# TOWN OF DEERFIELD Smart Growth COMPREHENSIVE PLAN

## Volume Two: Existing Conditions Report

October 2009



Prepared by the Town of Deerfield Land Use/Smart Growth Committee **Town of Deerfield** 

Smart Growth Comprehensive Plan

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COMMUNITY CHARACTERISTICS AND RESOURCES

#### COMMUNITY CHARACTERISTICS AND RESOURCES

Location, population, economic conditions and environmental characteristics directly affect a community's past growth patterns. These resources also form the basis for future growth and development, as the interaction of these resources with the local political and socio-economic climate, along with a community's relationship to the global economy, will shape the community's future. The following section reviews past socio-economic trends and examines the environmental and community characteristics of Waushara County and the Village of Hancock and the Towns of Deerfield, Hancock, Oasis and Plainfield.

#### POPULATION

Population change is determined by two factors, natural increase and net migration. Natural increase is calculated by subtracting the number of deaths from the number of births for a given time period. Net migration is, in theory, the number of people leaving an area (out-migrants) subtracted from the number of people moving into an area (in-migrants). Since we do not track people's movement in this country, migration is usually calculated by subtracting the natural increase in population from the total population. The remainder is considered to be the number of net migrants. A negative number indicates that more people moved out of your community than moved into your community. A positive number indicates that more people moved into your community than moved out of your community.

Since 1960, natural increase has accounted for less than 3% of Waushara County's growth. As a result, population growth in Waushara County has been heavily influenced by net migration rates. Since 1950, net migration rates for Waushara County have ranged from a low of -8.62 percent in the 1950's to a high of 23.76 percent in the 1970's. Population growth patterns in Waushara County generally reflect those fluctuations, with the slowest rate of growth occurring in the 1950's, when the county's population declined by 423 residents and the highest rate of growth occurring during the 1970's, when the county's population increased by 3,721 residents (Table 1-1).

It is difficult to make meaningful numerical comparisons, when discussing populations of different sizes. A change of 100 people may not make a noticeable difference in a population of several thousand, but will make a big difference in the makeup of a population that is under a thousand in number. As a result, the remainder of the discussion regarding population change will refer to the percent change in population or subpopulation. For your convenience, the numerical change in total population for Waushara County and Group C communities is provided in Table 1-1. Actual population counts can be found in Appendix B.

Following the County's growth pattern, all Group C communities lost population during the 1950's, with the Town of Deerfield and the Village and Town of Hancock suffering the heaviest losses (Table 1.1). The Town of Hancock's population declined by 26% in the 1950's, while the Village of Hancock and the Town of Deerfield lost 18% of their population. The Towns of Oasis and Plainfield fared better, losing only six percent of their population during the 1950's. Waushara County's population as a whole declined by three percent (Figure 1-1).

	1050 1000	1000 1070	1070 1000	1000 1000	1000 2000
	1920-1960	1960-1970	1970-1980	1980-1990	1990-2000
V. Hancock	-82	37	15	-37	81
T. Deerfield	-77	27	78	9	175
T. Hancock	-126	-8	80	41	64
T. Oasis	-25	-18	57	-14	16
T. Plainfield	-27	-2	127	-45	4
Waushara County <sup>a</sup>	-423	1,298	3,731	859	3,681

Table 1-1. Numerical Change in Population, 1950 to 2000

Source: U. S. Census, 1950, 1960, 1970, 1980, 1990, 2000.

The Towns of Hancock, Oasis and Plainfield continued to lose population during the 1960's, with population losses ranging from -0.5% to -5%. Population increased in the T. Deerfield by 8%, while the Village of Hancock and Waushara County experienced a 10% increase in population during this decade.

Waushara County and Group C communities experienced population growth during the 1970's, with growth rates ranging from 28% in the Town of Plainfield to just under 4% in the Village of Hancock. The county as a whole grew by 25%. The Towns of Hancock, Oasis, Plainfield and Waushara County experienced their highest rate of growth during this time period, with the Town of Hancock's population growing by 23%, Town of Oasis by 16%, Town of Plainfield by 28% and Waushara County by 25%. The Town of Deerfield also experienced significant population growth, 21%.

Growth rates varied in the 1980's. While the county as a whole grew by almost 5%, three of the five Group C communities, the Village of Hancock and the Towns of Oasis and Plainfield lost population during this time period. Population losses ranged from -9% in the Village of Hancock to -3% in the Town of Oasis. The Towns of Hancock and Deerfield gained population in the 1980's. The Town of Hancock's population grew by just under 10%, while the Town of Deerfield grew by two percent.

All five communities experienced population growth in the 1990's, with the Town of Deerfield experiencing the highest rate of growth. The Town of Deerfield and the Village of Hancock experienced their highest rate of growth during this time period, growing by 38% and 21%, respectively. Growth in the remaining communities ranged from 14% in the Town of Hancock to 1% in the Town of Plainfield. The County grew by 19%.

Population growth at the state level outpaced Waushara County and all five communities in the 1950's and 1960's, then slowed to a rate below that of Waushara County and all communities but the Village of Hancock in the 1970's. The state's population growth dropped to 4 percent in the 1980's, then increased to ten percent in the 1990's (Figure 1-1). The state experienced its highest rate of growth during the 1950's, growing at 15 percent. After 1960, the rate of population growth in the state declined steadily to 4 percent in the 1980's, then increased to 9.6 percent in the 1990's.



Figure 1-1. Comparative Population Growth, 1950 to 2000

Overall, Waushara County experienced the highest rate of growth. Between 1950 and 2000, Waushara County's population grew by 66% (Appendix B. Table B-1). During this same period, Wisconsin's population grew by 56% and the Town of Deerfield's population grew by 51%. The other four communities grew at much slower rates. The Town of Plainfield's population grew by 12% between 1950 and 2000, and the Town of Hancock's population grew by 11%. The Town of Oasis and the Village of Hancock experienced the smallest rates of population growth during this time period, growing by 4% and 3%, respectively.

WI Department of Administration (DOA) estimates indicate that, at the beginning of the decade, population growth in Waushara County is outpacing growth in Group C communities and the State. Between 2000 and 2003, DOA estimates that Waushara County's population grew by 7% (1,590 persons). During this time period, estimates place the Town of Deerfield's population growth at 4% (24 persons). The Towns of Hancock (15 new residents) and Plainfield (16 new residents) grew by 3%, while the State's estimated population growth is 2%. Population in the Village of Hancock and Town of Oasis stayed relatively constant, with the Village losing 1 resident, and the Town of Oasis losing 3 residents.

#### **Population Projections**

Population projections are typically based on historical growth patterns and the composition of the current population base. When evaluating population projections, one should be aware that it is extremely difficult to predict population change for small communities. Even minor changes in birth, death or migration rates can significantly impact community growth rates. Population growth is also difficult to predict in counties, such as Waushara, which are heavily dependent on migration. Migration rates may vary considerably based on various "push" and "pull" factors both within and outside of the county. Population projections in this plan were developed using historical population trends and anticipated impacts from the Redgranite Correctional Facility.

Based on past trends and anticipated demographic changes, The Town of Deerfield is the only community in the planning area expected to grow throughout the projection period. Population in the remaining four communities is expected to peak in 2005, then decline through the 2020 (Appendix B, Table B-2). Anticipated population growth rates range from a loss of 19 percent in the Town of Plainfield (approximately 100 residents), to a gain of 17 percent for the Town of Deerfield (just over 100 residents). The Towns of Deerfield and Hancock are the only two communities anticipated to experience a positive growth rate during the projection period. While Deerfield is expected to remain relatively stable. The Town of Hancock is estimated to grow by 2% (around 10 residents), while the Village of Hancock's population is estimated to decline by just under two percent (7 residents). The Town of Oasis is expected to increase by ten percent between 2000 and 2020 (over 2,300 residents). However, current projection estimates indicate that all of the growth will occur in the first decade, with Waushara County's population peaking in 2010, then declining through 2020.

The Wisconsin Department of Administration (DOA) is currently reviewing and revising population projections for counties and communities in light of the 2000 Census information. A preliminary set of population projections through 2020 has been released for review. Those projections are currently subject to revision. Staff have reviewed those preliminary projections, and noted that the population projections released by the state for Group C communities and Waushara County are within 0% to 8% of East Central's projections for 2020, which indicates that the state also expects the same growth trends as East Central.

Population projections for the state as a whole have been modified by DOA and expanded through 2030. Wisconsin's population is expected to increase throughout the projection period. Although the state's population grew by 10% in the 1990's, it is anticipated that the state's population growth will slow to 6% in the 2000's and 2010's, then to 5% through 2030. The decrease in population growth reflects a decrease in natural increase rates due to an aging population and an anticipated reduction in net migration rates due to the slowdown in the economy, expected slow recovery and a decrease in international migration due to tighter controls placed after September 11, 2001.

#### **Population by Age Cohort**

The age structure of a population impacts the service, housing and transportation needs of a community. Communities with growing school age populations may need to expand school facilities. Communities with growing elderly populations may need to expand health care and transportation services.

Wisconsin's population is aging. The median age rose by three years between 1990 and 2000. Over the next thirty years, as the babyboomer generation ages, it is anticipated that the population age 65 and older will increase statewide by 89% by 2030. At the same time, a need will still exist to educate children and train the next workforce. As a result, communities may find it difficult to balance the needs of both the elderly and the young.

In 1990, the state's median age was 32.9 years. Median age for Group C communities ranged from a low of 31.1 years in the Town of Plainfield to a high of 41.2 years in the Town of Deerfield. Median age for the remainder of the Group C communities ranged from 35.2 in the Town of Oasis to 37.8 years in the Town of Hancock. Waushara County's median age was 38.6 years. The working age population, which includes individuals age 20 to 64, comprised over 50% of the population for all 7 jurisdictions. The Village of Hancock had the smallest share of its population in the working age cohort, 51%, while the state of Wisconsin had the largest share of its population in the working age cohort, 57% (Appendix B, Table B-3).

The next largest segment of the population varied by community. In the Village of Hancock and Town of Deerfield, persons age 65 and older comprised the next largest segment of the population. For the other 4 jurisdictions, the school age cohort (individuals age 5 to 19) comprised the second largest segment of the population. The Village of Hancock had the highest share of its population in the elderly cohort, 20%. The elderly comprised 19% of the Town of Deerfield's and Waushara County's population. In the remainder of the jurisdictions, the share of population age 65 and older varied from 18% in the Town of Hancock to 10% in the Town of Plainfield.

The Town of Oasis had the largest share of its population in the school age cohort, 25%, while the Town of Deerfield had the lowest share, 17%. In the remainder of jurisdictions, the school age segment of the population ranged from 24% in the Town of Plainfield to 19% in the Village of Hancock. School age children comprised 20% of Waushara County's population in 1990 and 22% of the state's population.

The smallest segment of the population by far for all jurisdictions was the pre-school age cohort. Individuals under the age of five comprised less than 10 percent of the population in all seven jurisdictions. Pre-school age children ranged from 6% of the population in Waushara County to just under 10% of the population in the Town of Plainfield. Seven and a half percent of the state's population was comprised of individuals less than 5 years old. Since companies consider the preschool age population to be an indicator of the potential pool of future workers, the small number of children in this age cohort may detract from the state's and this area's ability to attract new companies to the area.

Between 1990 and 2000, the median age increased in all seven jurisdictions. The Town of Plainfield experienced the largest increase in median age during this time period. Between 1990 and 2000, the median age in the Town of Plainfield increased from 31.1 years to 36.8 years. The Town of Deerfield experienced the smallest increase in median age. Median age in the Town of Deerfield increased by less than 3 years, rising from 41.2 years to 44.1 years. Even though the Town of Deerfield had the smallest increase in median age, it continued to have the highest median age of all seven jurisdictions. In 2000, the state had the lowest median age, 36 years. Median age in the remainder of the communities ranged from 42.8 years in the Town of Hancock to 39.4 years in the Town of Oasis.

The working age cohort continued to comprise the largest segment of the population in all jurisdictions in 2000 (Appendix B, Table B-4). In 2000, the working age population as a percentage of total population ranged from a high of 58% in the Town of Deerfield and the State of Wisconsin to a low of 51% in the Village of Hancock. Between 1990 and 2000, the working age cohort declined in the Town of Oasis from 55% of the population to 54% of the

population. It remained stable at 51% of the population in the Village of Hancock and increased as a share of the population in the other three jurisdictions. By 2000, the working age cohort comprised approximately 57% of the population in the Towns of Hancock and Plainfield and 55% in Waushara County.

The largest growth between 1990 and 2000 occurred in the school age population for all jurisdictions, except for the Towns of Oasis and Plainfield, which already had a relatively large portion of their population in the school age category, compared to the other jurisdictions. As a result of this increase, the second largest cohort for all jurisdictions in 2000 was the school age population. School age children comprised 27% of the population in the Town of Oasis, 26% in the Town of Plainfield, 24% in the Village of Hancock, 23% in the Town of Hancock and 20% in the Town of Deerfield. Twenty-one percent of Waushara County's population was school age and 22% of the state's population fell in that age cohort.

Although all communities but the Town of Hancock experienced an increase in the number of elderly residents, the share of population age 65 and older declined in all jurisdictions, except for the Towns of Oasis and Plainfield. As a result, by 2000, persons age 65 and older comprised less than 20% of the population in all jurisdictions, except for the Village of Hancock, where persons age 65 and older comprised 20% of the population. Elderly residents comprised 19% of the Town of Deerfield and Waushara County's population. Approximately 15% of the population in the Towns of Hancock and Oasis was age 65 or older. Thirteen percent of the state's population was age 65 or older. The Town of Plainfield has the smallest share of its population in the elderly cohort, just under thirteen percent.

