

CHAPTER 8: LAND USE

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CHAPTER 8: LAND USE

INTRODUCTION

Land use directly influences all the various elements presented in the previous chapters. Many aspects of daily life are impacted by elements of the previous chapters. The choices for housing type, location, transportation alternatives, decisions on employment locations, recreational opportunities, and the quality of the man-made and natural environments are all intricately woven together into land use. Land use policy decisions can have far-reaching repercussions for factors including housing growth and the protection of natural resources. For example, rural areas in Waushara County are under pressure from scattered rural residential and vacation home development. Large lot development in rural areas has fragmented farmland and forests and placed greater stress on the lakes, streams, and other environmentally sensitive areas.

This chapter describes existing land use patterns and current zoning ordinances. Development trends over the past 20 years were analyzed, and future land use needs were extrapolated. Finally, the chapter discusses the land use policy context and the need for additional intergovernmental cooperation. Several potential land use conflicts are identified, and issues that must be addressed are discussed.

INVENTORY AND ANALYSIS

Existing Land Use

The Waushara County existing land use map was developed in 2000 by East Central Wisconsin Regional Planning Commission and updated by the municipalities within the county as land management and comprehensive plans were developed. Therefore existing land use, contained in this plan spans a period of about nine years. Land use information was compiled into the general land use categories summarized below and is presented in Table 8-1 and Exhibit 8-1. *The land use categories are agricultural, residential, commercial, industrial, transportation, utilities/communications, institutional facilities, recreational facilities, water features, woodlands and other open land.*

Land Use Categories

Agricultural. Agricultural land is broadly classified as land that is used for crop production. Agricultural uses include farming, dairying, pastures, apiculture (bees), aquaculture (fish, mussels), cropland, horticulture, floriculture, viticulture (grapes), and animal and poultry husbandry. Agricultural land is divided into two sub-categories: irrigated and non-irrigated cropland. Irrigated cropland is watered by artificial means, while non-irrigated cropland is watered by natural means (precipitation).

Residential. Residential land is classified as land that is used primarily for human habitation. Residential land uses are divided into single family residential, farmsteads, and multi-family residential and mobile home parks. Single family residential includes single family dwellings, duplexes, and garages for residential use. Within platted subdivisions, residential land use

encompasses the entire lot. In rural areas where lots are typically larger, single family includes the primary residence, outbuildings, and the mowed area surrounding the structures. Single family also includes isolated garages and similar structures on otherwise undeveloped rural lots. Farmsteads include the farm residence, the mowed area between the buildings and the associated outbuildings (barn, sheds, manure storage, abandoned buildings). Multi-family includes apartments of three or more units; condos; room and boarding houses; residence halls; group quarters; retirement homes; nursing care facilities; religious quarters; and the associated parking and yard areas. Mobile home parks are classified as land that is part of a mobile home park. Single standing mobile homes are classified under single family residential.

Commercial. Commercial land uses represent the sale of goods and services and other general business practices. Commercial uses include retail and wholesale trade (car and boat dealers; furniture, electronics and appliance stores; building equipment and garden equipment; grocery and liquor stores; health and personal care stores; gasoline stations; clothing and accessories, sporting goods, hobby, book and music stores; general merchandise; miscellaneous store retailers; couriers; and masseuse), services (publishing; motion picture and sound recording; telecommunications; information systems; banks and financial institutions; real estate offices; insurance agencies and carriers; waste management; accommodations; restaurants and drinking places; repair and maintenance; personal and laundry; social assistance, etc.) and other uses (warehousing and automobile salvage and junk yards).

Industrial. Industrial land uses represent a broad category of activities which involve the production of goods. Industrial is divided into two separate categories: industrial and quarries. Industrial uses include construction; manufacturing (includes warehousing with factory or mill operation); mining operations and quarries; and other industrial facilities (truck facilities).

Transportation. Transportation includes land uses that directly focus on moving people, goods, and services from one location to another. Transportation is divided into two separate categories: transportation and airport. Transportation uses include highway and street rights of way; support activities for transportation (waysides, freight weigh stations, bus stations, taxi, limo services, park and ride lots); rail related facilities; and other related categories. Airports included areas that are dedicated specifically to air traffic.

Utilities/Communications. Utilities and communications are classified as any land use which aids in the generation, distribution, and storage of electric power (substations and transformers); natural gas (substations, distribution brokers); and telecommunications (radio, telephone, television stations and cell towers). It also includes facilities associated with water distribution (water towers and tanks); water treatment plants; wastewater processing (plants and lift stations); landfills (active and abandoned); and recycling facilities.

Institutional Facilities. Institutional uses are defined as land for public and private facilities dedicated to public services. Institutional land uses include educational facilities (schools, colleges, universities, professional schools); hospitals; assemblies (churches, religious organizations); cemeteries and related facilities; all governmental facilities used for administration (city, village, town halls, community centers, post office, municipal garages, social security and employment offices, etc.); and safety services (police departments, jails, fire stations, armories, military facilities, etc.). Public utilities and areas of outdoor recreation are not considered institutional facilities.

Recreational Facilities. Recreational facilities are defined as land uses which provide leisure activity opportunities for citizens. This category encompasses both active and passive activities. Recreational activities include designated hunting and fishing areas; nature areas; general recreational parks; sports facilities (playgrounds, ball diamonds, soccer fields, tennis courts, etc.); city, county and state parks; fairgrounds; marinas; boat landings; spectator sport venues; hiking trails; mini-golf; bowling; bicycling; skiing; golf courses; country clubs; performing arts centers; museums; historical sites; zoos; amusement parks; gambling venues; and other related activities.

Water Features. Water features include all surface water including lakes, streams, rivers, ponds, and other similar features. Intermittent waterways are also incorporated into this category.

Woodlands. Woodlands are forested areas which are characterized by a predominance of tree cover. Woodlands are divided into two subcategories: general woodlands and planted woodlands. General woodlands are naturally occurring; this category includes forests, woods, and distinguishable hedgerows. Planted woodlands include forestry and timber track operations where trees are typically planted in rows; this category includes tree plantations, orchards and land dedicated to Christmas tree production (nurseries are not included).

Other Open Land. This category includes land which is currently vacant and not developed in a manner similar to the other land use categories described within this section. Open land includes areas that are wet, rocky, or outcrop; open lots in a subdivision; or rural parcels and side or back lots on a residential property that are not developed.

Current Land Use Inventories

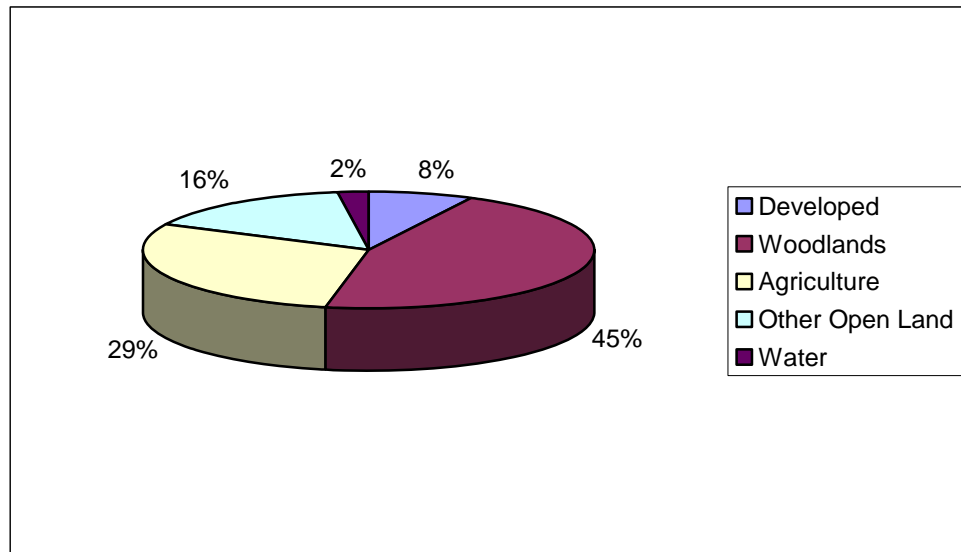
Developed land has been altered from its natural state to accommodate human activities. Although agricultural areas are considered undeveloped by land classification systems, these uses have different impacts on land use decisions than urbanized uses; thus, agricultural uses have been separated to obtain an accurate total of all related activities.

