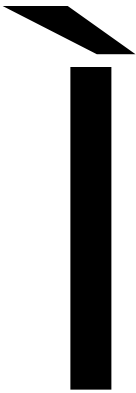
MAP 8-3



Source: Manitowoc County
Planning and Park Commission

LAND USE

-  Agriculture
-  Buildings
-  Non-Cropland
-  Non-Metallic Mining
-  Roads
-  Surface Water
-  Wetlands
-  Woodland



EXISTING LAND USE

Town of Two Creeks
Manitowoc County, Wisconsin

MAP 8-4

8-6 Land Use Map 2022

An integral part of the land use planning in the Town of Two Creeks was the development of the 2022 Land Use Map. This map was developed as a tool to manage land use activities in Two Creeks through the year 2022. Used with goals, objectives and strategies formulated throughout this plan, the Town has the tools needed to affectively manage anticipated growth. The first process in developing the map was to create clear criteria for each of the land use designations. A Land Use Mapping Matrix was presented to the Committee where they were able to select certain criteria for each land use designation. A larger part of the mapping process was based upon the Land Evaluation Site Assessment (L.E.S.A.) system developed by the NRCS-USDA in collaboration with land use planners from Arizona State University and Oregon State University. It is a numeric rating system for scoring sites to help in formulating policy or making land use decisions on farmlands. The system is designed to take into account both soil quality and other factors effecting a site's importance for agriculture. The LESA system aided the Town Land Use Committee in comparing sites on the basis of their agricultural value. Quantifying soils and other site factors, then systematically combining them to using LESA to create a map for the land use committee to know where the good farmland is located based on soil productivity, land capability, soil potential rating and farmland classes allowed decisions to be made on where development should and should not occur. The following designations contain the criteria selected to include the L.E.S.A. rating system.



Agricultural Preservation Areas

The map clearly designates agricultural preservation areas that are to be preserved for agricultural uses. These areas were chosen on the basis of soil types, topography, agricultural productivity and trends, current and potential agricultural use, and other relevant factors identified in the plan.

Mapping Criteria:

- Soils (LESA) - Best and Good Categories (will be color-coded).
- Buffer size of 1000 feet around Large Farm Operations
- Participants of the Farmland Preservation shall be indicated



Other Agricultural Areas (General)

The town's plan identifies general agricultural areas that are not designated as agricultural preservation areas or transition areas. These areas include lands that are currently being used as farmland, but these owners will not qualify for the farmland preservation tax credits.

Mapping Criteria:

- Soils that are rated Best and Good (LESA).
- Buffer size of one mile around Large Farm Operations
- Single-Family Home densities shall not be less than 10 acres
- Areas designated as Wetlands
- Areas that are Existing Non-Metallic Mining
- Participants of the Farmland Preservation shall be indicated
- No Cell Tower sites shall be located within 1500 ft.

Rural Residential Areas

The land use map clearly identifies areas of residential use. The areas are generally located where substantial growth has already occurred and/or municipal sewer is available.

Mapping Criteria:

- Single-Family Home densities shall be 5 acres or less in size
- Buffer size of 500 feet from Lake Michigan

Natural Areas

The map clearly identifies areas of special environmental, natural resource or open space significance. These Natural Areas should not be developed with parcel size less than 35 acres because of natural resource conditions. The considerations include shoreline conservation, flooding, wetland conservation, wildlife habitats, unique aesthetic features, cultural and historic sites, existing and proposed parks, and State Forest and Wildlife Areas. The delineation of lands with these characteristics often falls into a linear pattern, hence the reference to environmental areas as corridors.

Mapping Criteria:

- Show existing slopes that are 12% or greater
- Woodland areas that are greater than 10 acres
- Areas designated as Wetlands
- Buffers of 150 ft. from Streams and Rivers
- Buffers of 1000 ft from Lake Michigan
- Existing Recreational Areas
- Properties that are in the Managed Forest Law

Growth Areas

This plan clearly identifies areas of non-agricultural use, including a mix of, industrial, commercial, transportation and residential use. Growth areas include unincorporated villages, existing concentrations of rural non-farming housing outside of unincorporated villages and areas proposed to be developed with rural non-farm uses.