The number of pre-school age children declined in all jurisdictions between 1990 and 2000. As a result, the smallest age cohort by far in 2000 was the pre-school age cohort. Pre-school age children comprised less than seven percent for all jurisdictions. The state had the highest share of population in the pre-school age cohort, just over six percent. Pre-school age children comprised approximately five percent of the population in the Village of Hancock and Waushara County, 4% in the Towns of Plainfield, Oasis and Hancock, and just under 3% in the Town of Deerfield. Numerically within Group C communities, the number of pre-school age children present in 2000 ranged from 16 in the Town of Oasis to 23 in the Town of Plainfield.

Figure 1-2 shows the 2000 population distribution for the Group C communities and Waushara County. As evident on the graphs, the largest cohort for all jurisdictions include individuals born following WW II or the "baby boom" generation, followed by their children, the "echo boom". Together, these two age cohorts comprise over 50% of the population in Group C communities and Waushara County. The two smallest age cohorts are the 20 to 24 year old cohort and the 85 and older cohort. Persons age 85 and older comprise less than 3% of the population in Group C communities and Waushara County. The share of the population age 20 to 24 years varies from 5% of the population in the Town of Plainfield to less than 2% in the Town of Deerfield. Numerically, within Group C communities the number of individuals age 85 and older in 2000 varied from 4 persons in the Town of Oasis to 11 persons in the Village of Hancock. The number of individuals age 20 to 24 varied from 9 in the Town of Deerfield to 17 in the Town of Plainfield.

In all cases, it appears that as children are graduating from high school, they are leaving the area. The relatively large 35 to 74 age cohort suggests that the county and these communities

are currently attracting working age individuals and early retirees. Migration by age data indicates that individuals in Waushara County that reach age 75 are migrating out of the area, probably in search of more appropriate housing and easier access to healthcare and other services.

These different migration patterns impact communities. Baby boomers are now reaching retirement age. The sheer size of this generation will result in a large increase in the elderly population, which will impact housing markets and influence service sector demands nationwide. If current migration trends continue, Group C communities can expect to see continued in-migration in the 35 to 74 age cohort and continued out-migration in the 20 to 24 and 75 and older age cohorts. As the baby boom generation reaches their mid-70's, Group C communities and Waushara County can expect to see a decline in this population, as these individuals leave the area in search or more appropriate housing and greater access to health care and other services. Group C communities and Waushara County may very well continue to attract individuals age 35 to 74. However, the pool of these potential in-migrants will be smaller. As a result of the relative size and anticipated shifts in these two populations, Group C communities should expect to see their total population decline, which is indicated in the out years of the projection period.



## **Town of Deerfield**



## **Town of Plainfield**



### **Town of Hancock**



**Town of Oasis** 



## Village of Hancock



## Waushara County



#### HOUSING CHARACTERISTICS

The availability, affordability and quality of housing are key ingredients of a healthy community. The age and type of dwelling units, occupancy characteristics and housing stock values reflect growth trends, economic conditions, household formation rates and housing preferences within communities.

#### Age of Occupied Dwelling Units

The age of occupied dwelling units reflect the historic demand for additional or replacement housing units, thereby providing historic information regarding household formation rates, migration trends and natural disaster impacts. In 1990, the largest share of housing stock for all jurisdictions was 40 years and older, indicating that the majority of growth for all jurisdictions occurred prior to 1950. The second largest category for age of dwelling units was for dwelling units built between 1970 and 1979, which is the period the peak of the baby boomers began entering the housing market. Other fluctuations in building rates varied by community.

In 1990, the Village of Hancock had the smallest share of newer housing stock. Just over 25 percent (25.64%) of the Village's occupied housing stock was built during the preceding 20 years. The Town of Hancock had the largest share of newer housing stock, 50%. The share of housing stock less than 21 years of age in the remaining Group C communities ranged from 39% in the Town of Plainfield to 48% in the Town of Deerfield. Forty-five percent of Waushara County's housing stock was less than 21 years of age, compared to 39% for Wisconsin Appendix B, Table B-5).

The Village of Hancock had the largest share of housing stock more than 40 years old, 55%, while the Town of Plainfield had the smallest share, 28%. The share of housing stock 40 years and older in the remaining communities varied from 45% in the Town of Oasis to 34% in the Town of Hancock. Approximately 36% of the housing stock in Waushara County and the state was built prior to 1950.

Between 1990 and 2000, variable growth in the housing market shifted the relative age of the occupied housing stock. During this time period, the Village of Hancock moved from having the smallest share of newer housing stock in 1990 to having the largest share of newer housing stock in 2000. In 2000, 43.2% of the Village's occupied housing stock was less than 21 years old. The share of housing stock less than 21 years of age in the remaining Group C communities ranged from 43.1% in the Town of Hancock to 28% in the Town of Plainfield. Thirty-four percent of Waushara County's housing stock was less than 21 years of age, compared to 27% for Wisconsin (Appendix B, Table B-6).

The share of occupied housing stock more than 40 years old decreased in the Village of Hancock and the Towns of Deerfield and Oasis and increased in Waushara County, the State and the remaining Group C communities. In 2000, the share of occupied housing stock 40 years and older ranged from 46% in the Village of Hancock to 34% in the Town of Plainfield. Thirty-nine percent of the County's occupied housing stock was more than 40 years old, compared to 44% of the State's occupied housing stock.

#### Structural Type

Residential units by structural type is one indication of the degree of choice in the housing market. Availability of units by type is indicative not only of market demand preferences, but also of zoning laws, developer preferences and access to public services. Current state planning goals encourage communities to provide a wide range of choice in housing types.

Single family residential units comprise the vast majority of housing stock in all 7 jurisdictions (Appendix B, Table B-7). In 1990, the Town of Oasis had the highest share of single family housing stock, 95%; the state had the lowest share, 68%. The share of single family housing stock varied in the remainder of Group C communities from 94% in the Town of Hancock to 76% in the Town of Plainfield. Almost 81% of Waushara County's housing stock was comprised of single family units in 1990. The majority of the remaining housing stock in the Group C communities and Waushara County consisted of mobile homes, trailers and other dwelling units. Duplex and multi-family units comprised less than two percent of the housing stock in the Group C communities and less than 5% in Waushara County. At the state level, multi-family units comprised six percent of the housing stock.

The limited number of duplex and multi-family units in Group C communities likely reflects the rural nature of Group C communities and Waushara County. Urban services, such as public sewer and water, are needed to support these types of development. Within Group C, the Village of Hancock is the only community with the level of services needed to support multi-family housing.

Between 1990 and 2000, the total number of dwelling units increased in all 7 jurisdictions. The Town of Deerfield experienced the largest increase in total dwelling units. Between 1990 and 2000, the number of dwelling units in the Town of Deerfield increased by 127 units or 37% percent. The increase in total dwelling units in the remaining Group C communities ranged from 43 units in the Town of Hancock to 2 units in the Town of Plainfield<sup>1</sup>. Waushara County experienced a 12% increase in housing stock, while the state experienced a net gain of 13% in its housing stock.

The largest increases occurred in single family housing stock (Figure 1-3). The Town of Deerfield experienced a 46% increase in the number of single family homes between 1990 and 2000. The number of single family homes increased by 18% in the Town of Plainfield, 9% in the Town of Hancock, 6% in the Town of Oasis and 5% in the Village of Hancock. The number of single family homes increased by 14% in Waushara County and 15% in Wisconsin.

The number of duplex and multi-family units remained unchanged in the Towns of Deerfield and Oasis. All other jurisdictions experienced an increase in the number of duplex and multi-family units between 1990 and 2000. The number of duplex and multi-family units increased by 8% in Waushara County and 14% in Wisconsin. The number of duplex and multi-family units in the Village of Hancock rose from 3 units in 1990 to 14 units in 2000. The number of duplex and

<sup>&</sup>lt;sup>1</sup> The actual increase in dwelling units in the Town of Oasis is unclear. Based on the 100% count 2000 Census data, the Town of Oasis lost 1 unit between 1990 and 2000. However, sample data from the 2000 Census and building permit data from the WI Dept. of Administration indicates that the Town of Oasis may have gained 6 to 8 units.

multi-family units increased from 1 to 3 in the Town of Hancock and from 4 to 6 in the Town of Plainfield.

The only two jurisdictions to see an increase in mobile homes, trailers and other units were the Village and Town of Hancock. Between 1990 and 2000, mobile homes, trailers and other units increased by 12% in the Village of Hancock and 24% in the Town of Hancock. The number of mobile homes, trailers and other units decreased by 40% in the Town of Plainfield and 18% in the Town of Deerfield. In the Town of Oasis, the number of mobile homes, trailers and other units in 1990 to 5 units in 2000, a 64% decline. Mobile homes, trailers and other units decreased from 14 units in 1990 to 5 units in 2000, a 64% decline.



Figure 1.3. Units in Structure, 1990 and 2000

By 2000, the balance of units in structure had shifted slightly, but single family units continued to dominate the housing stock. In 2000, the Town of Oasis had the highest percentage of single family homes, 98%. Single family homes comprised 92% of the housing stock in the Town of Hancock, 91% in the Town of Deerfield, 85% in the Town of Plainfield and 76% in the Village of Hancock. Almost 83% of housing units in Waushara County and 69% of housing units in the state were single family homes. The Village of Hancock had the largest share of mobile homes, trailers and other units in 2000, 18%, while the Town of Oasis had the smallest share of mobile homes, trailers and other units, 2%. Mobile homes, trailers and other units comprised 12% of the total units in the Town of Plainfield, 8% in the Town of Deerfield and 7% in the Town of Hancock. Mobile homes, trailers and other units comprised 12% of the total units in the Town of Plainfield, 8% in the Town of Deerfield and 7% in the Town of Hancock. Mobile homes, trailers and other units comprised 13% of the county's housing stock and just over 4% of the state's housing stock. Duplex and multi-family units comprised less than 3% of the housing stock in all of the Group C communities, except the Village of Hancock, where duplex and multi-family units comprise 5% of the total housing stock. Four percent of Waushara County's housing stock was comprised of duplex and multi-family units, compared to 26% for the state (Appendix B, Table B-8).

#### **Occupancy Status**

Occupancy status reflects the utilization of available housing stock. The total number of housing units include renter-occupied, owner-occupied and various classes of vacant units, including those which are available for sale or rent and those which are seasonal, migrant, held for occasional use or other units not regularly occupied on a year-round basis.

In 1990, the state had a higher occupancy rate (89%) than either the Group C communities or Waushara County (Appendix B, Table B-9). Of the Group C communities, the Town of Plainfield had the highest occupancy rate, 84%. Occupancy rates in the remaining jurisdictions ranged from 71% in the Village of Hancock to 49% in the Town of Deerfield. Sixty-two percent of Waushara County's housing stock was occupied year round.

Between 1990 and 2000, the occupancy rate increased for all seven jurisdictions. The state continued to have a higher occupancy rate (90%) than the remaining 6 jurisdictions. The Town of Plainfield continued to have the highest occupancy rate of all Group C communities. In 2000, 86% of all housing units in the Town of Plainfield were occupied, compared to 76% in the Village of Hancock, 68% for Waushara County, 59% in the Town of Oasis and 55% in the Town of Hancock. The Town of Deerfield continued to have the lowest occupancy rate, 54% (Appendix B, Table B-10).

In both time periods, the majority of occupied housing stock was owner occupied, rather than renter occupied in all seven jurisdictions. Between 1990 and 2000, the share of housing that was owner-occupied increased in all seven jurisdictions. The Town of Plainfield had the highest share of owner-occupied units. In 1990, 65% of the Town of Plainfield's housing stock was owner-occupied. By 2000, the ratio of owner-occupied housing units to total housing units had increased to 73% in the Town of Plainfield. This increase in owner-occupancy reflected a 14 unit decline in the number of rental occupied housing units and a decrease of 5 vacant housing units.

The Town of Deerfield had the lowest ratio of owner-occupied housing units to total housing units of all jurisdictions in 1990. Between 1990 and 2000, the Town of Deerfield's share of owner-occupied housing stock rose from 44% of all housing units to 50% of all housing units. This increase in owner-occupancy reflected a slight decrease in the number of rental occupied housing units (2 units) and a decrease in the share of vacant housing units. In the Town of Deerfield, the number of vacant units increased by 42 between 1990 and 2000, but the increase in the number of vacant units was smaller than the increase in the number of owner-occupied housing (47 units). By 2000, the Town of Hancock had the lowest share of owner-occupied housing (48%) of all seven jurisdictions. The Town of Hancock's share of owner-occupied housing stock rose from 44% in 1990 to 48% in 2000, as the largest increase in number of units occurred in the owner-occupied category (33 units). Their increase in owner-occupancy resulted in a very slight decrease in the share of rental housing units and a decrease in the share of vacant units.

The ratio of owner-occupied units to total units remained virtually unchanged in the Village of Hancock, rising from just under 55% in 1990 to just over 55% in 2000. The Village of Hancock was the only jurisdiction to see an increase in the number and share of rental units between 1990 and 2000. The ratio of rental units to total units increased in the Village from 16% in 1990 to 20% in 2000 as the Village gained 15 new rental units. As with the other jurisdictions, the

ratio of vacant units to total units declined during this time period, as the increase in owneroccupied units was greater than the increase in vacant units.

In the Town of Oasis, owner-occupied units as a share of total units increased from 45% in 1990 to 52% in 2000. This increase in owner-occupancy not only reflected a decrease in the share of rental and vacant housing units, but also a decrease in the number of rental and vacant units. The ratio of owner-occupied units increased at the county level from 50% in 1990 to 57% in 2000 and at the state level from 59% in 1990 to 61% in 2000. Both jurisdictions saw a decrease in the share of rental housing units and vacant units to total units.

#### **Vacancy Status**

Vacant housing units are units that are livable, but not currently occupied. The vacancy status of units available for purchase or rent is considered to be a strong indicator of housing availability. Generally, when vacancy rates are below 1.5 percent for owner-occupied units and 5 percent for renter-occupied units, housing is considered to be in short supply. Communities with vacancy rates at or above 1.5% for owner-occupied and 5% for renter-occupied units are generally considered to have an adequate supply of available housing. However, when small communities are doing needs assessments or considering development proposals, they should also consider other information such as the actual number of vacant units, condition of the units, market demand, etc.