Waushara County encompasses approximately 407,914 acres (Table 8-1, Figure 8-1 and Exhibit 8-1). ***Approximately 8 percent (7.7%) of the total area is developed.*** The primary developed uses include Transportation (39.1%), Single Family Residential (33.7%), Recreational (10.7%) and Farmsteads (9.0%). Collectively these uses account for 92 percent (91.9%) of the developed area.

Overall, cropland (irrigated and non-irrigated) accounts for 29 percent (29.1%) of the total land use, while woodlands (planted and unplanted) make up another 46 percent (45.5%). Other open land (15.5%), water features (2.1%), and active quarry (0.1%) comprises the remaining eighteen percent (17.7%) of the remaining land uses.

Table 8-1. Waushara County Existing Land Use, 2008

Land Use	Total Acres	Percent of Developed Land	Percent of Total
Single Family Residential	10,453	34.1%	2.6%
Farmstead	2,806	9.2%	0.7%
Multi-Family Residential	96	0.3%	0.0%
Mobile Home Parks	163	0.5%	0.0%
Industrial	280	0.9%	0.1%
Recreational Facilities	2,784	9.1%	0.7%
Commercial	810	2.6%	0.2%
Institutional Facilities	756	2.5%	0.2%
Utilities/Communications	280	0.9%	0.1%
Transportation	12,194	39.8%	3.0%
Total Developed	30,623	100.0%	7.5%
Non-irrigated Cropland	65,278		16.0%
Irrigated Cropland	53,441		13.1%
Planted Woodlots	44,516		10.9%
Unplanted Woodlots	141,071		34.6%
Active Quarry	255		0.1%
Other Open Land	63,573		15.6%
Water Features	8,646		2.1%
Total Acres	407,402		100.0%

Figure 8-1. Waushara County Existing Land Use, 2008

Source: ECWRPC, 2008

Zoning

Zoning is a major tool used to regulate land uses. A zoning ordinance regulates the use of property in order to advance public health, safety, and welfare through orderly development. Zoning is performed at several levels in Waushara County. Each incorporated city or village has

general zoning powers.¹ Waushara County has general zoning jurisdiction within most unincorporated areas of the county; the ordinances are administered by the Zoning and Land Conservation Department (WCZLC).² Towns with “village powers” can adopt their own zoning ordinances as long as they are at least as restrictive as the general county ordinance.³ ***With the exception of the Town of Warren, and the portion of the Town of Aurora that falls under the City of Berlin’s extraterritorial zoning, all towns within Waushara County adhere to County Zoning.*** Waushara County shoreland, sanitary, subdivision and floodplain ordinances apply in the Town of Warren and the Town of Aurora that falls under the City of Berlin’s extraterritorial zoning. Within the Town of Aurora, the most restricting ordinance applies.

All zoning district information is contained within the Waushara County Zoning Ordinance. A summary of the usage requirements and restrictions of the districts found within the county area listed below.

- *(A-G) General Agriculture Zone:* This zone is designed primarily for large-scale agricultural uses of land related to growing of crops and the raising of livestock. Permitted uses include airstrips, general farming, single family residential homes, home occupations, and other uses. Residential lot sizes vary. Minimum lot sizes are indicated by the suffix. For example, lots zoned AG-5 must be a minimum of 5 acres.
- *(A-R) Agricultural Residential Zone:* This zone is intended to provide a semi-rural type of environment which allows general agricultural use. Single family residential development on minimum one acre lots, general farming, and home occupations are permitted under this classification.
- *(C-G) General Commercial:* This zone provides for uses found in small commercial areas located throughout the county. Permitted uses include banking; bed and breakfast establishments; professional offices; medical clinics; funeral homes; laundromats; storage garages; restaurants; semi-public uses; warehouses; and retail stores. Single family dwellings are permitted only as accessory to a principal use.
- *(C-C) Community Commercial:* This zone provides for uses found in the central business districts of small communities. Permitted uses include banks, bed and breakfasts, professional offices, medical clinics, funeral homes, laundromats, storage garages, restaurants, semi-public uses, warehouses, and retail stores. Single family dwellings are permitted only as accessory to a principal use.
- *(C-S) Service Commercial:* This zone is designed for small commercial service businesses which are oriented toward the traveler, tourist or vacationer. Lots sizes must be a minimum of 10,000 square feet. Permitted uses include bed and breakfasts; boat sales and service; clubs or lodges; and public swimming pools.
- *(M-G) General Manufacturing Zone:* This zone is intended for any manufacturing or industrial operation which, on the basis of actual physical and operational characteristics,

¹ *Wisconsin Statutes* 62.23 for cities and *Wisconsin Statutes* 61.35 for villages.

² *Wisconsin Statutes* 69.69.

³ *Wisconsin Statutes* 60.22.

would not be detrimental to the surrounding area or the county as a whole by reason of noise, dirt, smoke, odor, traffic, physical appearance, or any other similar features. Automotive-heavy repair and upholstery; cleaning, pressing, and dyeing establishments; commercial bakeries, greenhouses, and recycling operations; distributors; farm machinery sales and/or service; food locker plants; laboratories; machine shops; manufacturing and bottling of nonalcoholic beverages; manufacturing, fabrication, processing, packaging, and assembly of selected products; printing or publishing; storage and sale of machinery and equipment; trade and contractors' offices; warehousing and wholesaling; offices, storage, power supply, and other such uses normally incidental to the principal use are permitted uses that fall under this classification. Lot sizes must be a minimum of 20,000 square feet.

- *(M-I) Intensive Manufacturing Zone:* This zone is intended to provide for uses which by their nature can exhibit characteristics harmful, noxious, or detrimental to surrounding uses. Permitted uses include all those permitted under General Manufacturing Zone, as well as freight yards and depots, breweries, and inside storage. Lot sizes must be a minimum of 20,000 square feet.
- *(O-N) Natural Resource Preservation Zone:* This zone provides for the conservation and protection of natural resources. Generally this zone includes swamps, marshlands, river and lakeshore and other land of natural aesthetic value. Residential development is a conditional use and is only allowed as an accessory to a principal use within these areas on one-acre lots. Permitted uses include agriculture, wildlife preserves, fish hatcheries, and farm ponds. Camping trailers, mobile campers, and houseboats are permitted for temporary living quarters within the district.
- *(GWPOD) Groundwater Protection Overlay District:* The purpose of this district is to institute land use regulations to protect the municipal water supplies and to promote the public health, safety and general welfare of the residents of the county. The residents of the county depend exclusively on groundwater for a safe drinking water supply. Certain land use practices and activities can seriously threaten or degrade groundwater quality.
- *(O-F) Forest Zone:* This zone provides for the continuation of forestry practices and related uses in those areas best suited to this activity. This zone is further intended to encourage forestry and to recognize the value of the forest as a recreational resource. Permitted uses include all uses within the O-N zone; debarking operations; maple syrup processing plants; and portable sawmills. Single family dwellings are allowed as a conditional use. Residential lot sizes must be a minimum of one acre.
- *(O-P) Park and Recreation Zone:* This zone provides for the orderly and attractive grouping of recreational oriented service establishments and is further intended to encourage the maintenance and protection of natural resources. Permitted uses include all agriculture, wildlife preserves, fish hatcheries, and farm ponds. Camping trailers, mobile campers, and houseboats are permitted for temporary living quarters within the district.
- *(O-SW) Shoreland/Wetland Zone:* This purpose of this zone is to maintain safe and healthful conditions; to prevent water pollution; to protect fishing and spawning grounds and aquatic life; and to preserve shore cover and natural beauty.

- *(RS-10) Residential Single-Family:* This zone provides a suitable environment for single-family residential development on moderate size lots in areas with public sewer systems. Permitted uses include agriculture and single-family dwellings. The minimum lot size is 10,000 square feet.
- *(RS-20) Residential Single-Family Zone:* This zone is intended to provide a suitable environment for single-family residential development on large lots in areas without public sewage systems. Permitted uses include single-family residential lots of a minimum of 20,000 square feet and agricultural uses.
- *(R-M) Residential Multiple-Family Zone:* This zone provides for multiple-family dwellings in a residential environment. Permitted uses include single-family dwellings, duplexes, and multiple-family dwellings and duplexes. The regulations for this zone apply to multiple-family dwellings served by public sewer systems. Multi-family dwellings not served by a public sewer must have an approved septic system. Sewered lot sizes must be a minimum of 12,000 square feet.
- *(RS-P) Residential Single-Family Planned Development Zone:* The purpose of this zone is to provide the means whereby land may be planned and developed as a unit for residential uses under standards and conditions which encourage good design and promote a stable living environment.
- *(RM-P) Residential Multifamily Planned Development Zone:* The purpose of this zone is to provide the means whereby land may be planned and developed as a unit for residential uses under standards and conditions which promote a stable living environment. This zone is intended to permit flexibility and variety in development at increased densities, to encourage the preservation of natural features and open space, and to minimize present and future burdens on the community as a whole which result from poor planning.