Mapping Criteria:

- Single-Family Home densities shall be 5 acres or less in size

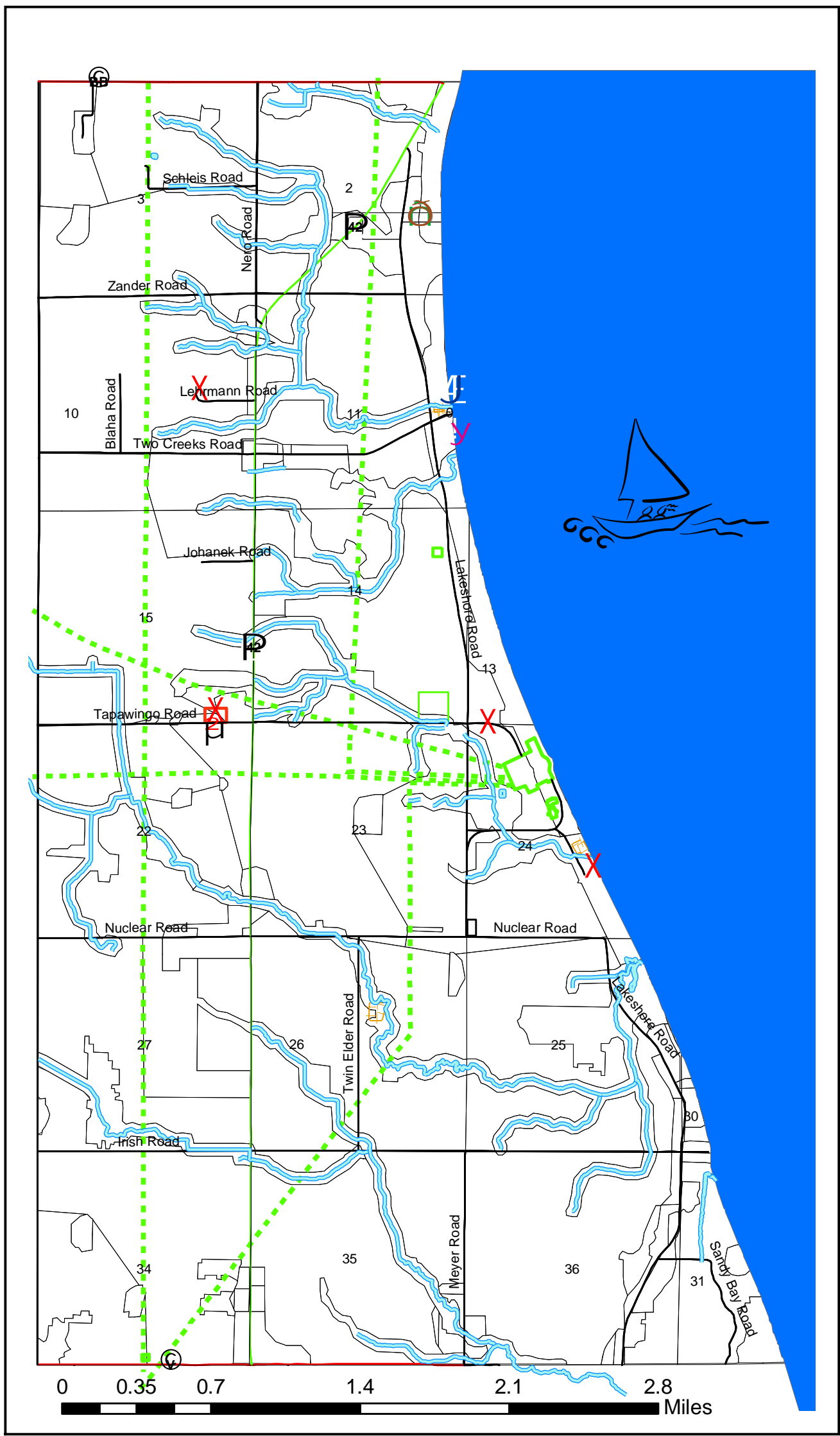
Recreation Areas

The map clearly identifies areas of recreational value.