For example, in 2000, the Town of Hancock had a rental vacancy rate of 7.41%, which is higher than the standard used to indicate adequate supply. In reality, however, the Town of Hancock only had two vacant rental units. If the demand for rental units within the Town of Hancock is less than two units a year, the units are in good condition, affordable based on the current wage rates and have the adequate square footage and layouts to meet the needs of potential renters, then the Town has an adequate number of rental units. If, however, the units are not affordable, need updating or repair and/or the Town has a higher demand for rental units, etc. then the Town should consider increasing the supply of rental units, regardless of the vacancy rate.

This is a factor that all Group C communities should keep in mind. Based on 1990 and 2000 Census data, all five communities had an owner-occupied vacancy rate above standard for both years. However, the largest number of houses any community had for sale during either year was 7. The largest number of units for rent during either year was 6.

In 1990, vacancy rates for owner-occupied and rental units were well above the standard in the Village of Hancock and Waushara County, indicating that the available supply of housing was likely more than adequate within the Village and County (Appendix B, Table B-11). The Village of Hancock had a 3.15% vacancy rate for owner-occupied units and 16.22% vacancy rate for rental units. The high rental vacancy rate is, in part, due to the small number of rental units in the Village. In 1990, the Village of Hancock only had 6 units available for rent.

Waushara County's vacancy rates were 2.50% for owner-occupied units and 8.53% for rental units. Vacancy rates for owner-occupied units in the Town of Deerfield were also very high, 3.16%. The Town of Deerfield had a rental vacancy rate of 5.00%, indicating that an adequate

number of rental units were available in 1990. The Towns of Hancock and Oasis had adequate vacancy rates for owner-occupied units, 1.99% and 1.71%, respectively that year. However, the rental vacancy rates were below standard in both towns, indicating a very tight rental market. In 1990, the Town of Hancock's rental vacancy rate was 3.70%. The Town of Oasis had no vacant rentals. The housing market was tight for both owner-occupied and rental housing in the Town of Plainfield, indicating a need for additional housing. In 1990, the Town of Plainfield's vacancy rates were 0.68% for owner-occupied housing stock and 2.33% for rental housing stock. The state's homeowner (1.20%) and rental (4.70%) vacancy rates were just below standard.

Between 1990 and 2000, owner-occupied vacancy rates dropped for all jurisdictions, except for the Town of Plainfield and the state. Rental vacancy rates declined in the Village of Hancock, Town of Deerfield and Waushara County, and rose in the Towns of Hancock and Plainfield and the State. The Town of Oasis continued to have no units available for rent (Appendix B, Table B-12).

In 2000, owner-occupied and rental vacancy rates in the Village and Town of Hancock, Town of Plainfield and Waushara County indicated that these jurisdictions likely had an adequate number of units for rent and sale. In 2000, vacancy rates in the Village of Hancock were 2.84% for owner-occupied units and 5.77% for rental units. In the Town of Hancock, 1.63% of houses were for sale and 7.41% of rental properties were available to rent. At the county level, 1.89% of owner-occupied units were vacant and for sale and 6.76% of rental units were available for rent. The Town of Deerfield had a more than adequate owner-occupied vacancy rate (2.86%) in 2000, indicating that the town has an adequate number of owner-occupied units. However, no units were available for rent, indicating a serious shortage in rental properties within the Town of Deerfield. The owner-occupied vacancy rate in the Town of Oasis was 1.49%, indicating an adequate supply of houses for sale. However, the Town of Oasis continued to have no available rental units.

Almost 3% (2.96%) of houses in the Town of Plainfield were for sale in 2000, indicating an oversupply of owner-occupied housing stock. The rental vacancy rate was also high, 6.90%, indicating an adequate supply of rental housing stock. In real numbers, however, 2 rental units were listed for rent and 5 houses were listed for sale in the 2000 Census. While those units may have been more than sufficient to meet demand, the Town should carefully consider market factors also. With vacancy rates of 1.20% and 5.60%, respectively, the state had an adequate supply of both owner-occupied and rental units.

The overwhelming majority of vacant units in all jurisdictions were seasonal units or vacant units held for occasional or other use. Seasonal units were especially significant in the Towns of Deerfield, Hancock and Oasis. In 1990, vacant units comprised 51% of the total housing stock in the Town of Deerfield, 48% in the Town of Hancock and 47% in the Town of Oasis. Ninety-seven to 98% of vacant units in these three towns were held for seasonal or occasional use. Vacant units comprised 29% of the total housing stock in the Village of Hancock in 1990 and 16% of the housing stock in the Town of Plainfield. Eight-five percent of the village's vacant units and 95% of the Town of Plainfield's vacant units were held for seasonal and occasional use. Vacant units comprised 38% of Waushara County's housing stock and 11% of the state's housing stock. Seasonal and units for occasional use comprised 94% of the county's vacant units and 81% of the state's vacant units.

Between 1990 and 2000, the number of vacant units increased in the Towns of Deerfield and Hancock and in the State of Wisconsin. The share of vacant units to total units, however, declined in all 7 jurisdictions. The Towns of Deerfield, Hancock and Oasis continued to have the largest share of vacant units. In 2000, vacant units comprised 46% of the total housing stock in the Town of Deerfield, 45% in the Town Hancock and 41% in the Town of Oasis. Vacant housing units comprised 24% of the Village of Hancock's housing stock and 14% of the Town of Plainfield's housing stock. Seasonal and units held for occasional use continued to comprise 97 to 98% of the vacant housing stock in the Towns of Deerfield, Hancock and Oasis. Eighty-nine percent of the village's vacant housing stock and 78% of the Town of Plainfield's housing stock was seasonal or held for occasional use in 2000. Vacant units comprised 32% of Waushara County's housing stock and 10% of the state's housing stock in 2000. Seasonal units and units for occasional use comprised 94% of the county's vacant units and 76% of the state's vacant units. The decrease in the share of vacant units to total units indicate that some seasonal units were converted from seasonal to year-round occupied units during this time period. That was especially true in the Village of Hancock, Town of Oasis and Waushara County, where the increase in the total number of households was greater than the increase in the total number of housing units.

While the vacancy status of units available for rent or sale is considered a strong measure of housing availability, it provides no indication of housing choice, conditions or affordability. A community may have an adequate percentage of units available for rent or sale, but housing styles may be limited, the price of those units may be beyond the reach of the average citizen or the available housing stock may not meet the needs of the prospective household. Communities, which have a very small number of units, also need to consider the market demand for owner-occupied or rental units within their community.

#### Housing Stock Value

In 1990, median housing values of owner-occupied housing units in Group C Communities ranged from \$26,300 in the Village of Hancock to \$50,400 in the Town of Deerfield. The median housing value for owner-occupied units in Waushara County was \$45,300. The state had the highest median value for owner-occupied housing, \$62,100.

Between 1990 and 2000, median housing values rose substantially for all seven jurisdictions (Figure 1-4). Median housing values more than doubled in the Town of Deerfield and the Village of Hancock. The Town of Plainfield experienced the smallest increase in median housing values, 46%. By 2000, the median value of owner-occupied units in Group C communities ranged from \$56,900 in the Village of Hancock to \$109,600 in the Town of Deerfield. Median housing values for the remainder of Group C communities were as follows: Town of Hancock, \$96,100; Town of Oasis, \$79,200; and Town of Plainfield, \$67,900. The median housing value for owner-occupied units in Waushara County was \$85,100. The state had the highest median value for owner-occupied units, \$112,200.

The Village of Hancock not only had the lowest median housing value, but the village also had the tightest range of housing values and the largest percentage of owner-occupied housing stock valued below \$50,000 of all seven jurisdictions. Thirty-nine percent of the Village of Hancock's owner-occupied housing stock was valued at less than \$50,000. The remainder of owner-

occupied housing stock in the village was valued between \$50,000 and \$150,000. The state and Waushara County had the widest range of housing values, with owner-occupied housing values ranging from less than \$50,000 to over one million dollars in value (Appendix B, Table B-13).

The Towns of Deerfield and Oasis had the largest range of housing values of the Group C communities. In these two towns, housing values ranged from less than \$50,000 to \$500,000. The Town of Deerfield also had the smallest percentage of owner-occupied housing stock valued at less than \$50,000 of all seven jurisdictions. In the Town of Deerfield, only 6% of owner-occupied units were valued at less than \$50,000. The most common range of housing values in the Town of Deerfield was \$100,000 and \$149,999. Forty percent of homes in Deerfield fell in this category. The least common value range for housing in Deerfield was for those units valued between \$300,000 and \$499,999. Only 2% of Deerfield's housing stock fell within this category. The Town of Oasis had a larger share of houses below \$100,000 and above \$300,000 than the Town of Deerfield. In 2000, almost 8% of homes in the Town of Oasis's were valued at less than \$50,000, and almost 4% of homes in Oasis were valued between \$300,000 and \$499,999. The most common range of housing values in the Town of Oasis was between \$300,000 and \$499,999. The site of homes in Oasis were valued between \$300,000 and \$499,999. The State of housing values in the Town of Oasis was between \$300,000 and \$499,999. The most common range of housing values in the Town of Oasis was between \$300,000 and \$499,999. Sixty-six percent of homes in the Town of Oasis fell within those value ranges.



Figure 1-4. Median Housing Values for Specified Owner-Occupied Units

In the Towns of Hancock and Plainfield, owner-occupied housing values ranged from less than \$50,000 to \$299,999. Barely 8% of the Town of Hancock's housing stock was valued at less than \$50,000 in 2000. Almost 48% of the Town of Hancock's housing stock was valued between \$50,000 and \$99,999. Only 3% of the Town Hancock's owner-occupied housing stock was valued between \$200,000 and \$299,999. Next to the Village of Hancock, the Town of Plainfield had the second highest share of owner-occupied units valued at less than \$50,000, 24%. Forty-five percent of the Town of Plainfield's housing stock was valued at between \$50,000 and

\$99,999, 16% at \$100,000 to \$149,999, and 14% at \$150,000 to \$199,999. Only two percent of the Town of Plainfield's owner-occupied housing stock was valued between \$200,000 to \$299,999.

#### **Housing Costs**

The relationship between housing costs and household income is an indicator of housing affordability, which is gauged by the proportion of household income expended for rent or home ownership costs. Rental costs include contract rent, plus the estimated average monthly cost of utilities, fuel and insurance. Owner costs include payments for mortgages, real estate taxes, fire hazard and flood insurance on the property, utilities and fuels. In 1989, the standard for determining whether rent or home ownership costs comprised a disproportionate share of income was set at 30 percent of gross household income. Households spending more than 30 percent of their income for housing may be at risk of losing their housing should they be confronted with unexpected bills, unemployment of one or more workers per household or assume a high debt load.

Based on the thirty percent ratio, housing costs within Group C communities were affordable for most residents in 2000 (Figure 1-5). However, Group C residents were more likely to pay a disproportionate share of their income for housing, compared to the county or the state. The Village of Hancock was the only Group C community where homeowners were more likely to find affordable housing. In 2000, 16% of homeowners in the village paid a disproportionate share of their income for housing, compared to 18% of state residents and 20% of county residents (Appendix B, Table B-14).

The Town of Oasis had the greatest problem with owner-occupied housing affordability. Almost 27% of homeowners in the Town of Oasis paid more than 30% of their income for housing. Twenty-six percent of homeowners in the Town of Plainfield paid a disproportionate share of their income for housing, compared to 24% of homeowners in the Town of Hancock and 21% of homeowners in the Town of Deerfield.

At the state and county level, renters were far more likely to pay a disproportionate share of their income for housing than homeowners (Appendix B, Table B-15). In 2000, 23% of renters in Waushara County paid a disproportionate share of their income for housing, compared to 20% of homeowners. At the state level, 32% of renters paid a disproportionate share of their income for housing compared to 18% of homeowners (Figure 1-6).





Census results in Group C communities were mixed. In three of the communities, the Towns of Deerfield, Hancock and Oasis, renters were more likely to find affordable housing than homeowners. None of the renters in Deerfield reported paying a disproportionate share of their income for housing and only 5% of renters in the Town of Hancock reported paying a disproportionate share of their income for housing. Rent was not affordable for 21% of renters in the Town of Oasis.



Figure 1-6. Rental Affordability

Renters were more likely than homeowners to pay a disproportionate share of their income for housing in the Village of Hancock and the Town of Plainfield. Twenty-two percent of renters in the village paid a disproportionate share of their income for housing, compared to 16% of homeowners. Renters in the Town of Plainfield had the greatest difficulty finding affordable rental housing of all the Group C communities. Twenty-six percent of renters in the Town of Plainfield reported paying a disproportionate share of their income for housing.

#### **Housing Conditions**

Census data generally used for determining housing conditions includes units lacking complete plumbing facilities and overcrowding. Complete plumbing facilities include hot and cold piped water, flush toilet and a bathtub or shower. Housing units are classified as lacking complete plumbing facilities when any of the three facilities are not present. Overcrowding is defined as more than one person per room in a dwelling unit.

In 2000, the Town of Oasis was the only one of the seven jurisdictions to list no overcrowded units. According to the 2000 Census, 2% of units in Waushara County and the State of Wisconsin were overcrowded. Overcrowding in the remainder of Group C communities ranged from 6% in the Village of Hancock to 1% in the Town of Hancock. The Town of Plainfield was the only Group C community to report units that were overcrowded and lacked complete plumbing facilities. One and a half percent of housing units in the Town of Plainfield were overcrowded and lacked complete plumbing facilities. Less than one percent of units in Waushara County and the State were overcrowded and lacked complete plumbing facilities (Appendix B, Table B-16). Since the Village of Hancock and Town of Plainfield had an adequate supply of rental units in 2000 and a relatively high percentage of renters paying a disproportionate share of their income for housing, it is likely that the overcrowding resulted from a mismatch between household incomes and the price of rental units.