Table 8-2 and Exhibit 8-2, indicated zoning for all unincorporated areas that fall under county zoning. Several generalizations can be made about zoning in the Waushara County (Table 8-2 and Exhibit 8-2). ***The predominant zoning district in the County is General Agriculture (77.7%).*** Depending on the minimum lot size specified, this category is further broken down into a minimum of one (A-G), two (AG-2), three (AG-3) and five (AG-5) acres. Fifty-nine percent of the county is include in the A-G category; 0.4 percent in AG-2; 5.8 percent in AG-3 and 12.4 percent in AG-5. Commercial and Manufacturing garner a small percent of zoning in the county (0.2%) and include the zoning categories of General Commercial, Community Commercial, Service Commercial, General Manufacturing and Intensive Manufacturing. Natural Resource Preservation (6.3%), Forestry (0.8%), Park and Recreation (0.7%) and Shoreland /Wetland (0%) zoning encompassed another 7.7 percent. Residential zoning classifications encompasses about 2.1 percent and includes the categories of Agricultural Residential (0.5%), Residential Single Family RS-10 (0%), RS-20 (1.6%), Residential Multi-Family (0%), Residential Single Family Planned Unit Development (0%) and Residential Multi-Family Planned Unit Development (0%). Roads and water make up the remaining 4.9 percent.

Table 8-2. Waushara County Zoning

Zoning Classification	Acres	Percent
General Agriculture (A-G)	241,136	59.1%
General Agriculture (AG-2)	1,665	0.4%
General Agriculture (AG-3)	23,540	5.8%
General Agriculture (AG-5)	50,774	12.4%
Agricultural Residential (A-R)	1,943	0.5%
General Commercial (C-G)	433	0.1%
Community Commercial (C-C)	9	0.0%
Service Commercial (C-S)	144	0.0%
General Manufacturing (M-G)	157	0.0%
Intensive Manufacturing (M-I)	3	0.0%
Natural Resource Preservation (O-N)	25,730	6.3%
Forestry (O-F)	3,084	0.8%
Park and Recreation (O_P)	2,775	0.7%
Shoreland / Wetland (O-SW)	1	0.0%
Residential Single Family (10,000 SF min.) (RS-10)	119	0.0%
Residential Single Family (20,000 SF min.) (RS-20)	6,453	1.6%
Residential Multiple Family (R-M)	146	0.0%
Residential Single Family Planned Development (RSP-10)	25	0.0%
Residential Mult-Family Planned Development (RM-P)	37	0.0%
NA (NA)	29,603	7.3%
Water	8,268	2.0%
Roads*	11,895	2.9%
Total Acres	407,939	100.0%

Source: Waushara County, 2008

*Waushara County does not include roads in zoning data

NA includes acreages contained within incorporated municipalities, T. Warren & T. Aurora.

Development Trends

The growth and development of Waushara County has been influenced by a number of factors. These factors include the topography, the abundance of navigable surface waters, wooded lands and natural resources, the ability of the soils to support crops and the central location of the county in the state, and its proximity to the Fox Cities, Oshkosh, Stevens Point and Madison.

The earliest inhabitants of Waushara County were Native Americans. Considerable evidence of their civilization has been found throughout the county and still exists today. The Whistler Mound group, in the Village of Hancock, is included on the National Register, but many other sites are still present in the county.

On October 18, 1846, the Menominee Tribe ceded their land, including Waushara County to the U.S. Government. ***By the late 1840's and early 1850's, farming communities centered around small villages and hamlets could be found in the county.*** Many of these communities were established along existing logging and old military roads, and at creek and river crossings. A typical early farming community usually included a tavern, sawmill, stage house (a place for overnight accommodations), church, houses and a few commercial establishments.

In the 1880's, the county experienced a surge of activity with the coming of the railroad and the discovery of red granite. Overnight houses and businesses materialized in the Redgranite/Lohrville area as skilled workers, their families and others made Waushara County their home. The boom ended in the 1920's as concrete replaced stone as the nation's preferred paving material.

Today, agriculture and tourism has grown to become the county's major industries. While the county has seen a decline in the number of farms over the years, in 1997 over half of the county was taxed as farmland. Waushara County's 136 lakes make up about 7,000 acres of surface water. The greatest concentration of lakes is found among the moraines and drumlins in central and western portions of the county. These lakes, along with over 500 miles of rivers and streams and 185,000 acres of woodlots provide for a diversity of boating, fishing, hunting, hiking and other recreational opportunities.

Similar to other rural areas in the state, Waushara County has faced development pressures. ***Large portions of farm and woodlands are being converted to small parcel residential development.*** Easy access to STH 21 and the expansion of USH 10 has shortened the time/distance between Waushara County and the Fox Cities and Oshkosh. As a result, towns along the eastern tier have experienced growth in housing starts by people working outside the county. While communities along the western tier of the county, have closer ties to Stevens Point, Westfield and other areas along the I-39 corridor.

As growth occurs, land use changes in intensity and net density. Analyzing the patterns in land use provides valuable information to local communities in determining how the community has changed and assessing current needs. This information can be used to plan for the appropriate development in the future. To analyze land use changes, East Central Wisconsin Regional Planning Commission (ECWRPC) looked at a number of different data sources, including its own land use inventories of the area, revenue data from the Wisconsin Department of Revenue (DOR), and building permit records from the Wisconsin Department of Administration (DOA).

Several limitations with the information in the data sets necessitate utilizing general summaries for land use trends. A brief discussion of the limitations follows.

ECWRPC conducted land use inventories in 1980 and again in 2000. This information was updated by the local communities when the land management and comprehensive plans were developed. Two distinct classification systems were used in the 1980 and in 2000 and the subsequent land use updates. This made it difficult to compare specific categories between the two inventories. Secondly, computer technology has changed the degree of specificity in which data is collected. In 1980, computerized parcel data was not available. Current land use utilizes parcel data; therefore if a house is located in a subdivision, the entire parcel may be included as residential. Residential areas in 1980 may have included only a portion of these areas.

A comparison of Wisconsin Department of Revenue (DOR) data was used to analyze land use changes between 1990 and 2005⁴ The DOR collects information by real estate class for each minor civil division in the state.⁵ Acreage figures from DOR do not include Department of

⁴ DOR. 1980. *1980 Statistical Report of Property Values Waushara County, Wisconsin.*

⁵ DOR. 1990, 2000, and 2005. *Statement of Equalized Values.*

Natural Resource (DNR) lands or other tax-exempt properties.⁶ Acreage data for incorporated communities is also incomplete, as their information is frequently provided in number of parcels, as opposed to the total acreage of the parcels. Beginning in 1996, the DOR also changed their classification system. Wisconsin Act 27 mandated that agricultural land was categorized from a standard based on use value instead of a standard based on full market value.⁷ Therefore, some land use changes between 1990 and 2005 are a direct result of Act 27 and do not necessarily reflect a change in land use but a change in the way that the land was classified. Following the implementation of the use value standard, agricultural land with improvements was moved to other categories. If these improvements included residential, then the agricultural land with improvements was moved to residential. Additionally, following the use value assessment, less productive land was moved out of agriculture and reclassified as swamp and waste land. Furthermore, the increasing popularity of privately owned recreational land caused a shift of lands from agriculture to both forestland and swamp and wasteland.

The Wisconsin Department of Administration (DOA) collects building permit information for new construction as well as demolition information from communities within the state.⁸ This data is annually reported by communities and includes single-family, two-family, multi-family and mobile homes. The data is an inventory of the net change in the number of residential units for each community that were reported to DOA. This data set includes information that is reported by individual communities to the DOA. If a community does not accurately report its building permit information, it is infeasible to determine actual land use changes.

While the historical data from ECWRPC, DOR and DOA gives us an incomplete picture of the total amount of land historically devoted to the various land uses, it does give us a picture of land consumption patterns within the communities. According to these data sources, several trends can be seen. The collective summary utilizing all three sources is presented below; general trends are discussed.