Mapping Criteria:

- Woodland areas that are greater than 10 acres
- Areas designated as Wetlands
- Existing Recreational Areas
- Properties that are in the Managed Forest Law





Preferred Landuse

LANDUSE TYPE

- GROWTH AREA
- NATURAL AREA
- OTHER AGRICULTURAL AREA
- PRIME AGRICULTURAL AREA
- RURAL RESIDENTIAL AREA

OTHER

- cell tower sites
- streams
- lakes
- section
- Kewaunee School
- Mishicot School
- Nuclear plant
- old landfill
- power line
- substation

20 YEAR PREFERRED LAND USE MAP

Town of Two Creeks
Manitowoc County, Wisconsin

MAP 8-5

Chapter 9: **IMPLEMENTATION ELEMENT**

9-1 Plan Recommendations

Adoption alone does not ensure that this plan will accomplish its intended goals. Its effectiveness depends upon the commitment of Local residents, and Town and County officials to follow through with the goals, objectives, strategies and recommendations contained in this plan.

The following recommendations will be required for the successful implementations of the plan. While the Town of Two Creeks relies heavily on Manitowoc County to administer various controls in the town, it is essential that the Town take an active role in making necessary recommendations to these processes.

ACTION PLAN RECOMMENDATIONS:

- ◆ Formally adopt this plan following the procedures set forth in Wis. Stat. 66.1001(4). The procedure requires that the plan be adopted by ordinance with a majority vote of the Two Creeks Town Board after a resolution from the Town Planning Committee.

Who: Town board

When: 2002

- ◆ Update demographic information included in this plan within three years of its adoption, such as population, population forecast, housing and economic information based upon the 2000 Census.

Who: Town Planning Committee / Town board

When: Fall 2005

- ◆ Complete a comprehensive review of this plan every ten (10) years starting on the date of adoption.

Who: Town Planning Committee / Town board

When: Fall 2012

- ◆ Keep intact the Town Land Use Committee to make recommendations to the Town Board that ensure future land use decisions are consistent with this plan and procedures listed in Wis. Stat. 66.1001(3).

Who: Town board

When: Ongoing



- ◆ Have a land use committee be the local point of contact for questions and concerns regarding land use issues within the town.

Who: Town board

When: Ongoing

- ◆ Coordinate with Manitowoc County to ensure that new zoning standards are adopted to address the land use designations detail on the Town of Two Creeks 2022 Land Use Map.

Who: Town Planning Committee / Town board

When: Fall 2004

- ◆ Develop a detailed packet of information regarding building within the Town of Two Creeks to include, contact lists and other pertinent information regarding living in the Town of Two Creeks. This information should be readily available to the public, and provided whenever a town building permit is issued.

Who: Town Planning Committee

When: Fall 2004

- ◆ Work closely with the surrounding townships and villages to explore opportunities for streamlining like services such as recycling, policing, fire protection, etc.

Who: Town Board

When: Ongoing

- ◆ Develop and adopt driveway access standards for town roads, which addresses dimensional standards that ensure efficient emergency vehicle access.

Who: Town Board

When: 2003

9-2 Process for Updating Plan

Under the “Smart Growth” legislation, (Wis. Stats. 66.1001(2)(I), “A comprehensive plan under this subsection shall be updated no less than once every 10 years”. Furthermore, 66.1001(4) sets specific procedures that shall be consistent with the adoption and/or amendment of a comprehensive plan. For an entire copy of Wis. Stats. 66.1001 (Smart Growth) see Appendix A.

Over the course of the 20 year planning period there may be incidents that have not been planned for, such as large road projects or large industrial developments. If such an incident occurs, it is recommended that the plan be updated to reflect the changes sooner than every ten years.



9-3 Intended Land Use Management Area Recommendations

Prime Agriculture Areas (orange)

These areas include the best agricultural lands within the town. They qualify for Farmland Preservation credit and are to be preserved for agricultural uses. These areas were chosen on basis of soil types, topography, and agricultural productivity.