#### **Household Size**

Household size is one determinant of future demand for housing. Declining household size generally indicates a need for more housing units, even if no general growth in population occurs. Declining household size can result from a number of factors, adult children leaving their parent's home, divorce, a death in the family, fewer births per household or a split in nonfamily households. Increasing household sizes may result from more births per household or two or more households merging through marriage or a need or desire for companionship, to increase housing affordability, accessibility or provide care for elderly parents or children.

Between 1990 and 2000, average household size declined in the Group C towns, Waushara County and the State of Wisconsin. Average household size increased in the Village of Hancock. In 1990, average household sizes varied from 2.86 persons per household in the Town of Oasis to 2.33 persons per household in the Village of Hancock (Appendix B, Table B-17). Between 1990 and 2000, the Town of Oasis experienced the largest decrease in household size. Household size decreased in the Town of Oasis from 2.86 in 1990 to 2.66 in 2000. In spite of that decline, in 2000 the Town of Oasis continued to have the largest average household size of

all seven jurisdictions. The Town of Deerfield has the smallest average household size in 2000, 2.39 persons per household.

In 1990, two person households comprised the largest share of households in all jurisdictions, except the Village of Hancock, where one person households outnumbered two person households. The smallest household size category for both years was the 6 or more persons per household category. Six or more person households comprised 6% of all households in the Town of Plainfield, and less than 5% of all households in the remaining jurisdictions in 1990. Between 1990 and 2000, the number of 6 or more persons per household increased in the Village and Town of Hancock, the Town of Oasis, Waushara County and Wisconsin, and declined in the Towns of Deerfield and Plainfield. In 2000, six or more person households comprised almost 8% of all households in the Town of Hancock, 5% of households in the Town of Plainfield, and less than 5% of all households in the Town of Plainfield. Set the Town of Plainfield in the Town of Plainfield. In 2000, six or more person households comprised almost 8% of all households in the Town of Hancock, 5% of households in the Town of Plainfield, and less than 5% of all households in the Town of Plainfield.

All jurisdictions experienced an increase in the number of two person households between 1990 and 2000. As a result, two person households comprised the largest share of households in all jurisdictions in 2000 (Appendix B, Table B-18). In Group C communities, two person households comprised over 37% of all households. The share of two person households ranged from almost 38% of all households in the Village of Hancock to 52% of all households in the Town of Deerfield. Two person households comprised 42% of Waushara County households and 35% of Wisconsin households.

The Town of Plainfield was the only jurisdiction to experience a decline in the number of one person households between 1990 and 2000. The number of one person households increased in the remaining jurisdictions. In 2000, one person households were the second largest household size category. One person households as a share of all households ranged from 19% in the Town of Plainfield to 30% in the Village of Hancock. Many of these households were comprised of individuals age 65 and older. Sixty-two percent of one person households in the Village of Hancock were occupied by individuals age 65 or older, compared to 56% in the Town of Oasis, 50% in the Town of Deerfield and 37% in the Town of Hancock. The Town of Plainfield had the lowest share of one person households age 65 and older, 34% (Appendix B, Table B-19). The relatively large share of one person households age 65 and older may indicate a need for additional elderly services. It is also possible that many of these housing units may come on the market during the planning period, as individuals relocate for better access to services or more appropriate housing, pass on or double up for increased social interaction and housing affordability.

#### **Household Projections**

Between 2000 to 2020, the Town of Deerfield is the only Group C community whose population is expected to grow throughout the projection period. In the remaining four communities, population is expected to peak in 2005, then decline through 2020. In all five Group C communities, the household growth rate is expected to be more positive than the population growth rate during this time period.

Between 2000 and 2020, the number of households is expected to increase in the Town of Deerfield and the Town and Village of Hancock. The number of households in the Towns of

Oasis and Plainfield is expected to peak in 2005, then decline through 2020. However, the decrease in households in these two communities is expected to be considerably less than the decrease in population. The more positive growth patterns in household formation rates is due to the expected decrease in the number of persons per household. As the population in Group C communities age, it is anticipated that the number of persons per household will continue to decline, thereby generating a demand for housing that exceeds the anticipated population growth rate.

Between 2000 and 2020, the number of households in the Towns of Deerfield and Hancock is expected to increase by 29% and 12%, respectively. The number of households in the Village of Hancock is expected to peak in 2010, then decline through 2020 for an overall increase in households of 5.5%. The number of households in the Towns of Oasis and Plainfield are expected to decrease by 7% and 12%, respectively between 2000 and 2020 (Appendix B, Table B-20).

At the county level, Waushara's population is expected to grow by 10%, while the number of households is expected to increase by 17%. Household projections for the state of Wisconsin anticipate that the number of households in the state would increase by 20% between 2000 and 2020.

#### ECONOMIC CHARACTERISTICS

A review of socioeconomic conditions provides community decision makers with insights into the current economic health of the area. Factors such as educational attainment and employment by sector provide an indication of the educational level and skills of the labor force. Employment rates and income provide measures of economic well being or stress. Examining these characteristics identifies the economic strengths and weaknesses within a community; and helps provide direction for future economic growth and development.

#### **Educational Attainment**

In 2000, residents of Waushara County, Wisconsin and all Group C communities had higher levels of formal education in 2000 than they were in 1990. In 1990, high school graduation rates in Group C communities ranged from 55% in the Village of Hancock to 75% in the Town of Oasis (Appendix B, Table B-21). At least 16% of persons age 25 and older had some form of post secondary education. The state had the largest share of population with some education beyond high school, 42%. The Village of Hancock had the least, 16%.

Between 1990 and 2000, high school graduation rates increased in all jurisdictions, except the Town of Oasis. In the Town of Oasis, high school graduation rates among individuals age 25 and older decreased by less than one percent. In 2000, high school graduation rates in Group C communities ranged from 70% in the Village of Hancock to 85% in the Town of Hancock (Appendix B, Table B-22). All jurisdictions experienced an increase in the share of individuals age 25 and older with post secondary education. The state continued to have the largest share of population with some education beyond high school, 51%, while the Village of Hancock continued to have the smallest share, 28%. The percent of individuals age 25 and older with post secondary education in the remaining Group C communities ranged from 31% in the Town

of Hancock to 41% in the Town of Deerfield. In 2000, 36 percent of Waushara County residents age 25 and older had post secondary education.

#### Labor force

As a result of more women entering the labor force and changes in the population structure, the labor force has grown faster than the general population. Data from the U.S. Bureau of Census indicate that the labor force for the state, Waushara County and all Group C communities, except the Town of Deerfield, grew faster than the population between 1990 and 2000. The Town of Deerfield, which experienced the largest increase in population age 65 and older, saw its population grow by 39% between 1990 and 2000, while its labor force grew by 36%. The Village of Hancock experienced the largest growth in labor force during this time period, 64%, while the Town of Oasis experienced the smallest growth in its labor force, 12%.

In 1990, employment rates for individuals age 16 and older by community ranged from 85% in the Village of Hancock to 97% in the Town of Deerfield (Appendix B, Table B-23). Ninety-three percent of Waushara County's labor force was employed, compared to 95% for the state. Women were more likely to be employed than men in the Village of Hancock, the Town of Deerfield, Waushara County and the state. In the remaining communities, men had a higher employment rate than women. The Town of Deerfield had the highest employment rate for women, 98%, while the Town of Hancock had the lowest, 81%. Employment rates for men ranged from a high of 97% in the Town of Oasis to a low of 84% in the Village of Hancock.

By 2000, employment rates had risen in all jurisdictions, except the Town of Deerfield. Between 1990 and 2000, the employment rate in the Town of Deerfield declined from just under 97% in 1990 to just over 95% in 2000. Employment rates by community ranged from 92% in the Town of Plainfield to 97% in the Town of Oasis (Appendix B, Table B-24). Women were more likely to be employed by men in the Towns of Deerfield, Hancock and Oasis and Waushara County and the state of Wisconsin. In the remaining communities, men had a higher employment rate than women. The Town of Oasis had the highest employment rate for women, 98%, while the Town of Plainfield had the lowest, 92%. Employment rates for men ranged from 93% in the Town of Hancock to 96% in the Town of Oasis.

#### Income

In 1989, median household income and median family income were higher at the state level than for Waushara County and any of the Group C communities (Appendix B, Table B-25). In 1989, Wisconsin's median household income was \$29,442, compared to \$21,888 for Waushara County. Median household incomes for Group C communities ranged from \$12,917 in the Village of Hancock to \$25,375 in the Town of Oasis. Median family income in Group C communities ranged from \$21,591 in the Village of Hancock to \$28,750 in the Town of Plainfield, compared to \$26,042 for Waushara County and \$35,082 for Wisconsin.

In contrast, the Town of Oasis had the highest per capita income of all seven jurisdictions, \$13,537. Per capita income for the remaining Group C communities ranged from \$7,351 in the Village of Hancock to \$11,194 in the Town of Deerfield. The state's per capita income was \$13,276, compared to the county's \$10,408.

Between 1989 and 1999, all seven jurisdictions experienced an increase in all three types of income. The amount of increase varied by jurisdiction and income type. The Town of Hancock had the largest increase in median family income. The Village of Hancock experienced the largest increase in median household and per capita income. The Village also had the third highest increase in median family income. In spite of that fact, the Village continued to have the lowest median household, median family and per capita incomes. The state had the lowest increase in median household income of all jurisdictions. The Town of Plainfield experienced the slowest growth in median family income and the Town of Oasis experienced the lowest growth in per capita income.

In 1999, the state continued to have the highest median family and per capita incomes. However, the Town of Hancock had the highest median household income, \$43,889. Median household income in the remaining jurisdictions ranged from \$35,341 in the Village of Hancock to \$43,791 for the state of Wisconsin. Median family income ranged from \$36,250 in the Village of Hancock to \$52,911 at the state level, and per capita income ranged from \$14,889 in the Village of Hancock to \$21,271 in Wisconsin.

#### **Poverty Status**

The poverty level is determined by the U.S. Census Bureau, and based on current cost of living estimates, as adjusted for household size. In 2000, the poverty threshold for a family of four with two children was a household income of \$17,463. In 1999, the Town of Plainfield had the highest percentage of residents living below poverty, 12%. The share of residents in poverty in the remaining Group C communities ranged from 10% in the Village of Hancock to 4% in the Town of Hancock (Appendix B, Table B-26). Nine percent of county residents lived below the poverty level in 1999, as did 8% of state residents. Poverty rates for families ranged from 4% in the Town of Oasis to 11% in the Town of Plainfield. Five percent of families in Waushara County lived below the poverty level, as did six percent of state residents.

In all jurisdictions but the Towns of Hancock and Oasis, children were more likely to live in poverty than other residents. No children were reported living in poverty in the Towns of Hancock and Oasis in 1999. In the remaining six jurisdictions, the share of persons less than 18 years old and living in poverty in 1999 ranged from 13% in the Town of Deerfield to 49% in the Town of Plainfield (Appendix B, Table B-27).

Poverty rates for persons age 65 and older were higher than the general population in the Village and Town of Hancock, the Town of Oasis and Waushara County and lower than the general population in the Towns of Deerfield and Plainfield and the state of Wisconsin. Poverty rates for persons age 65 and older ranged from 4% in the Town of Plainfield to 14% in the Village of Hancock.

#### **Employment by Industrial Sector**

Employment by industrial sector has an impact on earned income. Typically, individuals who work in manufacturing, mining and high order service industries, such as finance, insurance and real estate (FIRE), health care and other professional services earn more than individuals who

work in low order service sector industries such as retail, clerical and personal services. The United States, as a whole, has been experiencing a shift in employment away from manufacturing and towards service sector employment. Employment in agriculture, forestry, fishing and mining is also declining. As the shift from agriculture, forestry, fishing, mining and manufacturing employment to service sector employment occurs, communities which have a larger percentage of their workforce employed in high order service sectors have higher wage levels than communities which have a larger percentage of their workforce employed in low order service sectors.

In 1990, the majority of the labor force in all seven jurisdictions worked in the service sector. In Group C communities, service sector employment ranged from 36% of the labor force in the Town of Oasis to 54% of the labor force in the Village of Hancock (Appendix B, Table B-28). Service sector employment accounted for 52% of the county's employment and 60% of the state's employment. The second largest employment sector varied by jurisdiction. Agriculture, forestry, fishing (AFF) and mining was the second largest employment sector for Group C towns. The second largest employment sector for village residents was transportation, communications and public utilities (TCPU). At the county and state level, manufacturing was the second largest employment sector.

Between 1990 and 2000, all jurisdictions experienced an increase in manufacturing and overall service sector employment. Within the service sector, some variation occurred in the change in service sector employment (Figure 1-7). Although the gain in service sector employment was substantial, the Towns of Deerfield and Plainfield, Waushara County and the state experienced losses in wholesale and retail trade, and the Town of Hancock lost employment in FIRE.

Employment change in other sectors also varied by jurisdiction. All jurisdictions, but the Village of Hancock, experienced a decrease in employment in the agriculture, forestry, fishing and mining sector. Employment in this sector more than doubled in the village. The Town of Oasis experienced the largest decrease in AFF and mining employment, 43%, followed by the state, which lost 33% of employment in this sector. Employment losses in AFF and mining in the remaining jurisdictions ranged from 13% in the Town of Hancock to 27% in the Town of Deerfield. All jurisdictions, except the Town of Plainfield, experienced an increase in employment in the construction sector. Construction employment remained stable in the Town of Plainfield. All jurisdictions, except the Town of Oasis, experienced an increase in employment in the transportation, communications and public utilities (TCPU) sector. The Town of Oasis experienced a 14% decline in this sector.

By 2000, service sector employment ranged from 46% of the labor force in the Town of Plainfield to 62% of total employment at the state level. The second largest employment sector again varied by jurisdiction. TCPU was the second largest employment sector in the Village of Hancock, comprising 18% of all employment. AFF and mining remained the second largest sector in the Town of Deerfield, comprising 17% of the Town of Deerfield's employment in the labor force. Manufacturing comprised the second largest employment sector for the remaining jurisdictions. Within these jurisdictions, manufacturing employment ranged from 18% of the labor force in the Town of Oasis to 22% of labor force employment in the Town of Plainfield, Waushara County and Wisconsin.