Land Use Trends

As stated above, some of the changes in land use trends utilizing ECWRPC data can be directly attributed to changes in technology and changes in the way land use data was categorized. To determine overall trends in land use between the 1980 and 2008 years the following land use categories were grouped together:

- Residential: Single family, multi-family, farmsteads, mobile homes, mobile home parks, duplex, group quarters, part-time and seasonal;
- Industrial: Industrial and quarries;
- Parks and Recreation: Parks, recreational activities, conservation and preservation areas, resorts and camps;
- Institutional Facilities: Educational, public assembly, government facilities, cemeteries, churches, hospitals, libraries and institutional;
- Cropland: Irrigated cropland, pastureland, and non-irrigated cropland; and
- Residual: Residual, streets, highways, water features, utilities, planted woodlots, unplanted woodlots, other open land and transportation.

⁶ DOR. 1990, 2000, and 2005. *Statement of Assessments*.

⁷ Wisconsin State Assembly. 1995. *Wisconsin Act 27 (Assembly Bill 150)*.

⁸ Wisconsin Demographics Service Center. 1990 to 2004. *Annual Housing Units Surveys*.

After grouping the land use categories, certain trends were evident: **commercial, residential, and institutional facilities increased, while parks and recreation, industrial, and cropland decreased between 1980 and 2008** (Table 8-3). While the table below indicates acreage totals as collected by ECWRPC, due to changes in methodology, the reader should be looking at trends only that these numbers represent.

Table 8-3. Land Use Trends (ECWRPC), 1980 to 2008

Existing Land Use	1980 Acres	2008 Acres	Change Acres	Percent Change
Residential	8,743	13,565	4,822	55%
Commercial	544	813	269	49%
Industrial	738	560	-178	-24%
Parks and Recreation	8,889	3,327	-5,562	-63%
Institutional Facilities	526	767	241	46%
Cropland	151,148	118,697	-32,451	-21%
Residual	210,916	270,183	59,268	28%
Total	381,504	407,914		

Source: ECWRPC: 1980 and 2008.

Even though land use trends utilizing Department of Revenue data does not include WDNR data or tax exempt properties, certain broad trends can be seen and correspond to trends apparent in the data from ECWRPC. **Residential and commercial acreages are increasing, while agricultural land acres are decreasing** (Table 8-4). The difference in total acreage is related to the property that is tax exempt.

Table 8-4. Land Use Trends (DOR), 1980 to 2005

Land Use	1980 Acres	1990 Acres	2000 Acres	2005 Acres	Percent Change		
					1980-1990	1990-2000	2000-2005
Residential	15,757	25,085	39,667	37,142	59%	58%	-6%
Commercial	1,269	1,694	2,236	2,470	33%	32%	10%
Manufacturing	313	303	223	244	-3%	-26%	9%
Agricultural	219,827	206,912	155,256	145,946	-6%	-25%	-6%
Undeveloped	25,154	23,271	54,662	60,065	-7%	135%	10%
Forest Land	86,115	96,158	85,345	79,745	12%	-11%	-7%
Other			2,207	2,026	0%	-	-8%
Total	348,435	353,423	339,596	327,638			

Source: WI DOR Final Statement of Assessment Report. 1980, 1990, 2000, 2005.

Building Permits

As stated above, net building permit data is available from the DOA. This data has been submitted by the jurisdictions that issue building permits. Net building data indicates the net change, not the total number of building permits. Therefore, if a building is demolished within a community, this information is subtracted from the new permit numbers. **Between 1990 and 2007, 3,166 net units were added in Waushara County** (Table 8-5). These units are a combination of single family, two unit and mobile homes and multi-family. A net total of 2,960 single family, two unit and mobile homes were added in the county over this time period; or an average of about 164.4 units per year. During the same time period, a net total of 206

multi-family units or 11.4 units per year were added. The largest growth in single family units occurred during 1997 to 1999. During these three years, an average of 231.3 units was added per year. It is important to note that the accuracy of the data source is dependent on timely reporting by local officials.

Table 8-5. Residential Building Permits, 1990 to 2007

Year	Additions Number	Deletions Number	Net Number
1990	143	17	126
1991	106	12	94
1992	148	17	131
1993	207	24	183
1994	185	23	162
1995	189	25	164
1996	215	24	191
1997	281	19	262
1998	263	34	229
1999	237	34	203
2000	236	27	209
2001	285	34	251
2002	205	24	181
2003	223	26	197
2004	200	24	176
2005	192	27	165
2006	144	14	130
2007	129	17	112

Source: State of Wisconsin Demographic Services Center
Annual Housing Unit Surveys.

Utilizing ECWRPC, DOR and DOA data, the following trends are apparent between 1980 and 2000/2008: residential and commercial land uses are increasing while agricultural land uses are decreasing.

Density and Intensity

Density

Density is broadly defined as “a number of units in a given area”.⁹ For the purposes of this report, residential densities are defined as the number of housing units per square mile of total land area (units/square mile), excluding water. **Between 1990 and 2000, residential densities increased throughout the county and the state.** As the population of the area has grown, so has the overall housing density (Table 8-6). ***Within Waushara County, residential densities increased by about 12 percent from 19.56 units per square mile to 21.83 units per square mile during this time period.*** While residential densities in Wisconsin increased by about 13 percent from 37.85 units per square mile to 42.74 units per square mile.

⁹ Measuring Density: Working Definitions for Residential Density and Building Intensity, November 2003. Design Center for American Urban Landscape, University of Minnesota.

Table 8-6. Residential Density, 1990 to 2000

Jurisdiction	Land Area Sq. Miles	1990		2000	
		Total Units	Units/Sq. Mi.	Total Units	Units/Sq. Mi.
Wisconsin	54,313.7	2,055,774	37.85	2,321,144	42.74
Waushara County	626.1	12,246	19.56	13,667	21.83

Source: U.S. Census, 1990, 2000.

Intensity

Intensity is the degree of activity associated with a particular land use. Generally, higher intensity land uses also have higher environmental impacts. Due to limited information available, this report will compare the intensities of single-family versus multi-family developments in the various communities. To calculate land intensities, the ECWRPC categorizes single and two-family residential, farmsteads, and mobile homes as "single family."

Incorporated communities or areas served by public sewer often have more intense development patterns than rural towns. Single-family residential development is typically a less intense land use than multi-family (3 or more units) which is typically restricted to areas on public sewer. Second, incorporated areas in Waushara County are smaller in overall land area than the surrounding towns, resulting in a more intensive land use. Finally, incorporated municipalities, in the county, have areas of older development that were constructed during a period when society was less dependent on cars for transportation. This necessitated the need for smaller lot development that allowed for closer proximity to neighbors and services.

Utilizing 2000 U.S. Census data and adding net single and multi-family units per the data from DOA to match the date of the land use in the communities, according to the latest data, there were 13,874 single family units in the Waushara County on a total of 13,469.6 acres (Table 8-7). ***This resulted in a single family intensity of about 1 unit per acre. There were 426 multi-family units in Waushara County on a total of 95.5 acres. Therefore the multi-family intensity was 4.46 units per acre.***

Table 8-7. Intensity, 2008

Municipality	Single Family			Multi-Family		
	Units	Acres	Units/Ac.	Units	Acres	Units/Ac.
Waushara County	13,874	13,469.6	1.03	426	95.5	4.46

Source: Waushara County Land Use data, 2008, ECWRPC. U.S. Census, 2000. State of Wisconsin Demographic Services Center, Annual Housing Unit Surveys.

DEVELOPMENT CONSIDERATIONS

Recommended State, Regional, and County Goals

State, regional, and county goals were developed to provide communities with a framework on which land use decisions could be based. These goals make the planning process and decision defensible to the general public when formulating alternate scenarios for developing parcels within a community.