Management objectives

1. Require farmers who wish to expand large agricultural operations to establish buffers between the farming operation and nearby residential uses. These buffers could include, but not limited to, trees, shrubs, earth berms, fencing, and odor control measures.
2. Consider making large farming operations, which expand above a designated number of animal units, to apply for a conditional use permit which could address potential land use conflicts.
3. The 2022 land use map should be utilized to preserve large core areas of productive farmland throughout the town.
4. Areas on the 2022 land use map have been identified on a town wide scale. In reviewing rezone request on a property basis, it can be assume that not all of the Land Use Management areas are comprised solely of the initial designation. With this said, the town should utilize a finding of fact tool developed for the rezoning of lands in Prime Agricultural Areas (see Appendix D).
5. There are numerous “Voluntary Programs” administered through government agencies for protecting agricultural uses and resources. Landowners should be educated of these programs through town, county and state efforts.
6. These areas require 35 contiguous acres with zoning standards that preserve land for agricultural uses.
7. Recognize the “right to farm” in these areas.

<i>Correlated Zoning Districts (in corresponding order)</i>	<i>Minimum Acreage required</i>
A-3 Agricultural District	35.00
PA-Prime Agriculture District	20.00
GA-General Agriculture District	10.00
NA-Natural Area District	20.00
Other zoning districts as related to an existing lot of record.	



Estate (Other) Agriculture Areas (purple)

Areas not designated as prime agricultural or transition areas. These areas include a mix of agricultural, open space and rural residential uses. These areas do not qualify for Farmland Preservations.

Management objectives

1. These areas could be developed with a parcel from 5 to 35 acres with zoning standards that preserve agricultural production and open spaces throughout the town.
2. Areas which may provide low-density rural residential development with a goal of maintaining rural character.

<i>Correlated Zoning Districts (in corresponding order)</i>	<i>Minimum Acreage required</i>
A-3 Agricultural District	35.00
PA-Prime Agriculture District	20.00
NA-Natural Area District	20.00
GA-General Agriculture District	10.00
A-2 Agricultural District	5.00
ES-Estate Residential District	5.00
SE-Small Estate Residential District	2.50
A-1 Agricultural District	1.00
Other zoning districts as related to an existing lot of record.	



Natural Areas (green)

These areas include shorelines, floodplains, wetlands, wildlife habitats, unique aesthetic features, existing and proposed parks, state forest and wildlife areas. These areas often fall into a linear pattern which are referred to as corridors.

Management objectives

1. These areas could be developed with a parcel from 20 to 35 acres with zoning standards that preserve the rural character and natural beauty of the town.
2. There are numerous “Voluntary Programs” administered through government agencies for protecting natural areas and open spaces. Landowners should be educated of these programs through town, county and state efforts.
3. Preserve Natural Areas in linear patterns (corridors) to promote biodiversity among wildlife populations and reduce habitat fragmentation.
4. Coastal grants (two rivers and two creeks only)

Correlated Zoning Districts (in corresponding order) Minimum Acreage required

A-3 Agricultural District	35.00
NA-Natural Area District	20.00
PA-Prime Agriculture District	20.00
GA-General Agriculture District	10.00
Other zoning districts as related to an existing lot of record.	

*LR-Lake Residential District 20000 sq.ft.

*C-1 Conservancy District 20000 sq.ft.

*For areas with an existing development pattern and small established lot sizes which adjoin a lake or river, the following districts may be used.



Rural Residential Areas (yellow)

Areas with existing residential development which are identified for residential uses in harmony with the rural character of the town. These areas would be developed at densities greater than Other Agricultural Areas.

Management objectives

1. Require developers to establish buffers between conflicting uses. These buffers could include, landscaping or providing sufficient open space between such uses.
2. The town should supply a “building packet” of pertinent information regarding building and living within the town of Two Creeks.
3. These areas could be developed with a parcel from 1 to 5 acres.

<i>Correlated Zoning Districts (in corresponding order)</i>	<i>Minimum Acreage required</i>
ES-Estate Residential District	5.00
A-2 Agricultural District	5.00
SE-Small Estate Residential District	2.50
A-1 Agricultural District	1.00
R-1 Residential District	1.00
Other zoning districts as related to existing lots of record.	

*For areas with an existing development pattern and small established lot sizes which adjoin a lake or river, the following districts may be used.

LR-Lake Residential District	20000 sq.ft.
C-1 Conservancy District	20000 sq.ft.