Figure 1-7. Employment by Sector

#### Location of Workplace

Location of workplace data provides information on the direction and distance residents have to travel to find employment. According to U.S. Bureau of Census data, the majority of Group C residents worked in Waushara County in 1990. Eighty-four percent of the Village of Hancock residents worked in Waushara County, compared to 78% of the Town of Deerfield residents, and 53% of Town of Plainfield residents. Sixty-two percent of Town of Hancock and Oasis residents worked in Waushara County (Appendix B, Table B-30). Countywide, 59% of residents Portage County was the second most popular destination worked in Waushara County. worksite for Group C residents. Twenty-seven percent of the Town of Plainfield and 25% of the Town of Oasis residents worked in Portage County. The share of workers commuting to Portage County drops off for the remaining communities. Fourteen percent of the Town of Hancock workers commuted to Portage County, compared to 10% of Town of Deerfield and 7% of Village of Hancock workers. In contrast, the second most popular destination worksite for county residents was the Appleton-Neenah-Oshkosh MSA. Ten percent of Waushara County workers commuted to the Appleton-Neenah-Oshkosh MSA, while only 4% of County residents commuted to Portage County to work.

Limited 2000 Location of Workplace data is available from the Census Bureau for counties or MCDs. County workplace flow data indicates that the percentage of workers living and working in Waushara County declined from 59% in 1990 to 53% in 2000, which would seem to indicate that residents are traveling farther from home to find employment. That information is supported by the travel time to work data, which indicates that on average, travel time is increasing. The second most popular destination worksite for Waushara County residents in 2000 was Winnebago County. Eleven percent of Waushara County workers reported that they worked in Winnebago County. Nine percent worked in Green Lake County and 6% worked in Waupaca County. As noted in Appendix B, Table B-31, the remainder of the Waushara County's workforce commuted to a wide variety of locations within the state, and just under 1% of Waushara County residents worked out of state or offshore in 2000.

Preliminary place of work data provides information on the share of the labor force that works within the county and minor civil division of residence. Information regarding the work location of minor civil division residents who work outside of their community and county is not yet available. Based on available data, it appears that a higher percentage of workers in Group C communities are commuting outside of Waushara County for employment (Figure 1-8). Between 1990 and 2000, the Village of Hancock experienced the largest increase in residents working outside of Waushara County, as the share of workers working within Waushara County decreased from 84% in 1990 to 57% in 2000. The Town of Plainfield experienced the smallest decrease in the share of workers working within Waushara County decreased from 53% in 1990 to 51% in 2000. The Town of Oasis was unique in that the share of workers living in Oasis and working in Waushara County increased from 62% in 1990 to 63% in 2000.


Figure 1-8. Percent of Workforce Which Worked Outside of Waushara County, 1990 and 2000

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

# **Travel Time to Work**

On average, residents of all seven jurisdictions spent less than 30 minutes traveling to and from work in 1990 and 2000. In 1990, average commute time for Group C residents ranged from 17.5 minutes for Village of Hancock residents to 22.5 minutes for Town of Hancock residents. County residents traveled an average of 21.8 minutes to work, while state residents traveled an average of 18.3 minutes to work (Appendix B, Table B-33).

Between 1990 and 2000, average commute times rose for all jurisdictions, with the Village of Hancock experiencing the largest increase in average commute time. Between 1990 and 2000, the average commute time for Village residents increased by 9.5 minutes, rising from 17.5 minutes to 27.0 minutes in 2000. The Town of Plainfield and the state experienced the smallest increase in commute times, 2.5 minutes. In 2000, average commute times for Group C residents ranged from 23.6 minutes for Town of Plainfield residents to 28.5 minutes for Town of Hancock residents. County residents traveled an average of 27.1 minutes to work, while state residents traveled an average of 20.8 minutes to work.

The increase in average commute times resulted from a decrease in the share of commuter trips under 10 minutes in length and an increase in the share of commuter trips lasting 30 minutes or longer. Village residents experienced the greatest change in commute times. The share of Village of Hancock commuters traveling less than 10 minutes to work decreased from 35% of workers in 1990 to 17% of workers in 2000, while the share of Village residents commuting 30 minutes or more to work increased from 20% in 1990 to 34% in 2000. The Town of Oasis experienced the smallest change in commute times. The share of Town of Oasis

commuters traveling less than 10 minutes to work decreased from 23% in 1990 to 22% in 2000, while the share of Town of Oasis residents commuting 30 minutes or more to work decreased from 28% in 1990 to 27% in 2000. The Town of Oasis was the only community to experience a decrease in the share of workers traveling more than 30 minutes to work. As noted in the previous section, the Town of Oasis was the only Group C community to see the share of workers working in Waushara County increase between 1990 and 2000.

# **ENVIRONMENTAL RESOURCES**

The natural resources in an area determine the potential physical uses of the land. Certain environmental characteristics indicate the suitability of the land to support various types of development. Topography, drainage patterns, floodplains, soil characteristics, and groundwater properties are among the features that determine if an area is physically suitable for a specific type of development.

The towns of Hancock, Deerfield, Plainfield and Oasis and the Village of Hancock have significant areas of natural resources that help to define their communities. A variety of glacial features dating from the middle and late stages of the last Ice Age can be found within this area. The flat plain along the western portion of the area, the two moraines that bisect the region longitudinally, the outwash plain between the moraines, and the kettles and hills to the east of the second moraine help define this area. Many lakes are found within the pitted outwash plains and among the hills and kettles of the region, providing recreational activities and lakeshore home sites for people in the area. In addition, other environmental areas occur throughout the area, particularly near Carter and Roche a Cri Creeks and the Greenwood Wildlife Area. These areas include wetlands, floodplains, and perennial and intermittent streams. Fishing, hunting, swimming and other recreation activities are important past-times for many people within the immediate area.

# Topography and Drainage

Land relief within the area encompassed by the five communities is approximately 310 feet. It ranges in elevation from less than 950 feet above sea level near the Mill Pond in the southeastern part of the Town of Deerfield to an elevation of approximately 1260 feet in section 10, also in the Town of Deerfield. The area's topography was strongly influenced by the latter stages of the Wisconsin Glaciation, which defined the end of the last Ice Age about 10,000 to 15,000 years ago. The flat alluvial outwash plain west of Plainfield and Hancock was once the lakebed of Glacial Lake Wisconsin and was created by deposition of sediments carried outward from the melting glacier. East of this alluvial plain, commonly referred to as the Central Sands, are two moraines. These ridges, which are comprised of unsorted material deposited by the melting ice, stand in stark contrast to the flat Central Sands to the west. The Outer (or westernmost) moraine runs in a north-south direction just east of the Village of Plainfield and through the Village of Hancock. The Second moraine, which represents a later advance of the glacial ice sheet, angles southwesterly from the Heffron area to a point north of Coloma, where it overlaps the Outer moraine. The merged moraines then continue southerly into Marguette County. Between the Outer and Second moraine is a pitted outwash plain composed of sand and gravel. This feature occupies much of the Town of Oasis. The pits located in this area are broad, shallow depressions, less than 10 feet deep near the Village of Hancock and reaching depths of 100 feet or more near the Village of Plainfield. To the east of the moraines is a belt of hills and kettles. Runoff in these areas is mainly from precipitation and snowmelt and drains into the pits and kettles rather than draining into the Fox or Wisconsin Rivers.

The topographic divide follows the crest of the Second moraine from the northwest corner of the Town of Rose, south within the Town of Rose, then diagonally from the northeast corner of the Town of Deerfield to the southwest corner of the Town of Coloma. The topographic divide separates the surface water drainage between the Upper Wisconsin River Basin to the west and the Upper Fox River Basin to the east and gives rise to a number of headwater streams.

The 2,090 square mile Upper Fox River Basin (watershed) flows into the Lake Michigan drainage system while the Upper Wisconsin River Southern Sub-Basin flows into the Mississippi River. Several component watersheds of the Upper Fox River Basin and Upper Wisconsin River Southern Sub-Basin are found in the area.

The streams in the Upper Fox River Basin flow in a southeasterly direction toward the Fox River. Within the study area, they include the West Branch of the White River and Schmudlach Creek, which flows into the Mecan River. The Mecan and White Rivers are major tributaries of the Fox, flowing into the river in Marquette and Green Lake County, respectively. Watersheds located in the Upper Wisconsin River Southern Sub-Basin contain streams that flow predominately westerly and southwesterly toward the Wisconsin River. These streams include Big and Little Roche a Cri Creeks, Carter Creek, Fourteenmile Creek, Tenmile Creek, and Sevenmile Creek.

The *State of the Upper Fox River Basin Plan*, dated October 2001, indicates that the tributaries within the Mecan River watershed support high quality cold water fisheries and that land use is primarily agricultural. The White River watershed contains a number of high quality streams and "Exceptional Resource Waters". The *Upper Wisconsin River Southern Sub-Basin Water Quality Management Plan, Public Review Draft* dated July 1991, indicates that the Little Roche a Cri Creek Watershed received a low ranking for surface water and a high ranking for groundwater. The Big Roche a Cri Creek Watershed received a high ranking for surface water and medium ranking for groundwater. The Fourteenmile Creek Watershed received a medium ranking for surface water and a high ranking for groundwater. A watershed receives a groundwater ranking based on three criteria. These criteria are based on (1) groundwater susceptibility map, (2) potential for groundwater quality improvements through the use of Non-Point Source (NPS) controls and (3) data documenting the groundwater problems created by NPS pollutants such as nitrates or pesticides.

Major waterways within the area are Carter Creek in the Town of Hancock, Big Roche a Cri Creek in the Town of Plainfield, and Schmudlach Creek in the Town of Deerfield. Carter Creek is a hardwater spring-fed creek and is rated as a class I trout water. Big Roche a Cri Creek is a hardwater trout stream. Schmudlach Creek is a hardwater spring fed trout stream.

The majority of lakes within Waushara County are natural and of glacial origin. Sandy soils readily allow the percolation of precipitation and thawing snow and ice into the ground rather than overland flow directly to surface waters. This leads to the continual recharge of the shallow aquifer underlying the county and surrounding region. Below is a listing of the lakes by municipality found within the area.

**Town of Deerfield.** The following lakes are located in the Town of Deerfield: *Fish Lake*, a moderate sized landlocked seepage lake located southeast of Pine Lake; *Crooked Lake*, a small lake located east of Fish Lake; *Bohn Lake*, a small landlocked seepage lake located in section 16; *Lake Virginia*, a small seepage lake supplemented by springs located in section 32 and 33; *Hartford (Lyman's) Lake*, a small landlocked seepage lake located in section 15; *Marl Lake*, a essentially landlocked seepage lake having an intermittent inlet that enters in the northwest corner located in section 23, a lake district (Marl Lake Protection and Rehabilitation District) was formed in 1988 to address the problem of declining water quality in the lake; *Ueeck Lake* between Hartford and Marl Lakes is a small seepage lake; *unnamed lake* located in section 35, a small seepage lake; *Round Lake*, a small lake located between Pine Lake and Crooked Lake; and the *(White River) Mill Pond (Upper)*, a moderate size impoundment on the West Branch of the White River. This headwater pond has no inlet, seepage is aided by spring activity, and a 30-foot dam is located at the outlet.

**Town of Hancock.** The following lakes are located in the Town of Hancock: *Pine Lake*, see above; *Fish Lake* a moderate size seepage lake located southeast of Pine Lake; *Goose Lake*, a small shallow swampy lake located one mile northeast of the Village of Hancock; and *Bullhead and Reeder Lakes*, small lakes located about a mile northeast of the Village of Hancock.

**Village of Hancock.** *Pine Lake* is a large, fertile and shallow lake, partially located in the village on the eastside.

Town of Oasis. The following lakes are in the Town of Oasis: *Plainfield Lake*, a small seepage lake located about one mile east of the Village of Plainfield; Long Lake a moderate landlocked lake whose source of water is from seepage and springs, located east of the Village of Plainfield, Horsehead (Easting) Lake, a small landlocked seepage lake located in section 16; Yonkee Lake, a small seepage lake located in section 5; Lake Huron, landlocked lake whose source of water is from seepage and springs, located in section 22; Herrick Lake, a small lake located in sections 31 and 32; Weymouth Lake, a small seepage lake located three mile southeast of the Village of Plainfield; Mud Lake, a small landlocked seepage lake located northeast of Huron Lake; Shumway (Smith) Lake, a small seepage lake located four miles southeast of the Village of Plainfield; Second Lake, a small lake located between Plainfield Lake and Long lake; Sherman Lake, a small lake located south of Second Lake; Pumpkin Seed Lake, a small lake located between Long Lake and Horsehead Lake; Fiddle Lake, a small lake located between Horsehead and Weymouth Lake; Kawalski Lake, a small landlocked seepage lake located east of Walters Lake; Walters Lake, a small lake located east of Kawalski Lake and north of Piper Lake; Piper Lake, a small lake located south of Walters Lake; and Slafler Lake, a small lake located in section 34 about two miles south of Lake Huron.

**Town of Plainfield.** *Sand Lake* is a moderate size shallow lake located about two miles south of the Village of Plainfield.

According to the Waushara County Zoning Ordinance, all unincorporated areas within 1,000 feet of the ordinary high water mark of navigable lakes, ponds or flowages or within 300 feet of the ordinary high water mark of a navigable river or stream fall under the Shoreland Jurisdictional Area. Restrictions, meant to protect these areas, address such things as lot sizes, setbacks, buildings, permitted uses, vegetative shore cover, grading and filling.