State of Wisconsin

The State of Wisconsin requires that communities address 14 specific goals in their comprehensive plans.¹⁰ These goals encourage development to occur in an orderly well-planned manner. The goals are:

- Promoting the redevelopment of lands with existing infrastructure and public services and the maintenance and rehabilitation of existing residential, commercial, and industrial structures.
- Encouraging neighborhood designs that support a range of transportation choices.
- Protection of natural areas, including wetlands, wildlife habitats, lakes, woodlands, open spaces, and groundwater resources.
- Protecting economically productive areas, including farmlands and forests.
- Encouraging land uses and development patterns that promote cost-efficient government services and utility costs.
- Preserving cultural, historic, and archaeological sites.
- Encouraging coordination and cooperation with neighboring communities.
- Building community identity by improving overall appearance and attractiveness to visitors.
- Providing an adequate supply of affordable housing for all income levels.
- Providing adequate infrastructure, public services, and a supply of affordable land to meet existing needs and accommodate future growth.
- Promoting the expansion or stabilization of the current economic base and the creation of additional and better employment opportunities.
- Balancing individual property rights with community interests and goals.
- Planning and developing a pattern of land use that preserves and creates a pleasing and unique setting.
- Providing all citizens, including those that are transportation dependent, a variety of economical, convenient, and safe transportation options adequate to meet their needs.

East Central Wisconsin Regional Planning Commission

East Central Wisconsin Regional Planning Commission has developed a regional comprehensive plan.¹¹ As a part of this planning process, East Central has identified several key land use goals:

- Educate the public on potential conflicts and trade-offs associated with alternative development patterns.
- Encourage efficient development in order to reduce land use conflicts and contain community costs.
- Encourage actions and incentives which preserve and protect natural and cultural resources.
- Educate all decision makers regarding what their property rights are and how they can influence the public arena.
- Educate the public on potential cultural, economic and land use conflicts.
- Encourage intergovernmental cooperation and coordination.

¹⁰ *Wisconsin State Statutes 66.1001.*

¹¹ ECWRPC, 2008. *Milestone Report #3: Goals, Strategies and a Plan for Action.*

- Encourage building code standards which preserve historical and cultural character.
- To protect and improve the aesthetic qualities and high-value scenic resources of the region and its communities while balancing the needs of private industry, government, and the general public.
- Identify techniques, which can be used to preserve local community character.
- Encourage a balance between individual property rights and community interest and goals.
- Encourage public participation in comprehensive planning.
- To ensure the region and its communities develop in a manner which is sustainable in nature.
- Comprehensive plan updates have considered the voluntary incorporation of sustainable concepts.
- Communities are informed and educated on the benefits of developing sustainable plans and regulations.

Waushara County

The Waushara County Zoning Ordinance has identified the following criteria for all unincorporated areas within the county:

- Promote and protect public health, safety, comfort, convenience, prosperity, aesthetics, and other aspects of general welfare.
- Establish reasonable standards to which buildings and structures shall conform.
- Regulate and restrict lot coverage and population density.
- Conserve the value of land and buildings.
- Guide the proper distribution and location of land use patterns.
- Promote safety and efficiency of transportation networks.
- Provide adequate light, air, sanitation, and drainage.
- Prevent the uncontrolled use of shorelands and pollution of the navigable waters of the county.
- Encourage the preservation, conservation, and development of land areas for a wide range of natural resources.
- Minimize expenditures of public funds for flood control projects; rescue and relief efforts undertaken at the expense of the taxpayers; business interruptions and other economic disruptions; damage to public facilities in the floodplain; and minimize the occurrence of future flood blight areas.
- Discourage the victimization of unwary land and homebuyers.

Local Land Use Issues

Environmental and Public Utility

Development costs vary based on density, design, social, economical, political and environmental constraints. Public opposition can increase costs through project delays. Development often necessitates the expansion of public infrastructure such as sewer, water, streets, schools, parks and services such as fire and police protection. Increased development can infringe on wetland and floodplain areas, destroy wildlife habitat, and increase runoff to streams and lakes.

To protect and enhance the natural resource base, communities should identify and protect environmental corridors found within the planning area. Environmental corridors are areas in the community that contain and connect natural areas, open space, and other resources. They often lie along streams, rivers, and other natural features. Environmental corridors provide a beneficial buffer between sensitive natural resources and human development. These areas can provide flood control and valuable wildlife habitat and can significantly benefit the aesthetic appeal of the community.

Land Supply

The amount of land available for development within Waushara County is finite. Factors that limit the amount of developable land include environmental restrictions (floodplains, high groundwater, wetlands, steep slopes, and water quality), zoning (setbacks, conservancy and development easements, permitted uses), and conflicts between uses.

Market Trends

The price of developable land varies depending on the surrounding land uses, location, access, services, and other subjective factors. Natural amenities such as water frontage, forests, and open space may increase the overall value. Land prices are subject to market demand and fluctuations. As such, land values show periodic variations. Housing affordability is dependant on land prices.

Table 8-8. Equalized Values, 1998 to 2008

Year	Cities Land Value	Percent Increase	Villages Land Value	Percent Increase	Towns Land Value	Percent Increase	Waushara County Land Value	Percent Increase
1998	7,345,400	-	13,606,700	-	473,974,900	-	494,927,000	-
1999	7,551,800	3%	14,469,600	6%	509,471,400	7%	531,492,800	7%
2000	7,905,200	5%	15,580,500	8%	508,944,600	0%	532,430,300	0%
2001	22,291,300	182%	20,964,400	35%	606,177,800	19%	649,433,500	22%
2002	16,704,600	-25%	21,765,600	4%	646,513,300	7%	684,983,500	5%
2003	19,373,200	16%	22,474,400	3%	696,016,500	8%	737,864,100	8%
2004	18,833,100	-3%	22,089,000	-2%	717,725,900	3%	758,648,000	3%
2005	19,329,800	3%	21,593,800	-2%	733,603,300	2%	774,526,900	2%
2006	19,933,500	3%	22,913,900	6%	795,169,900	8%	838,017,300	8%
2007	20,944,300	5%	24,366,100	6%	844,935,300	6%	890,245,700	6%
2008	21,366,600	2%	27,731,800	14%	954,658,800	13%	1,003,757,200	13%

Source: WDOR: Statement of Equalized Values; 1998 - 2008.

The Wisconsin Department of Revenue (DOR) annually reports equalized value, as set by the department, by real estate class per municipality in Wisconsin. Table 8-8 shows the equalized value of all classes of land in Waushara County. Equalized values have been broken down between cities, village, towns and the county, as a whole. Land values increased between 1998 and 2008 for Waushara County, and its villages and towns. However, this was not the case for Waushara County cities; cities experienced a 182 increase in equalized land value between 2000 and 2001, and then dropped 25 percent between 2001 and 2002. ***Overall, land values in Waushara County increased by 103 percent between 1998 and 2008. While land values in Waushara County cities increased by 191 percent, villages by 104 percent***

and towns by 101 percent. Years of largest increases for Waushara County and its villages and towns occurred in 2001 and 2008. While years of largest increase for Waushara County cities occurred in 2001 and 2003. In 2001, land values in the Waushara County increased by 22 percent compared to 19 percent in Waushara County towns, 35 percent in Waushara County villages and 182 percent in Waushara County cities. While in 2008, land values increased by 13 percent in Waushara towns and county, 14 percent in Waushara villages and two percent in Waushara cities. More recently (2006 to 2008) land values in Waushara County villages are increasing at a faster rate than the county as a whole or its towns and cities. **From 2006 to 2008, land values increased by 19.8 percent in the County, 20.1 percent in towns, 21.0 percent in villages and 7.2 percent in cities. This indicates that land Waushara County cities are increasing at the lowest rate and is in less demand than elsewhere in the county.**

State of Wisconsin housing statistics provided by the Wisconsin Realtors Association's provide information on the number of home sales and median price over a period of time. **Between 1998 and 2008 there were 2,666 home sales in Waushara County, with an average of 242 home sales per year (Table 8-9). During this time period the median sale price increased from \$81,800 in 1998 to \$105,000.** This represents a 28 percent increase.

Table 8-9. Waushara County Home Sales, 1998 to 2008

Year	Number of Home Sales	Median Sale Price
1998	176	\$81,800
1999	226	\$82,100
2000	235	\$86,600
2001	198	\$98,600
2002	234	\$95,700
2003	250	\$107,700
2004	314	\$97,100
2005	261	\$131,100
2006	296	\$121,800
2007	278	\$109,100
2008	198	\$105,000

Source: Wisconsin Realtor Association Consumer Resources

[Http://www.wra.org/Consumer_Resources/about/housingstats.asp](http://www.wra.org/Consumer_Resources/about/housingstats.asp)

Note: Fourth quarter information note available for 1998 and is not included in total.