Growth Areas (pink)

Areas that include unincorporated villages, existing concentrations of rural non-farm housing, and areas proposed to be developed with rural non-farm uses.

Management objectives

1. Require developers to establish buffers between residential and business uses. These buffers could include, landscaping, earthen berms, fencing or providing sufficient open space between such uses.
2. Select zoning districts that require a conditional use permit for most business activity in these areas. This will ensure that proper conditions are placed which preserve the rural character of the town.

<i>Correlated Zoning Districts (in corresponding order)</i>	<i>Minimum Acreage required</i>
A-1 Agricultural District	1.00
Other zoning districts as related to existing lots of record and uses.	

EXISTING ZONING DISTRICTS

<i>Zoning District</i>	<i>Minimum Acreage required</i>
ES-Estate Residential District	5.00
SE-Small Estate Residential District	2.50
LR-Lake Residential District	1/3
PA-Prime Agriculture District	20.00
GA-General Agriculture District	10.00
NA-Natural Area District	20.00
R-1 Residential District	1.00
R-2 Residential District	.50
R-3 Residential District	15000 sq.ft.
A-1 Agricultural District	1.00
A-2 Agricultural District	5.00
A-3 Agricultural District	35.00
B-1 Business District	10000 sq.ft.
B-2 Business District	20000 sq.ft.
I-1 Industrial District	1.00
C-1 Conservancy District	20000 sq.ft.



9-4 Ordinance Modification And Creation

General Zoning Ordinance

The Town of Two Creeks adopted the Manitowoc County Comprehensive Zoning on May 26, 1965. Administered through the Manitowoc County Planning and Park Commission, this ordinance pertains to the regulating and restricting of the locations, construction and use of buildings, structures, and the use of land in the County of Manitowoc. It provides for the public health, safety and general welfare of the unincorporated areas of Manitowoc County. It is understood that the County's General Zoning Ordinance is outdated and in need of many revisions, or more likely, a complete re-write. With this issue at hand, Manitowoc County is in the process of creating some new districts that will serve as an update to the existing ordinance and be instituted in the future re-write.

Proposed change: It is recommended that the town encourage the county to update its zoning ordinance taking into consideration the needs reflected in the Town of Two Creeks' preferred land use map.

Building Codes

According to Wisconsin Statute, the Town of Two Creeks may enact and enforce town building codes. To date, the town has no such code, due to the minimal development in the township.

Proposed change: It is recommended that the town contract this responsibility to a building inspector.

Sanitary Codes

The State of Wisconsin recently completed a comprehensive revision of Comm. 83, dramatically changing the availability of options when treating on-site wastewater within the state. This sanitary code is administered by the Manitowoc County Planning and Parks Department.

Proposed change: No change is needed here.

Subdivision Ordinances

Two Creek's subdivision regulations are administered through the Manitowoc County Planning and Parks department under Chapter 12 of the Manitowoc County Code. These regulations were amended in 2001, increasing the size requirement from 5 acres to 15 acres for parcels creations requiring certified survey maps.

Proposed change: No change is needed here.

Shoreland/Floodplain Ordinance

The Town of Two Creeks falls under the Jurisdiction of the Manitowoc County Shoreland/Floodplain Zoning Ordinance. Originally written in 1967, this ordinance is in the process of being re-written.

In 1999, a citizen advisory group was formed to make recommendations to the Manitowoc County Land Conservation Committee and Zoning Committee regarding the classification and management of the County's lakes and streams. These recommendations will be used to update the County's Shoreland/Floodplain Zoning Ordinance which regulates areas within 1,000 feet of a lake and 300 feet of a river or stream.



Driveway Specifications Ordinance

With the increase in rural development, more homes are being located on town roads. In addition, it appears the trend to find more secluded building sites has development occurring at a greater distance from public road right-of-ways. Emergency vehicles are finding it increasingly difficult to access these properties.

Proposed change: It is recommended that the town draft a driveway ordinance, which specifies design standards ensuring quick and easy access in emergency situations

Non-Metallic Mining Ordinance

Two Creek's non-metallic mining regulations are administered through the Manitowoc County Planning and Parks department under Chapter 21 of the Manitowoc County Code. These regulations were created in 2001, to comply with NR 135 of the Wisconsin Administrative Code. The purpose of this ordinance is to establish a local program to ensure the effective reclamation of non-metallic mining sites within Manitowoc County.