## Floodplains

Areas susceptible to flooding are considered unsuitable for development due to potential health risks and property damage. Flood Insurance Rate Maps for the unincorporated portions of Waushara County identify areas lying within the Towns of Deerfield, Oasis, Hancock and Plainfield. The Village of Hancock is within an incorporated area of Waushara County and no flood insurance rate map has been developed for this area. All identified areas are within a Zone A, which means that no base flood elevations have been determined.

**Town of Deerfield.** The following areas have been identified: Schmudlach Creek, Lake Virginia, White River Millpond, Marl Lake, Ueeck Lake, Hartford Lake, Bohn Lake, Crooked Lake and Pine Lake

**Town of Hancock.** The following areas have been identified: a tributary of Carter Creek and part of Pine Lake.

**Town of Oasis.** The following areas have been identified: Sand Lake, Herrick Lake, Mud Lake, Shumway Lake, Fiddle Lake, Long Lake, Second Lake and Plainfield Lake.

**Town of Plainfield.** The following areas have been identified: Roche a Cri Creek and Sand Lake.

Table1-2. below shows the acres and percentages of floodplains for each of the municipalities. Excluding the Village of Hancock, the Town of Oasis has the least number of acres while the Town of Plainfield has 488 acres, or more than double that of Oasis. Floodplains represent a small percentage of land within the towns and the area as a whole.

	Acres	Percent
T. Deerfield	369	2%
T. Hancock	350	2%
V. Hancock*	0	0%
T. Oasis	222	1%
T. Plainfield	488	2%
Total	1,429	2%

 Table 1-2. Floodplains

Note: \*No FEMA data available for the Village of Hancock.

Waushara County has adopted a floodplain ordinance requiring certain land use controls in designated flood hazard areas, thus making residents eligible to participate in the Federal Flood Insurance Administrative Flood Insurance Program. This program requires all structures that are to be constructed or purchased in designated flood hazard areas utilizing loans from federally insured banks to be insured by a flood insurance policy. See Exhibit 1-1.

# Wetlands

Wetlands act as a natural filtering system for nutrients such as phosphorus and nitrates and serve as a natural buffer protecting shorelines and stream banks. Wetlands are also essential in providing wildlife habitat, flood control, and groundwater recharge. Consequently, local, state, and federal regulations place limitations on the development and use of wetlands and shorelands. The Shoreland/Wetland Ordinance adopted by Waushara County regulates shoreland use and development within 300 feet of navigable rivers or streams and within 1,000 feet of the ordinary high water mark of navigable lakes, ponds or flowages. The Army Corps of Engineers has authority over the placement of fill materials in virtually all wetlands five acres or larger. The U.S. Department of Agriculture incorporates wetland preservation criteria into its crop price support programs. Prior to placing fill or altering wetland resources, the appropriate agencies must be contacted to receive authorization. The wetlands shown in Exhibit 1-2 replicate the Wisconsin Department of Natural Resources (WDNR) Wisconsin Wetlands Inventory Map. These wetlands were identified on aerial photographs based on vegetation, visible hydrology, and geography based on the U.S. Fish and Wildlife Service "Classification of Wetland and Deepwater Habitats of the United States". The following wetlands are found in this area:

**Town of Deerfield.** Wetlands are mainly found along Schmudlach Creek, Lake Virginia, and the band of lakes stretching from Crooked Lake to the White River Mill Pond. These wetlands predominately fall into the following classes and subclasses (subclasses are shown in parenthesis): scrub/shrub (broad-leaved persistent), forested (broad-leaved deciduous), aquatic bed (floating), emergent/wet meadow (persistent), and open water.

**Town of Hancock.** Wetlands are mainly along Carter Creek, a tributary to Carter Creek, Roche a Cri Creek, and to the north of the Village of Hancock in the area near Goose, Bullhead and Reeder Lakes. These wetlands predominately fall into the following classes and subclasses (subclasses are shown in parenthesis): scrub/shrub (broad-leaved persistent), forested (broadleaved deciduous) and emergent/wet meadow (persistent) in the western part of the town near the streams to scrub/shrub (broad-leaved persistent), emergent/wet meadow (narrow-leaved persistent), aquatic bed (floating), and open water in the northeastern part of the town near the lakes.

**Village of Hancock.** There is one sizable wetland located between Fish and Pine Lakes within the village. The class and subclass of this wetland is emergent/wet meadow, persistent. Smaller wetlands of less than 5 acres in size are indicated to the north of Pine Lake.

**Town of Oasis.** Wetlands are mainly located near the many lakes within the town. These wetlands predominately fall into the following classes and subclasses (subclasses are shown in parenthesis): aquatic bed (floating), emergent/wet meadow (nonpersistent), and open water.

**Town of Plainfield.** Wetlands are mainly found to the west of I-39 near Roche a Cri Creek and its tributaries, the South Branch of Tenmile Creek, and the tributaries of Fourtenmile Creek. Wetlands are also located near Sand Lake in the southeastern corner of the town. These wetlands predominately fall into the following classes and subclasses (subclasses are shown in parenthesis): forested (broad-leaved deciduous), scrub/shrub (broad-leaved deciduous), emergent/wet meadow (persistent) and flats/unvegetated wet soil in the western part of the

town near the streams to emergent/wet meadow (persistent, nonpersistent, narrow-leaved persistent), and open water near Sand Lake.

Table 1-3. below shows the number of acres and the percentage of wetlands within the five municipalities. Not including small tracts of wetlands with less than five acres, approximately three percent of the land is classified as wetlands. The Town of Plainfield, with 1,522 acres or seven percent, has the highest percentage of wetlands compared to the Village of Hancock, with only 4 acres or one percent. The amount and variety of wetland features may have moderate limitations on the future growth and development of the area.

	Acres	Percent
T. Deerfield	146	1%
T. Hancock	609	3%
V. Hancock	4	1%
T. Oasis	24	0%
T. Plainfield	1,522	7%
Total	2,304	3%

Table 1-3. Wetlands

# Woodlands

Originally much of Waushara County ranged from a mixture of oak forest species to more open oak forest and oak openings with an understory of prairie grasses and other prairie plants. Today, upland woods dominated by tree species in the oak-hickory association, often interspersed with pines, are found in much of the county. Woodlands cover over 34 percent of the area and are sometimes found in wetland areas. Forests occurring in lowland areas are attributed to fresh layers of mineral sediments deposited by seasonal rises in waterways. Besides wetland areas, forests are also present along the moraines and in the kettle and hill portion of the region. See Exhibit 2-1. Forests or woodlands found within the area can be classified into one of three categories. These categories are general woodlands (naturally occurring forests or woods and hedgerows), planted woodlots (tree plantations or trees planted in rows, orchards and timber tracts, not including nurseries) and silvaculture (Christmas tree production). According to Table 1-4, woodlands comprise over forty percent of the total land area in the Town of Deerfield and the Village of Hancock while in Oasis woodlands only make up a quarter of the town. These woodlands should be considered as prime wildlife habitat areas and efforts to protect them from encroaching development should be considered.

	General Woodlands		Planted Woodlots		Silvaculture		Total Woodlands		Total
	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	Acres
T. Deerfield	7,030	31%	3,103	14%	692	3%	10,825	48%	22,421
T. Hancock	4,741	22%	2,147	10%	90	0%	6,978	32%	21,585
V. Hancock	233	35%	60	9%	0	0%	293	44%	663
T. Oasis	3,079	14%	1,940	9%	1,020	5%	6,039	27%	22,590
T. Plainfield	5,537	26%	932	4%	29	0%	6,497	30%	21,639
Total	20,620	23%	8,182	9%	1,830	2%	30,631	34%	88,898

## Table 1-4. Woodlands

The Managed Forest Law (MFL), enacted in 1985, combined the Forest Crop Law (FCL) and a companion law, the Woodland Tax Law (WTL). The purpose of the MFL is to encourage the growth of future commercial crops through sound forestry practices while recognizing individual property owners' objectives and society's need for compatible recreational activities, forest aesthetics, wildlife habitat, erosion control, and protection of endangered resources. As of January 1, 2000, approximately 577 acres of land within the area was enrolled in this program. The Town of Deerfield had 238 acres enrolled while property owners within the Village of Hancock and the Town of Plainfield did not participate.

The Forest Crop Law (FCL) was enacted by the Wisconsin Legislature in 1927 as a voluntary forest practices program to encourage sound forestry on private lands. It allowed landowners to pay taxes on timber only after harvesting, or when the contract was terminated, and has long promoted and encouraged long-term investments as well as the proper management of woodlands. Enrollment in FCL was closed on January 1, 1987 after passage of the Managed Forest Law (MFL) and renewal is not allowed. As of January 1, 2000, 1,076 acres of land within the area was enrolled in the FCL program, including approximately two percent of the Town of Oasis. It should be noted that 160 acres of land within the Town of Oasis expired on December 31, 2000.

	Managed F	orest Law	Forest C	rop Land	To	tal	Total
	Acres	Percent	Acres	Percent	Acres	Percent	Acres
T. Deerfield	238	1%	240	1%	478	2%	22,421
T. Hancock	179	1%	281	1%	460	2%	21,581
V. Hancock	0	0%	0	0%	0	0%	663
T. Oasis	160	1%	480	2%	640	3%	22,602
T. Plainfield	0	0%	75	0%	75	0%	21,640
Total	577	1%	1,076	1%	1,653	2%	88,906

Table 1-5. Managed Forest Law/Forest Crop Law

### Soils

Soils support the physical base for development and agriculture within the town. Knowledge of their limitations and potential difficulties is important in evaluating crop production capabilities and other land use alternatives such as residential development, utility installation, and other various projects. The criteria considered by the Natural Resource Conservation Service (NRCS)

in establishing the severe rating of soils include wetness, shrink-swell potential, bearing strength, susceptibility to flooding, land spreading, slope steepness, and frost action. Severe soil limitations do not necessarily indicate areas that cannot be developed, but indicate more extensive construction measures must be taken to prevent environmental and property damage. The maps reflect information contained within the Soil Survey of Waushara County, issued by the USDA in September 1989.

Five soil associations, which are a grouping of individual soil types based on geographic proximity and other characteristics, are present within the area.

Plainfield-Okee-Richford soils cut diagonally across the towns of Hancock, Deerfield, Oasis and Plainfield and the Village of Hancock, corresponding to the end moraines, kettle and hills and the area that surrounds the string of lakes from Plainfield Lake to Mud Lake in the Town of Oasis.

Plainfield-Richford-Boyer soils are found in the pitted outwash plains of the towns of Oasis and Deerfield and between the waterways along the western part of the towns of Plainfield and Hancock and the end moraine. These soils are also found scattered in the hills and kettles area of the Town of Deerfield.

Kingsville-Meechan soils are found along the waterways in the western part of the towns of Plainfield and Hancock.

Houghton-Adrian-Willette soils are found in the southeast corner of the Town of Deerfield.

Plainfield-Pearl-Leola soils are found surrounding the Kingsville-Meechan soils in the western half of the towns of Plainfield and Hancock.

**Plainfield-Okee-Richford soils** are sloping to steep and are found on the sides of ridges, knolls, and hills on moraines and terraces. Slopes range from 6 to 30 percent. The soils within this association range from Plainfield soils that are excessively drained and rapidly permeable to Okee and Richford soils which are somewhat excessively drained and moderately permeable to moderately rapidly permeable. While some areas of the Richford soils are used for cropland, most acreage in this association is used as woodland and is especially well suited for pine trees.

**Plainfield-Richford-Boyer soils** are nearly level and gently sloping and are found on flats, ridgetops and knolls on outwash plains and terraces. Slopes range from 0 to 6 percent. The soils within this association vary from well drained and moderately permeable for Boyer soils to excessively drained and rapidly permeable for Plainfield soils. Most of the acreage in this association is used as cropland, much of it as irrigated.

**Kingsville-Meechan soils** are nearly level and gently sloping and are found in drainageways and depressions on outwash plains and in glacial lake basins. Slopes range from 0 to 3 percent. The soils within this association are somewhat poorly to poorly drained and rapidly permeable. Most of the acreage in this association is used for cropland and many areas are drained and used as irrigated cropland. Some areas are used as pasture or woodland.

**Houghton-Adrian-Willette soils** are nearly level, very poorly drained mucky soils found in depressions on outwash plains, in glacial lake basins and on moraines. Slopes range from 0 to 1 percent. The soils within this association range from moderately slowly permeable to moderately rapidly permeable. Most of the acreage in this association is used for native vegetation and the main plants are water-tolerant trees, marsh grasses, cattails, sedges, reeds, red osier dogwood and alder. A few areas are drained and are used for corn or specialty crops.

**Plainfield-Pearl-Leola soils** are nearly level and gently sloping, sandy soils found on flats and in slight depressions and drainageways on outwash plains. Slopes range form 0 to 3 percent. The soils within this association range from moderately well drained for Plainfield and Pearl soils to somewhat poorly drained for Leola soils. Permeability ranges from rapid for Plainfield soils to moderately rapid in the subsoil and rapid in the substratum for Pearl and Leola soils. Most of the acreage in this association is used for cropland, especially irrigated cropland, pasture or woodland and is well suited for trees.

# **Detailed Soils Information**

Exhibit 1-3 identifies areas within the area that are generally suitable for development based on soils. The soil map identifies suitability for on-site waste disposal options based on an evaluation of soil characteristics. The evaluation is represented by a numerical rating indicating whether the soil type is a candidate location for a conventional system, a mound system, or unsuitable for all currently approved on-site systems. It must be noted that this map is not intended to serve as a substitute for on-site soils investigation, but rather as an indicator of reasonable expectations for soils underlying a site.