Energy Demands

Development is dependant on the availability of a cost-effective, abundant, efficient energy supply. Industry needs to know that reliable energy will be available to run equipment and people rely on affordable energy to heat and power their homes. Not only is energy important for heating and power, but the cost and availability of gasoline may also impact development in the county. Tourism is a major revenue generator for the county, and many people within the county also regularly commute to work. Over half the people in the county regularly travel further than 27.1 minutes to work. In 2000, there were about 3,693 seasonal units in Waushara County. **An increase in gas prices may cause some residents**

to move closer to their place of employment and out of Waushara County or cause others to consider closer locations from home for their vacation destinations. Therefore, energy availability can have an impact on new and sustained development in the county.

FUTURE LAND USE PROJECTIONS

Wisconsin statutes require comprehensive plans to include five year projections for residential, commercial, industrial, and agricultural uses over the length of the plan.¹² A summary of future land use projections and criteria follows.

While projections can provide extremely valuable information, by nature, projections have limitations which must be recognized. First and foremost, projections are not predictions. Projections are typically based on historical growth patterns and the composition of the current base. Their reliability depends to a large extent on the continuation of those past growth trends. Second, projections for small communities are especially difficult and subject to more error, as even minor changes can significantly impact growth rates. Third, growth is also difficult to predict in areas which are heavily dependent on migration, as migration rates may vary considerably based on economic factors both within and outside of the county.

The actual rate of growth and amount of future growth communities experience can be influenced by local policies which can slow or increase the rate of growth. Regardless of whether communities prefer a no growth, low growth or high growth option, it is recommended they adequately prepare for future growth and changes to provide the most cost-effective services possible. Furthermore, individual communities can maximize the net benefits of their public infrastructure by encouraging denser growth patterns which maximize the use of land resources while minimizing the impact on the natural resource base.

Expected increases in residential and commercial acreage and resulting decreases in agricultural acreage can be estimated by analyzing and projecting historical data into the future. An anticipated range of population and housing growth and the amount of land that would be required to accommodate that increase in growth were made using past housing and population trends and future population and household projections.

In 2000, 23,066 permanent residents resided in the Waushara County, 382 lived in group homes. A total of 9,336 dwelling units (13,302 single family and 365 multi-family) existed in the County.¹³ Of these units, 9,336 dwelling units were occupied year round and 4,331 were vacant. Vacant units are comprised of seasonal units and other (for rent, for sale, other). 3,693 units or 85.3 percent of the vacant units were considered seasonal in 2000. The 9,336 occupied dwelling units (households) had an average household size of 2.43 people. ***Based on ECWRPC projections, the population is expected to increase to 26,667 people by 2030. These people are expected to live 12,023 households.*** Due to a number of reasons, including the aging population base and a decrease in the number of children that people are having, the average household size is expected to decrease to 2.21 people. It is important to remember that the number of total dwelling units

¹² Wisconsin State Statutes 66.1001.

¹³ U.S. Census 2000.

does not equal the total number of households. The total number of dwelling units is a combination of occupied units and vacant units (for sale, rent, seasonal and other), while the total households is equal to the number of dwelling units times a vacancy rate. ***Assuming a constant vacancy rate of 31.7 percent (vacancy rate from 2000 Census held constant), it is anticipated that there will be a total of 17,601 dwelling units in Waushara County by 2030.*** Maintaining the current split between single family and multi-family, it is assumed that ***there will be a total of 17,131 single family and 470 multi-family units in Waushara County by 2030.*** ***Over a 30 year period, an additional 3,829 single family units or 128 units per year will be added in the County. 105 multi-family units or 3.5 units per year will be added during this same time period.***

Historical building permit data from the DOA indicates that between 1990 and 2007, a net total of 2,960 single family units and 206 multi-family units (Table 8-5) were added in Waushara County (164.4 (SF) and 11.4 (MF) dwelling units per year). According to U.S. Census data, a total of 1,421 additional dwelling units were built in the County between 1990 and 2000 (142.1 dwelling units per year). While historical building permit data from DOA and the U.S. Census indicates that County averaged 142.1 to 175.9 dwelling units per year between 1990 and 2000, these trends are not expected to continue (Appendix A: Table A-20 and Table A-22).

Based on existing information, there are approximately 14,655 single/two-family residential units in the County¹⁴ that occupied approximately 13,470 acres.¹⁵ It was assumed that about 20 percent of the new single family dwelling units would be located within incorporated communities on lot sizes of a minimum of 12,000 SF. The remainder of the new single family dwelling units would be added within the towns. Therefore ***future single family residential land use was calculated utilizing 20 percent of the new dwellings on a minimum lot size of 12,000 SF and 80 percent on a minimum lot size of one acre (Table 8-10, high density residential); and 20 percent of new dwelling on a minimum lot size of 12,000 SF and 80 percent on a minimum lot size of five acres (Table 8-11, low density residential).*** ***This means that Waushara County would likely experience an increase of about 2,858 to 13,556 acres of new residential growth, depending on the density chosen.*** This assumes a 15 percent infrastructure and 20 percent market factor.

Multi-family land use assuming that the division between single family and multi-family would remain constant and that multi-family would be added at the same density as it exists today. Assuming a ***15 percent infrastructure and 20 percent market factor, 31.3 acres of multi-family will be added.***

Future commercial and industrial growth was estimated using a ratio of existing population to existing commercial and industrial land use and projecting it forward based on future population estimates. Consequently, ***237.3 acres of commercial and 163.5 acres of industrial will be added over the life of the plan.*** This assumes a 15 percent infrastructure and 20 percent market factor.

Future agricultural land use was calculated based on the assumption that the majority of future development would occur in areas that are currently wooded or farmed. Existing land use indicates that if these two land use categories are compared, about 61 percent would be

¹⁴ U.S. Census 2000 plus DOR net building data.

¹⁵ ECWRPC existing land use 2008.

wooded and 39 percent would be in agricultural uses. Based on these assumptions, *approximately 1,283 to 5,455 acres of agricultural land would be lost over the life of the plan.*

Table 8-10. High Density Residential Land Consumption (Min. Lot Size 1 Acre)

	2008 Acres	2010 Acres	2015 Acres	2020 Acres	2025 Acres	2030 Acres
Residential	13,470	13,729	14,379	15,029	15,678	16,328
Multi-Family	96	98	105	113	120	127
Commercial	813	835	889	943	997	1,051
Industrial	560	575	612	649	687	724
Agriculture	118,697	118,580	118,289	117,997	117,705	117,414

Source: ECWRPC 2009 land use, household projections. U.S.Census 2000. DOA

Table 8-11. Mid Density Residential Land Consumption (Min. Lot Size 5 Acres)

	2008 Acres	2010 Acres	2015 Acres	2020 Acres	2025 Acres	2030 Acres
Residential	13,470	14,702	17,783	20,864	23,945	27,025
Multi-Family	96	98	105	113	120	127
Commercial	813	835	889	943	997	1051
Industrial	560	575	612	649	687	724
Agriculture	118,697	118,201	116,961	115,721	114,482	113,242

Source: ECWRPC 2009 land use, household projections. U.S.Census 2000. DOA

Land Use Issues and Conflicts

In order to avoid future land use conflicts, neighboring towns and counties should establish a communication process to determine the potential effects of new developments within 300 feet of their common border. By doing so, the impacts of the development will be more likely to be minimized.

Waushara County communities, sanitary districts, school districts, planning commissions and others should monitor and provide comments to communities and the County during the ongoing comprehensive planning process which is currently underway. Similarly, the County should be providing comments to Waushara County communities as they complete their plans. Potential land use conflicts may arise as new development occurs. Local officials and county employees will need to collaborate to ensure that the overall density of development within Waushara County communities is consistent with the overall land use visions.

Natural resource preservation and development may be in conflict with each other. High quality wetlands, floodplains, and other features comprise the natural resource base. Increased development near these resources could lead to displacement of wildlife; degradation of surface and groundwater; and loss of forest, farmland and other open lands and resources.

Incompatibilities may arise between adjacent land uses as development continues. Future land use maps designate specific areas for various uses. To minimize these conflicts, other land use controls such as setbacks, screening, and buffering should be utilized to limit potential conflicts. Many of these controls are detailed within the respective zoning ordinances. Any subdivision

that is approved should be designed in a manner that preserves the rural character of the area while enhancing the natural resource base.