Proposed change: No change is needed.

Wireless Communication Facilities Ordinance

Two Creek's communication facilities regulations are administered through the Manitowoc County Planning and Parks department under Chapter 20 of the Manitowoc County Code. The purpose of this ordinance is to encourage the collocation of new and existing tower sites; to minimize the total number of towers throughout the county; to encourage the users of towers and antennas to configure them in a way that minimizes their adverse visual impact; to encourage the location of towers in non-residential areas; and to enhance the ability to provide communications services quickly, effectively, and efficiently.

Proposed change: No change is needed.

Official Map

The Town of Two Creeks currently does not have an Official Map. Due to the rural environment, lack of development throughout the town, and not sharing a common boarder with a city or village, the need for such a map does not exist.

Proposed change: No change is needed.

Sign Ordinance

Two Creek's signage regulations are administered through the Manitowoc County Planning and Parks department under Chapter 8, (General Zoning) of the Manitowoc County Code. These regulations are comprehensive, allowing only directional signs in the rural areas of Manitowoc County. The only place an off-site business sign would be permitted is in areas zoned for business. The only such place within the town is the small developed area at the intersection of STH 42 and Two Creeks Road.

Proposed change: No change is needed.



9-5 Voluntary Programs

An important part of the implementation process for the Town of Two Creeks is to recognize and promote existing programs that may accomplish the goals identified in the preceding elements. There are numerous programs designed to promote the preservation and restoration of wetlands, fish and wildlife, water and farmland. The following section outlines these programs and provides the administering agency.

WISCONSIN FARMLAND PRESERVATION PROGRAM

INTENT:	To preserve farmland through local zoning and planning, promote soil and water conservation, and provide tax relief to participants.
DESCRIPTION:	Participants qualify if their land is zoned or if they sign an agreement to use their land exclusively for agricultural purposes.
PRACTICES:	Required in conservation plan.
ELIGIBILITY:	Participants must own greater than 35 acres, and produce gross farm profits of \$6000 in the previous year.
PUBLIC ACCESS:	Not required.
CONTACT:	LCD, DATCP, ZO

USDA FARMLAND PROTECTION PROGRAM

INTENT:	To maintain farmland in agricultural uses through agricultural conservation easements.
DESCRIPTION:	Provides funding for tribal, state, or local government programs to purchase development rights on prime agricultural land.
ELIGIBILITY:	Property must be part of a pending easement offer from state, tribal, or local program, have a conservation plan, and meet other criteria on size and location to support long-term agricultural production.
CONTRACT:	Permanent easement limiting use of the land to agricultural purposes.
PUBLIC ACCESS:	Not required.
CONTACT:	NRCS

CONSERVATION RESERVE PROGRAM

INTENT:	To reduce erosion, increase wildlife habitat, improve water quality, and increase forest land.
DESCRIPTION:	Landowner sets aside cropland with annual rental payments based on amount of bid.
PRACTICES:	Grass cover, wetland restoration, tree planting, and others.
ELIGIBILITY:	Varies by soil type and crop history. If owner bid qualifies, the land is accepted into the program. Continuous signup is open for buffers, waterways and environmental practices. Periodic signups announced throughout the year for other conservation practices.
CONTRACT:	10 years or 15 years if planting hardwood trees. Contract is transferable with change in ownership.
PUBLIC ACCESS:	Not required
CONTACT:	FSA, NRCS, LCD



ENVIRONMENTAL QUALITY INCENTIVES PROGRAM

INTENT: Provide financial and technical assistance to landowners for conservation practices protecting soil and water quality.
PRACTICES: Nutrient management and prescribed grazing eligible for cost-sharing. Assistance for other practices available in selected areas.
ELIGIBILITY: Agricultural producers on agricultural lands are eligible. Projects are selected based on environmental value.
CONTRACT: 5-10 year contracts available. Agricultural producers may be eligible for up to 75% cost share, up to \$10,000 per year and \$50,000 life of contract.
PUBLIC ACCESS: Not required.
CONTACT: NRCS, FSA, LCD