Evaluation of the soil data indicates that approximately 94 percent (83,686 acres) of the soils in the area are rated suitable for conventional, at-grade, in-ground pressure or mound systems (see Table 1-6 below). Generally, soils within the towns of Plainfield and Hancock, near the small tributaries along the western portion of the area, are the least suitable for on-site waste disposal. Other areas can also be found near Goose Lake, Sand Lake and a few other scattered locations within the area. Within the Town of Plainfield, only 34 percent of the soils are suitable for conventional systems compared with about 98 percent for the towns of Deerfield and Oasis. Less than four percent (3,398 acres) of the total area is suitable for holding tanks. The Town of Plainfield has the highest percentage (10%) of land within the five municipalities that falls in this category. The remaining two percent (1,823 acres) of the area's soils are rated unsuitable for on-site systems due primarily to wet soil conditions. Water, included in the above percentage, accounts for less than one percent of the surface area within the area. Currently pubic sanitary sewer collection and treatment is available in the Village of Hancock; therefore, within the village, soil suitability for on-site waste disposal is not an issue. The towns, however, do not have a public sewer collection and treatment system; therefore, these soil capabilities should be of concern within the towns.

Recently the State of Wisconsin revised Comm 83 that deals with Private Onsite Wastewater Treatment Systems. These revised rules, which recognize new technologies, went into effect on July 1, 2000. The rules were revised to give owners more on-site wastewater treatment system options, while at the same time protecting our natural resources and groundwater.

Within Waushara County, holding tanks are banned for new construction and are not allowed for replacement systems unless no other system will work. These revisions to Comm 83 should not adversely affect the existing provisions in place within the county that protect wetlands and groundwater and other natural resources.

	Conve	nventional At-Grade <sup>1</sup>		Holding Tank <sup>2</sup>		Unsuitable <sup>3</sup>		Suitable <sup>4</sup>		Total	
Community	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	Acres
T. Deerfield	21,967	98.0%	48	0.2%	89	0.4%	317	1.4%	22,015	98.2%	22,421
T. Hancock	14,292	66.2%	5,847	27.1%	988	4.6%	454	2.1%	20,139	93.3%	21,581
V. Hancock	563	84.9%	80	12.1%	16	2.4%	5	0.7%	643	97.0%	663
T. Oasis	22,239	98.4%	30	0.1%	69	0.3%	264	1.2%	22,269	98.5%	22,602
T. Plainfield	7,378	34.1%	11,243	52.0%	2,237	10.3%	783	3.6%	18,620	86.0%	21,640
Total	66,438	74.7%	17,247	19.4%	3,398	3.8%	1,823	2.1%	83,686	94.1%	88,906

Table 1-6. Soil Limitations	for On-Site Waste Disposal

Notes: <sup>1</sup>Includes In-Ground Pressure and Mound Systems.

 $^2$ Includes New Technology Systems producing  $10^4$  or less coliform fecal units (cfu) per 100 ml.  $^3$ Includes not rated and water.

<sup>4</sup>Includes Conventional and At-Grade

Exhibit 1-4 identifies soil potential for building site development. The NRCS has evaluated soil characteristics and rated soil potential for building site development taking into consideration wetness, shrink-swell potential, bearing strength, susceptibility to flooding, slope steepness, and frost action. The ratings range from low to very high potential. About 76 percent (67,727 acres) of the soils within the area are evaluated to have a very high or high suitability for building site development. Approximately 18 percent (15,805 acres) are evaluated to have medium suitability and about 5 percent (4,516 acres) are rated low or very low for building site development. Water accounts for about one percent of the area. Lower suitable soils for building site development are found in the towns of Plainfield and Hancock along the tributaries flowing into the Wisconsin River in the Kingsville-Meehan soils. Additional areas are found along the moraine near Sand and Goose Lakes and scattered in the wetter areas of the towns and village. Typically, areas near flowages and in wetland areas have the lowest ratings.

	Very Hi	gh, High	Medium		L	ow	Very Low, No Rating		Wa	ater	Total
Community	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	Acres
T. Deerfield	18,742	83.6%	3,264	14.6%	89	0.4%	66	0.3%	259	1.2%	22,421
T. Hancock	16,168	74.9%	3,917	18.1%	988	4.6%	241	1.1%	267	1.2%	21,581
V. Hancock	561	84.6%	82	12.3%	16	2.4%	4	0.6%	0	0.1%	663
T. Oasis	21,205	93.8%	1,043	4.6%	69	0.3%	52	0.2%	233	1.0%	22,602
T. Plainfield	11,050	51.1%	7,500	34.7%	2,237	10.3%	755	3.5%	98	0.5%	21,640
Total	67,727	76.2%	15,805	17.8%	3,398	3.8%	1,118	1.3%	859	1.0%	88,906

Table 1-7. Soil Potential for Building Site Development

Waushara County's farmlands, forestlands, floodplains and wetlands are unique natural resources providing food, fiber, wood, and water necessary for the continued welfare of the people. Each year, some of these lands are converted to other uses. Continued conversion of these lands may impair the ability to produce food, fiber, and wood as needed to meet the

domestic needs of the county, region and state. In order of their importance, the five important farmland classes are: prime farmlands, unique farmlands, statewide important farmlands, locally important farmlands, and other lands. See Exhibit 1-5.

**Prime farmland**, as defined by the U.S. Department of Agriculture, "is the land that is best suited to food, feed, forage, fiber, and oilseed crops" when managed according to acceptable farming methods. These lands may be cultivated, pasture, woodland or other land; it can not be urban, built-up or water areas. Prime farmland produces the highest yields with minimal inputs of energy and economic resources, and farming it results in the least damage to the environment. Criteria used to determine prime farmland include: adequate and dependable supply of moisture from precipitation or irrigation, few or no rocks, permeable to water and air, not excessively erodible or saturated with water for long periods, is not frequently flooded during the growing season, and has slopes that range from 0 to 6 percent. Soils that have a seasonal high water table may qualify for prime farmland if this limitation is overcome by drainage measures.

**Unique farmlands** are lands other than prime that are used to produce specific highvalue food or fiber crops. It has a moisture supply, either from stored, precipitation or irrigation systems, and combines favorable factors of soil quality, growing season, temperature, humidity, air drainage, elevation, aspect or other conditions. Examples of these specialty crops that require a high management and investment level include apple orchards, lettuce, carrots, celery and cauliflower.

**Statewide important farmlands** are land in addition to prime and unique that are important to the State of Wisconsin for crop production.

**Locally important farmlands** are in addition to prime, unique and statewide farmlands and are important to Waushara County for crop production.

**Other lands** are lands that have little value for producing crops.

	T. De	erfield	T. Ha	ancock	V. Ha	ancock	Т. С	Dasis	T. Pla	infield	Tota	Area
Farmland Class	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
Prime Farmland	1,571	7.0%	100	0.5%	0	0.0%	7,818	34.6%	675	3.1%	10,163	11.4%
Unique Farmland	9,916	44.2%	4,343	20.1%	177	26.7%	6,257	27.7%	1,965	9.1%	22,657	25.5%
Statewide Important	3,344	14.9%	4,953	23.0%	56	8.4%	4,443	19.7%	8,117	37.5%	20,913	23.5%
Local Important	2,691	12.0%	10,142	47.0%	255	38.4%	2,685	11.9%	10,533	48.7%	26,307	29.6%
Other Lands	4,639	20.7%	1,775	8.2%	175	26.4%	1,165	5.2%	253	1.2%	8,007	9.0%
Water	259	1.2%	267	1.2%	0	0.1%	233	1.0%	98	0.5%	859	1.0%
Total	22,421	100.0%	21,581	100.0%	663	100.0%	22,602	100.0%	21,640	100.0%	88,906	100.0%

Table 1-8. Important Farmland Classes

According to the above criteria, approximately 12 percent (10,163 acres) of the land within the area is considered prime farmland. The majority of this classification is located within the Town of Oasis (comprising 35% of the town) along its eastern border and extending south of STH 73 and east of CTH BB. Unique farmland makes up about 26 percent (22,657 acres) of the area. This classification, while making up approximately 44 percent of the Town of Deerfield, also comprises a guarter of the land area within the Village of Hancock and the Town of Oasis. Within the Town of Deerfield, unique farmland is scattered throughout the town, especially in the kettle and hills area. Statewide important farmland, comprises about 24 percent (20,913 acres) of the area. This classification makes up about 38 percent of the Town of Plainfield. While widely scattered throughout the town, it is found within the outwash plains portion, mainly west of a diagonal line extending for the southwest corner of section 26 to the northeast corner of section 6 in the Town of Oasis. It is also widely scattered within the other towns, predominately in the pitted and outwash plains areas. Locally important farmlands, the largest classification, encompasses 30 percent (26,307 acres) of the area. This classification makes up just less than 50 percent of the land area in the towns of Hancock and Plainfield. It is found in the western portion of the towns in the wetter soils surrounding the tributaries or the Wisconsin River and along the outer moraine. The remaining 10 percent (8,866 acres) of the area is included in other lands, and water.

Exhibit 1-6 identifies soil limitations for septage spreading. The Waushara County Land Conservation Office has evaluated soil characteristics based on groundwater depths, permeability, soil texture, slope, wetness, and soil depth. The ratings range from none or slight to severe. Slight soils are relatively free of limitations that affect the intended use or the limitations are easy to overcome. Soils with moderate limitations have limitations that can normally be overcome with correct planning, careful design and good management. Soils rated with severe limitations are severe enough to make them doubtful for the proposed use. Additional criteria used for spreading are: no spreading should be allowed within 300 feet of direct conduit to the waters of the state without the incorporation of the septage within 72 hours or less of application. Spreading rates will need to be based on current soil tests, type of vegetation grown on the site, and a septic nutrient test.

A distinct difference exists in the ability of the various soil associations to accommodate septage spreading. The Kingsville-Meehan and the Plainfield-Pearl-Leola soils in the western part of the area in the towns of Plainfield and Hancock near the tributaries to the Wisconsin River have severe to moderate limitations. The Plainfield-Okee-Richford soils along the moraines, near the string of lakes in the Town of Oasis, in the southeast corner of the Town of Deerfield, and in the kettle and hills portion of the area have severe to moderate limitations. None to slight limitations are found in the Plainfield-Richford-Boyer soils.

Approximately 44 percent (93,139 acres) of land within the area have none to slight limitations for septage spreading, while 38 percent (33,598 acres) have moderate limitations. Severe limitations exist on 17 percent (15,145 acres) of the land. The remaining one percent of the area is either water or not rated. Approximately 50 percent of the soils in the towns of Deerfield, Oasis and Hancock have none to slight limitations while about 50 percent of the Village of Hancock has moderate limitations. Over 40 percent of the Town of Plainfield has moderate limitations while a third has severe limitations. See Table 1-9.

	None to	o Slight	Moderate		Sev	/ere	No Ratir	ng, Water	Total
Community	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	Acres
T. Deerfield	11,152	49.7%	7,613	34.0%	3,388	15.1%	267	1.2%	22,420
T. Hancock	9,837	45.6%	7,837	36.3%	3,580	16.6%	326	1.5%	21,581
V. Hancock	286	43.1%	331	49.9%	46	6.9%	0	0.1%	663
T. Oasis	12,299	54.4%	8,906	39.4%	1,142	5.1%	254	1.1%	22,602
T. Plainfield	5,565	25.7%	8,911	41.2%	6,988	32.3%	175	0.8%	21,640
Total	39,139	44.0%	33,598	37.8%	15,145	17.0%	1,024	1.2%	88,906

Table 1-9. Soil Limitations for	Seepage Spreading
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Exhibit 1-7 indicates those portions of the area that have slopes greater than 12 percent. Approximately 6 percent (5,265 acres) of the area has slopes that fall into this category. See Table 1-10. The areas of steeper slopes generally correspond with the undulating glacial features such as the end moraines, the hills and kettles, pothole lakes, and chain lake areas. The Town of Deerfield contains the largest percentage of slopes over 12 percent (14%), while the Town of Plainfield has the lowest percentage of steep slopes (< 1 %).

	0 - 12	Percent	> 12 F	Percent	No Ratir	ig, Water	Total
Community	Acres	Percent	Acres	Percent	Acres	Percent	Acres
T. Deerfield	18,936	84.5%	3,217	14.3%	268	1.2%	22,421
T. Hancock	20,348	94.3%	905	4.2%	327	1.5%	21,581
V. Hancock	637	96.0%	26	3.9%	0	0.1%	663
T. Oasis	21,314	94.3%	1,033	4.6%	254	1.1%	22,602
T. Plainfield	21,381	98.8%	84	0.4%	175	0.8%	21,640
Total	82,616	92.9%	5,265	5.9%	1,025	1.2%	88,906

## Table 1-10. Steep Slopes

### Groundwater

In the western part of Waushara County, abundant groundwater for irrigation is available in the outwash deposits of sand, gravel and silt. These deposits form the most permeable aquifer in the county and generally yield more water to wells than any other aquifer in the county. The source of nearly all the groundwater in the county is precipitation in the form of rain and snow. Recharge is generally greatest in the spring, when water from melting snow and heavy rains saturates the ground and percolates downward to the water table. If discharge (the drawing out and use of groundwater) is greater than recharge, then the elevation where the groundwater is found will fall, causing a depression to occur. Lower water levels causes the pumping lifts to increase and will diminish the yields of some of the wells. In Waushara County, there are no areas where the constant pumping of a water supply well has resulted in the continued lowering of the water table over a long period of time. Groundwater within the county occurs under both water table and artesian conditions. Water in the unconsolidated beds of sand and gravel is generally unconfined and is said to occur under water table conditions. Confined or artesian conditions exist locally where the water in the sand and gravel deposits is confined by layers of silt or clay.

A groundwater divide, located west and parallel to the topographic divide, cuts through the area. This divide runs from a point north of STH 21 and the western border of the county through Pine and Sand Lakes to the northeast corner of the Village of Plainfield then northeastly to Yonkee Lake and the northern border of the Town of Oasis. East of this divide, groundwater moves southeastly toward the Wolf and Fox Rivers. West of this divide, groundwater moves westwardly toward the Wisconsin River. The groundwater table within the area varies in elevation from a high of 1101 feet above sea level near Yonkee Lake in the Town of Oasis to a low of about 910 in the southeast corner of the Town of Deerfield. While the majority of the wells within the town are low capacity, a number of high capacity irrigation wells did exist in 1957 when the Geological Survey Water Supply Paper for Waushara County was completed. At that time, a number of high capacity irrigation wells existed to the west of USH 51, a couple north of Fish Lake, and four north of STH 73. In addition, the Village of Hancock had one high capacity invigation pit. Seven springs can be found in the area, one near the Mill Pond in the Town of Deerfield and six near the Roche a Cri Creek in the Town of Plainfield.