Key Findings

Existing Land Use

- The Waushara County existing land use map was developed in 2000 by East Central Wisconsin Regional Planning Commission and updated by the municipalities within the county as land management and comprehensive plans were developed. Therefore existing land use, contained in this plan spans a period of about nine years.
- The land use categories are agricultural, residential, commercial, industrial, transportation, utilities/communications, institutional facilities, recreational facilities, water features, woodlands and other open land.
- Waushara County encompasses approximately 407,914 acres. Approximately 8 percent (7.7%) of the total area is developed.
- Overall, cropland (irrigated and non-irrigated) accounts for 29 percent (29.1%) of the total land use, while woodlands (planted and unplanted) make up another 46 percent (45.5%).

Zoning

- With the exception of the Town of Warren, and the portion of the Town of Aurora that falls under the City of Berlin's extraterritorial zoning, all towns within Waushara County adhere to County Zoning.
- The predominant zoning district in the County is General Agriculture (77.7%).

Development Trends

- The earliest inhabitants of Waushara County were Native Americans.
- By the late 1840's and early 1850's, farming communities centered around small villages and hamlets could be found in the county.
- In the 1880's, the county experienced a surge of activity with the coming of the railroad and the discovery of red granite.
- Today, agriculture and tourism has grown to become the county's major industries.
- Large portions of farm and woodlands are being converted to small parcel residential development.

Land Use Trends

- According to data collected by ECWRPC, commercial, residential, and institutional facilities increased, while parks and recreation, industrial, and cropland decreased between 1980 and 2008.
- According to data collected by the DOR between 1980 and 2005, residential and commercial acreages are increasing, while agricultural land acres are decreasing.

Building Permits

- According to the DOA, between 1990 and 2007, 3,166 net units were added in Waushara County.

Density and Intensity

- Between 1990 and 2000, residential densities increased throughout the county and the state.
- Within Waushara County, residential densities increased by about 12 percent from 19.56 units per square mile to 21.83 units per square mile during this time period.
- Utilizing 2000 U.S. Census data and adding net single family units to match the latest land use data, the intensity for single family development was about 1.03 units per acre for Waushara County. At the same time, the intensity for multi-family development was 4.46 units per acre.

Local Land Use Issues

- Development costs vary based on density, design, social, economical, political and environmental constraints.
- The amount of land available for development within Waushara County is finite.
- Overall, land values in Waushara County increased by 103 percent between 1998 and 2008. While land values in Waushara County cities increased by 191 percent, villages by 104 percent and towns by 101 percent.
- From 2006 to 2008, land values increased by 19.8 percent in the County, 20.1 percent in towns, 21.0 percent in villages and 7.2 percent in cities. This indicates that land Waushara County cities are increasing at the lowest rate and is in less demand than elsewhere in the county.
- Between 1998 and 2008 there were 2,666 home sales in Waushara County, with an average of 242 home sales per year. During this time period the median sale price increased from \$81,800 in 1998 to \$105,000.
- Development is dependant on the availability of a cost-effective, abundant, efficient energy supply.
- An increase in gas prices may cause some residents to move closer to their place of employment and out of Waushara County or cause others to consider closer locations from home for their vacation destinations.

Future Land Use Projections

- In 2000, 23,066 permanent residents resided in the Waushara County, 382 lived in group homes. A total of 9,336 dwelling units (13,302 single family and 365 multi-family) existed in the County. Of these units, 9,336 dwelling units were occupied year round and 4,331 were vacant.
- Based on ECWRPC projections, the population is expected to increase to 26,667 people by 2030. These people are expected to live 12,023 households.
- Assuming a constant vacancy rate of 31.7 percent (vacancy rate from 2000 Census held constant), it is anticipated that there will be a total of 17,601 dwelling units in Waushara County by 2030.

- There will be a total of 17,131 single family and 470 multi-family units in Waushara County by 2030. Over a 30 year period, an additional 3,829 single family units or 128 units per year will be added in the County. 105 multi-family units or 3.5 units per year will be added during this same time period.
- Future single family residential land use was calculated utilizing 20 percent of the new dwellings on a minimum lot size of 12,000 SF and 80 percent on a minimum lot size of one acre (Table 8-10, high density residential); and 20 percent of new dwelling on a minimum lot size of 12,000 SF and 80 percent on a minimum lot size of five acres (Table 8-11, low density residential).
- This means that Waushara County would likely experience an increase of about 2,858 to 13,556 acres of new residential growth, depending on the density chosen.
- Assuming a 15 percent infrastructure and 20 percent market factor, 31.3 acres of multi-family will be added.
- 237.3 acres of commercial and 163.5 acres of industrial will be added over the life of the plan.
- Approximately 1,283 to 5,455 acres of agricultural land would be lost over the life of the plan.

INTERRELATIONSHIPS WITH OTHER PLAN ELEMENTS

Land use cannot be considered in isolation from other elements. Economic development; housing; transportation; community and public facilities; and agricultural, natural and cultural resources all interact with one another. A vibrant economy brings people to the area in search of jobs and housing. Additional jobs may require the construction of more businesses, while additional people may demand other housing and services. Infrastructure such as roads and sewer and water extensions may be needed to serve these areas and people. This development may impact existing farm lands, forest areas, and other natural features.

Economic Development

Commercial and industrial land uses should be located in areas that are compatible with adjacent land uses, minimize environmental impacts, and utilize existing infrastructure. Additionally, industrial and concentrated commercial land uses should be situated in areas, if possible, where public sanitary sewer and water are available.

Housing

It is critical that an adequate supply of reasonably priced land be available for residential development. The amount of land that is required depends on the density, design, and placement of development. Residential development should be placed to minimize environmental impacts and utilize existing infrastructure. Scattered residential development increases the cost to provide public services such as fire, police and emergency protection; consumes and fractures large tracts of agricultural and forested areas; and increases conflicts between agricultural and residential uses.

Demand for property with access to natural resources has driven up land values and the cost of housing in Waushara County. New residential development may not be affordable to residents who depend on the area for jobs. The provision of a mix of residential units must be available

for all income ranges. Affordable housing including smaller homes on smaller lots and reasonably priced rental properties must be provided for individuals on low or fixed incomes. These areas should be located within walking distance of schools, stores, and other services.

Transportation

A well planned transportation system provides access to housing, schools, work and through traffic. As part of this transportation system, bike and pedestrian facilities should be expanded in existing areas to provide safe access to schools and business. When new subdivisions or roads are built or existing roads are reconstructed, pedestrian and bike access should be incorporated into these new designs.

Communities and Waushara County should carefully consider the creation of a system of recreational trails for both non-motorized and motorized traffic. Bicycling and pedestrian trails provide alternative transportation methods for local residents and potential tourist attractions.

Utilities and Community Facilities

New development should occur in proximity to existing infrastructure. Unsewered development should not be allowed to occur in areas that can be cost effectively and readily served by public sewer. In rural areas, scattered residential development increases the cost or makes costs prohibitive for services such as fire, police and emergency protection and public transportation (school bus and elderly/disabled). The road network should provide easy access to all areas as valuable time is lost when emergency vehicles must travel on winding local roads.

Agricultural Resources

Agriculture not only supports the economy of the county, but also defines the rural character that residents' value. The county is experiencing a decrease in the number of farming operations as farmland is converted to other uses. Farmland areas are being fragmented by scattered residential development which often results in agriculture operational conflicts and limits farm expansion for farmers who wish to remain in farming.

Natural Resources

An abundance of natural resources including a multitude of lakes, streams, woodlands, wetlands, wildlife habitat, agricultural land and other open spaces can be found in the County. People who visit and live in the County value these resources. Increased development can adversely affect these very resources that drew people to the county and caused them to remain. New development should be directed away from sensitive environmental areas including floodplains and wetlands. Care should be taken to minimize the effects of new construction on the existing environment by strictly enforcing erosion control practices. Older septic systems should be inspected regularly to minimize the consequences of failing systems on water quality.

Cultural Resources

The historical past helps to define the present. Care should be taken to preserve, protect, and enhance the cultural resources, historic areas, and buildings that remain. New development

should be incorporated into existing development so that it enhances the historic components that remain.

Intergovernmental Cooperation

Land use decisions that are made within one municipality often affect the decisions and land use of another. For example, the development of a heavy industrial activity near the border of one community has the potential to affect the land use, natural resources and economy of an adjacent community. In this example, a residential use may not be compatible with the heavy industrial use, the industry may pollute a stream that flows through another community, or the business may purchase raw products or supplies from a business in an adjacent community. To minimize conflicts, communities should solicit input and find an effective form of communication with neighboring communities and residents. Waushara County should take a lead in sponsoring forums for county-wide discussions and educational sessions.