COUNTY LAND AND WATER RESOURCE MANAGEMENT PLAN IMPLEMENTATION

INTENT: To reduce soil erosion, protect water quality, and conserve county-identified natural resources.
DESCRIPTION: Technical assistance and cost sharing to landowners to install best management practices.
ELIGIBILITY: Determined by the county land conservation departments and committee. Usually a 70% cost-share.
CONTRACT: Through cost-share agreement.
PUBLIC ACCESS: Not required.
CONTACT: LCD, DATCP

PARTNERS FOR FISH AND WILDLIFE

INTENT: Restoration of grasslands, wetlands, and threatened and endangered species habitat.
DESCRIPTION: Up to 100% cost-share provided to restore wildlife habitat on private lands.
ELIGIBILITY: Land which can be restored to wetland conditions. Degraded or former grasslands that can be restored. Land that can be restored to provide habitat for threatened and endangered species.
CONTRACT: 10 years.
PUBLIC ACCESS: Not required.
CONTACT: FWS

WILDLIFE HABITAT INCENTIVES PROGRAM

INTENT: To develop and improve fish and wildlife habitat on privately owned lands.
PRACTICES: Seeding, instream structures, fencing, etc.
ELIGIBILITY: Nearly any type of land is eligible, including woodlots, shoreland areas, agricultural lands and non-agricultural lands.
CONTRACT: Usually 10 years. Up to 75% of restoration cost, to a maximum of \$10,000.
PUBLIC ACCESS: Not required.
CONTACT: NRCS.



MANAGED FOREST LAW

INTENT:	To promote forest management practices through property tax incentives.
PRACTICES:	Required through an approved forest management plan.
ELIGIBILITY:	Property must be a minimum of 10 contiguous acres of which 80% must be capable of producing merchantable timber.
CONTRACT:	50 to 25 years, transferable to a new owner for small fee.
PUBLIC ACCESS:	Open areas must allow fishing, hunting, hiking, skiing, and sight-seeing. Up to 80 acres may be closed to public access by the landowner.
CONTACT:	DNR

WISCONSIN FOREST LANDOWNER GRANT PROGRAM

INTENT:	To assist private landowners in protecting and enhancing forested lands, waters, and prairies.
DESCRIPTION:	Program allows qualified landowners to be reimbursed up to 65% of cost eligible practices.
ELIGIBILITY:	Practice must be identified in the landowners Forest Stewardship Plan to be eligible for cost-sharing. Landowners are required to contact their DNR forester for guidance prior to completing application.
CONTRACT:	Must receive written approval from the DNR before beginning a practice or ineligible for funding.
PUBLIC ACCESS:	Not required.
CONTACT:	DNR, NRCS, LCD

FORESTRY INCENTIVE PROGRAM

INTENT:	To provide cost-sharing for forestry practices
PRACTICES:	Tree planting, site preparation for natural regeneration, and timber stand improvement.
ELIGIBILITY:	Greater than ten acres with approved management plan
CONTRACT:	Agree to maintain practices for estimated life span.
PUBLIC ACCESS:	Not required.
CONTACT:	NRCS, DNR

WILDLIFE DAMAGE ABATEMENT AND CLAIM PROGRAM

INTENT:	Provides claim assistance and abatement to landowners receiving wildlife damage.
PRACTICES:	Shooting permits, cannons, fencing, etc.
ELIGIBILITY:	Assistant provided to landowners or crop owners receiving damage by deer, geese, or bears to commercial seeding, orchard trees, crops or agricultural lands, nursery stock, or livestock.
CONTRACT:	Fence contracts and enrollment agreement required.
PUBLIC ACCESS:	Hunting access for the species causing damage must be allowed
CONTACT:	LCD, WS, DNR





APPENDIX A

WIS. STATS. 66.1001 “SMART GROWTH”



B

APPENDIX B PUBLIC PARTICIPATION PLAN



C

APPENDIX C
COMMUNITY SURVEY TABULATION



D

APPENDIX D
FINDING OF FACT TOOL



E

APPENDIX E CONSERVATION SUBDIVISION



F

APPENDIX F COASTAL ZONE MANAGEMENT GRANT



G

APPENDIX G OTHER



H

APPENDIX H OTHER