POLICIES AND PROGRAMS

Regional, County and Local Policies

Zoning Ordinances

The Wisconsin enabling legislation requires that zoning ordinances must be reviewed and modified if necessary to be consistent with a community's comprehensive plan.

Local municipalities and counties can enact wind energy zoning ordinances to proactively plan for siting future wind energy projects.¹⁶ Wind energy zoning ordinances can establish setbacks from property lines, roads, communication and electricity transmission systems, and residential structures. Additionally, setbacks can be established for undeveloped residential properties. Although noise level effects may be difficult to determine due to differences between individuals, it is possible to establish maximum allowable decibel levels at residential dwellings and specific public facility sites. Height restrictions can be placed on individual turbines. Height restrictions must be used cautiously since a restriction could lead to an increased number of turbines and decreased land use efficiencies. Several safety features can be incorporated into a zoning ordinance. For example, restrictions can be placed controlling the accessibility (lockable, non-climbable towers), electrical connection systems, and appropriate warning signage installation to cite a few examples. Ordinances can also include specific plans for site reclamation if a turbine is abandoned or its use is discontinued.

Other zoning tools can also be utilized to limit the number of potential sites for wind energy facilities. Extra-territorial airport zoning can restrict the maximum height of structures to a distance of three miles from a public airport facility. In addition, overlay zoning can be utilized to further protect significant natural or cultural resources by limiting the conditional uses within a specific area.

¹⁶ *Wisconsin State Statutes 66.0401.*

County Policies

County Zoning. The Waushara County Code of Ordinances regulates private on-site wastewater treatment systems, land divisions and land uses. A few of the chapters that relate to land use are summarized below.

Waushara County Utilities Ordinance is contained within Chapter 54 of the Waushara County Code of Ordinances. This ordinance regulates all private on-site wastewater treatment systems within the county. Although this ordinance does not directly determine land uses, it influences the location of future development according to soil suitability.

Waushara County's Subdivision Ordinance is contained in Chapter 42 of the Waushara County Code of Ordinances. The ordinance facilitates division of larger parcels of land into smaller parcels of land. Land divisions create less than three lots of 15 acres or less. Land divisions can be classified as either major or minor subdivisions. A major subdivision creates five or more lots which are each 5 acres or less in area by successive divisions within a 10-year period. A minor subdivision contains three or more lots that are 15 acres or less in area by successive divisions within a 10-year period. The ordinance also contains design standards for streets, setbacks, utility easements, stormwater management techniques, and erosion control.

The **Floodplain Zoning Ordinance** is contained within Chapter 18 of the Waushara County Code of Ordinances. The purpose of the floodplain ordinance is to protect life, health, and property; to minimize the costs associated with flood control projects; and to minimize the costs associated with relief and reconstruction efforts. The ordinance regulates residential uses, storage of hazardous materials, sewage disposal, wells for drinking water, and uses mentioned in NR 116.

The **Shoreland Zoning Ordinance** is contained within Chapter 58 of the Waushara County Code of Ordinances. Shorelands are defined as unincorporated areas which are: 1,000 feet from the ordinary high water elevation mark of navigable lakes, ponds, or flowages; or 300 feet from the ordinary high water elevation mark of navigable rivers or streams. If the landward side of the floodplain exceeds either of these two measurements, this is used as the zoning standard. This ordinance controls the lot size, building setbacks, landfills, agricultural uses, alteration of surface vegetation, sewage disposal, filling, grading, lagooning, and other uses which may be detrimental to this area.

Chapter 58 also addresses **wind energy generation facilities**.¹⁷ The existing ordinance permits wind energy facilities for on-premise consumption in areas that have been zoned for either general agricultural (A-G) or forestry (O-F) uses. Off-premise consumption requires a conditional use. As such, the landscape within these areas must be dominated by agricultural practices or woodlots. Several setbacks, safety restrictions, and ground clearance requirements have been established. The County and local municipalities may wish to collaborate to designate specific sites appropriate for future wind energy facilities.

Farmland Preservation Plan. Waushara County adopted the county Farmland Preservation Plan on June 9, 1981.¹⁸ The goal of the plan is to preserve productive and potentially

¹⁷ WCZLC. 2006. *Code of Ordinances: Waushara County, Wisconsin 58.236 (20)*.

¹⁸ WCZLC. 1980. *Waushara County Farmland Preservation Plan*. http://www.co.waushara.wi.us/more_lcd.htm.

productive agricultural land, forest land, and environmentally sensitive areas while providing other areas for well planned growth in other appropriate areas of the county. Agriculturally productive areas are defined as existing farms consisting of a minimum of 35 contiguous acres of productive farmland. This plan allows farmers in preservation areas to sign agreements on a voluntary basis under the state's Farmland Preservation Act for tax credits.

Land and Water Resource Management (LWRM) Plan. The Waushara County LWRM plan was written in 1999.¹⁹ In 2005, it was revised in response to a legislative call to redesign Wisconsin's programs to reduce pollution from unknown sources. The revised plan was adopted in February 2006. The plan identifies long term goals and implementation strategies to reduce non-point source pollution into rivers, streams, and lakes in Waushara County. The four goals that were identified include: 1.) Reduce soil erosion and continue to protect natural resources; 2.) protect and enhance in-stream, riparian, wetland and upland habitat; 3.) protect surface waters from construction site erosion control & non-metallic mining; and 4.) implement the animal waste prohibition.

Local Policies

Official Map. An official map is intended to implement a master plan for a city, village, or town. The master plan helps direct development by designating areas for streets, highways, parkways, floodplains, and other pertinent land uses. Official maps direct development away from sensitive areas which are designated for future public use.

Existing Comprehensive/Land Management Plans. A number of years ago, Waushara County developed a bottom up approach to land use planning. Over the years, a majority of Waushara County communities have adopted community management and comprehensive plans. Currently the Village of Hancock and the towns of Coloma, Hancock, Plainfield, Oasis, Deerfield, Richford, Springwater, Saxeville, Mount Morris, Leon are working to update their community management plans to "smart growth" compliant. At the same time, the villages of Plainfield, Coloma and Lohrville are working to create comprehensive plans. Waushara County, with input from its municipalities, is in the process of developing a Comprehensive Plan that will be completed in 2009.

Federal, State and Regional Programs

State of Wisconsin

Land and Water Resource Management Planning Program (LWRM). The land and water resource management planning program (LWRM) was established in 1997 by Wisconsin Act 27 and further developed by Wisconsin Act 9 in 1999.²⁰ Although both Acts are designed to reduce non-point pollution, Wisconsin Act 27 regulates rural and agricultural sources while Wisconsin Act 9 regulates urban sources.²¹ Counties are required to develop and periodically revise LWRM plans. Citizens and professionals in each county identify local needs and priorities

¹⁹ WCZLC. 2005. *Waushara County Land and Water Resource Management Plan*.
http://www.co.waushara.wi.us/more_lcd.htm.

²⁰ Wisconsin Legislative Reference Bureau. 1997. *Budget Brief 97-6*.

²¹ Wisconsin Legislative Reference Bureau. 2000. *Budget Brief 00-7*.

in regards to conservation needs through watershed based planning. All LWRM plans must be approved by the Wisconsin Department of Agriculture, Trade, and Consumer Protection.

Wisconsin Act 204. Recent blackouts and other incidents throughout the United States have raised concerns regarding both the supply of energy and the adequacy of the transmission grid. Wisconsin Act 204 mandates that a portion of electricity generation facilities be from renewable resources. To ensure that the renewable energy goals set forth in Wisconsin Act 204 are not unduly hindered, the State passed additional legislation restricting the ability of local governments to prohibit or curtail the development of wind and solar energy systems.²² Municipalities can only impose restrictions on the construction and operation of wind turbines to protect public health and safety. Furthermore, communities cannot impose regulations which increase construction/operation costs, decrease the efficiency of wind generation systems, or specifically prohibit installation of alternate energy systems.

Although traditional approaches such as coal and natural gas are still utilized, other options are being explored that include renewable resources. Under this mandate, other sources of energy such as wind are currently being proposed at several locations throughout Wisconsin. While there is an extensive review process for the placement of large electrical generation facilities, smaller facilities, such as wind turbines, often fall below the size limitation and bypass this review process. Thus, many communities find themselves unprepared to handle future wind turbine proposals.

²² Wisconsin Statutes 66.0401

Exhibit 8-1

Existing Land Use

Exhibit 8-2
Existing Zoning