According to well water information obtained from the Central Wisconsin Groundwater Center in Stevens Point, some private wells located in this area contain nitrate levels that are higher than EPA's Safe Drinking Water Act standards of 10 mg/l. These standards apply to municipal water sources only, but are suggested thresholds for private systems. Nitrates are used in fertilizers and are found in sewage and wastes from human and/or farm animals. Excessive levels of nitrate in drinking water have caused serious illness and sometimes death in infants under six months of age. Pregnant women are also advised not to drink water in which nitrate levels exceed 10 mg/l. Due to the sandy soils that exist in the county, there is the potential for groundwater contamination in the shallower aquifers of the county. However, in the deeper aquifers, this potential is greatly diminished. Below is a Table 1-11 that lists the results of water sample tests that were taken during the 1990's and later.

	None	0.1 - 2.0	2 - 10	10 - 20	> 20
Community	Detected	ppm	ppm	ppm	ppm
T. Deerfield	10	4	8	9	1
T. Hancock	7	7	7	8	12
T. Oasis	4	5	1	3	1
T. Plainfield	2	4	5	2	9

Table 1-11. Nitrate-Nitrite

According to the *Wisconsin Administrative Code, Chapter ATCP 30, Atrazine, Pesticides; Use Restrictions,* an atrazine prohibition area has been established within the towns of Hancock and Plainfield. Atrazine or an atrazine product refers to the pesticide chemical 2-chloro-4-ethylamino-6-isoprpy-lamino-1,3,5 triazine. In prohibition areas no person can apply, mix or load any atrazine product, except under special conditions. The prohibition area includes all of sections 4, 5, 8, and 9 in the Town of Hancock and the southern half of sections 10 and 11, the northern half of sections 22 and 23, and all of sections 14 and 15 in the Town of Plainfield. These areas have been determined by the Department of Agriculture based on well samples taken in these areas. These areas are monitored and, if atrazine is not applied in these areas, the levels will diminish and these areas may be removed from the list.

All homes within the towns of Deerfield, Hancock, Oasis and Plainfield are on private septic systems and wells according to Waushara County. The Village of Hancock has one active high capacity municipal well that pumped an average of 0.044 mgd in 1996. In approximately 75 percent (66,294 acres) of the overall area, the depth to groundwater is 6.1 feet or greater. Approximately 98 percent of the Town of Deerfield and the Town of Oasis fall within this category. This percentage is slightly less for the Village of Hancock (85%), while in the Town of Hancock, only two-thirds of the land, and in the Town of Plainfield, only one-third, is in this category. About 13 percent (11,709 acres) of the area has groundwater depths of 3.1 feet to 6.0 feet. These areas are mainly in the Town of Plainfield (7,252 acres, 18%), the Town of Hancock (4,333 acres, 20%), and the Village of Hancock (80 acres, 12%). In approximately 6 percent of the area, the depth to groundwater falls between 1 and 3 feet; again, these areas are mainly in the Town of Hancock (1,505 acres, 7%) and the Town of Plainfield (3,991 acres, 18%). Finally, about 5 percent of the area have depths to groundwater of one foot or less, again primarily in the Town of Hancock (1,170 acres, 5%), the Town of Plainfield (2,914 acres, 13.3%), and in the Village of Hancock (20 acres, 3%). The remaining one percent (1,024 acres) of the area is either water or has no rating. Groundwater is closer to the surface along the flowages in the area, primarily in the western part of the region. See Exhibit 1-8 and Table 1-12.

	1 Foot o	or Less	1 - 3	Feet	3 - 6	Feet	> 6	Feet	No Ratir	ig, Water	Total
Community	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	Acres
T. Deerfield	147	0.7%	25	0.1%	23	0.1%	21,959	97.9%	268	1.2%	22,421
T. Hancock	1,170	5.4%	1,505	7.0%	4,333	20.1%	14,246	66.0%	326	1.5%	21,581
V. Hancock	20	3.0%	0	0.0%	80	12.1%	563	84.9%	0	0.1%	663
T. Oasis	100	0.4%	9	0.0%	20	0.1%	22,218	98.3%	254	1.1%	22,602
T. Plainfield	2,914	13.5%	3,991	18.4%	7,252	33.5%	7,308	33.8%	175	0.8%	21,640
Total	4,350	4.9%	5,530	6.2%	11,709	13.2%	66,294	74.6%	1,024	1.2%	88,906

	Table 1-12.	Depth to	Groundwater
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### Wildlife Habitat

The essential habitat elements available to be selected species of wildlife generally depend on the properties of several kinds of soil and the prevailing land uses. Diverse land uses in Waushara County results in numerous habitat types that enables the county to support abundant and varied fish and wildlife communities. The wooded areas provide wildlife habitat for game species such as white-tailed deer, ruffed grouse, cottontail rabbits, raccoons and gray squirrels. Mink, otter, muskrats and beaver inhabit the areas along streams. In fields where shore grass is predominant, ground nesting birds, mice and other small mammals that are used as food by hawks, owls, fox and other predator species can be seen.

# Rare, Threatened and Endangered Species and Natural Communities

The Wisconsin Department of Natural Resources maintains a database of rare, threatened and endangered species and natural communities in Waushara County. In order to protect these species and communities, the exact location of these species and communities are not available to the public. Waushara County however does have a copy of this database. Whenever a request comes into the county for development, this database is consulted prior to granting approval.

## **Historic Sites**

**State and National Register of Historic Places.** The Wisconsin Historical Society's Division of Historic Preservation (DHP) is the clearinghouse for information relating to the state's cultural resources: its historic buildings and archaeological sites. A primary responsibility of the DHP to administer the State and National Register of Historic Places programs. The National Register is the official national list of historic properties in the United States that are deemed worthy of preservation. The National Park Service in the U.S. Department of the Interior maintains the program. The State Register is Wisconsin's official listing of state properties determined to be significant to Wisconsin's heritage, and is maintained by the DHP. Both listings include sites, buildings, structures, objects, and districts that are significant in national, state or local history, architecture, archaeology, engineering and culture. (For ease of discussion, "National Register" is used generally to refer to both programs. In Wisconsin, if a property is listed on one, then it is typically listed on the other. The National Register is not a static inventory. Properties are constantly being added and, less frequently, removed.)

Only one property within the subject area is currently listed on the National Register. This is the Whistler Mound Group, located within Whistler Indian Mounds Park in the Village of Hancock. The Whistler Mound Group archaeological site (ca.500-1500 AD) was entered onto the National Register of Historic Places in 1993. It was listed because of its potential to yield information important to the understanding of prehistory. Specifically, the site helps to answer questions regarding the origins, affiliations, functions, and spatial significance of mounds constructed by indigenous peoples during the Late Woodland stage. During this period people began to settle in large villages and use bows and arrows to hunt. Material remains also suggest that potters and gardeners first made their appearance in Wisconsin during the Woodland stage.

While the Whistler Indian Mounds are include on the National Register, other evidence of ancient Native American presence in the area exists according to "The Wisconsin Archeologist". In the Town of Deerfield, two mounds can be found near the White River Millpond and along the north bank of the West Branch of the White River. Also found near the millpond are the remains of an earthen enclosure that measures approximately 60 feet by 30 feet, traces of an old campsite and the grave of Big John, a local Indian chief of some distinction. Evidence of a cluster of small pits that may have been used to store food are found east of the enclosure.

Indian mounds like those of the Whistler Group have been the subject of scientific inquiry for over a century. Excavation data have suggested that mound building was often associated with mortuary activity, but as not all mounds have contained burials, hypotheses on additional functions of mounds continue to be debated. It has been suggested that effigy mounds in the shapes of animals might have represented clan or family symbols. Another hypothesis holds that a mound was a signpost of sorts; that it was a visual marker designating a gathering place for a geographically dispersed group.

**Architecture & History Inventory.** In order to determine those sites that are eligible for inclusion on the National Register, the DHP frequently funds historical, architectural, and archaeological surveys of municipalities and counties within the state. Very little work of this type has been done in Waushara County, and even less has been undertaken in the Village of Hancock and towns of Deerfield, Hancock, Oasis, and Plainfield. (NOTE: Like the National

Register, AHI is not a static inventory; properties are constantly being added and, less frequently, removed.) A search of the DHP's on-line Architecture & History Inventory (AHI) and on-line National Register inventory reveals the following about these communities:

- Thirty properties in the Village of Hancock are included in AHI. Inclusion in this inventory conveys no special status, rights, or benefits to owners of these properties. It simply means that some type of information on these properties exists in the DHP's collections; in this particular case, as a result of a Department of Transportation project.
- Only one property within the Town of Oasis is included in AHI: the Sir Henry Wellcome Birthplace house on County Highway J (T-R-S 2009E-03). This property has not been determined eligible for the National Register. Wellcome was a Wisconsin-born, naturalized Briton who in 1932 was knighted by King George of England in recognition of his contributions to the medical sciences. A historical marker along the road marks this location.

# WDNR and Public Lands

Wisconsin Department of Natural Resources (WDNR) owns property in all four towns within the area that is available for the public to use. These properties are found within state fishery areas, state wildlife areas, state natural areas (SNA), and other miscellaneous areas. State fishery areas are purchased by the state to protect important waterways in Wisconsin from improper land use due to agricultural abuse or urban runoff. They are used to help preserve and manage headwaters and springs that often form the biological base for stream fisheries. In addition, they protect and improve spawning grounds for lake fisheries and prevent private blocking of important waterways, game lands and lakes. State wildlife areas are purchased by the state to preserve an important American heritage of wild lands and wild things for people, such as hunters, trappers, hikers and wildlife watchers, who are interested in the out-of-doors. Additionally, state wildlife areas protect and manage important habitat for wildlife and help prevent draining, filling and destruction of wetlands. These areas are also purchased to prevent private blocking of important waterways, game land and lakes. State natural areas are designated sites devoted to scientific research, the teaching of conservation biology, and especially to the preservation of their natural value and genetic diversity for future generations.

The Greenwood Wildlife Area is located in section 24 and 25 in the Town of Hancock and in section 19 in the Town of Deerfield. This state owned wildlife area contains about 1,438 acres. The Big Roche a Cri Fishery Area is located in the Town of Plainfield along Roche a Cri Creek. This fishery contains about 656 acres. There is also some remnant state land along Carter Creek in the Town of Hancock. The Plainfield Tunnel Channel Lakes State Natural Area is located in the Town of Oasis near Plainfield, Second and Sherman Lakes. This natural area contains about 86 acres.

# Abandoned Landfills

According to the Wisconsin Department of Natural Resources Registry of Waste Disposal Sites in Wisconsin, June 1999 Update, the following sites are listed:

Town of Deerfield – NW  $\frac{1}{4}$  of the SE  $\frac{1}{4}$  of Section 32.

Town of Hancock – SE ¼ of the NW ¼ of Section 10 Village of Hancock – Section 11, CTH V - SW ¼ of the NE ¼ Section 11, JCT CTH GG and CTH CC Town of Plainfield – Section unknown - NE ¼ of the NW ¼ Section 10

These landfills are indicated on Exhibit 2-1. This Registry is a list of WDNR's known solid and hazardous waste disposal sites in Wisconsin. The list includes active, inactive, and abandoned sites where solid or hazardous wastes were known, or likely to have been disposed. Inclusion of a site on the Registry does not mean that environmental contamination has occurred, is occurring, or will occur in the future. New development should avoid these areas, and future reuse of these areas should be considered in the proposed land use plan.

# EXHIBIT 1-1

# TOWN OF DEERFIELD FLOODPLAINS



# EXHIBIT 1-1 TOWN OF DEERFIELD FLOODPLAINS



Source: FEMA, Flood Insurance Rate Map, Waushara County, 1985. Digital Base Data provided by Waushara County.



This map is neither a legally recorded map nor a survey and is not intended to be used as one. This drawing is a compilation of records information and data used for reference purposes only. ECWRPC is not responsible for any inaccuracies herein contained.





This map indicates wetlands that have been designated on the Wisconsin Department of Natural Resources' Wisconsin Wetland Inventory Maps. Wetland areas five acres or greater are regulated under the Shawano County Shoreland/Wetland Zoning Ordinance. This map does not reflect all areas that may be considered wetlands by the U.S. Department of Agriculture, or all wetlands that may be under the jurisdiction of the U.S. Army Corp of Engineers.



#### WETLANDS GREATER THAN 5 ACRES 业 WETLANDS LESS THAN 5 ACRES

Source: WDNR, Digital Wisconsin Wetland Inventory, Waushara County. Digital Base Data provided by Waushara County.





# EXHIBIT 1-3 TOWN OF DEERFIELD SOIL LIMITATIONS FOR ON-SITE WASTE DISPOSAL



SOILS SUITABLE FOR CONVENTIONAL SEPTIC SYSTEMS SOILS SUITABLE FOR AT-GRADE, IN-GROUND PRESSURE OR MOUND SYSTEMS

SOILS SUITABLE FOR HOLDING TANKS

SOILS UNSUITABLE FOR PRIVATE SEWAGE SYSTEMS NO RATING

WATER

Source: USDA-SCS, Soil Survey of Waushara County, Wisconsin, 1982. Digital Soils Data provided by NRCS. Digital Base Data provided by Waushara County.





# EXHIBIT 1-4 TOWN OF DEERFIELD SOIL POTENTIAL FOR BUILDING SITE DEVELOPMENT



Source: USDA-SCS, Soil Survey of Waushara County, Wisconsin, 1982. Digital Soils Data provided by NRCS. Digital Base Data provided by Waushara County.





# EXHIBIT 1-5 TOWN OF DEERFIELD IMPORTANT FARMLAND CLASSES WAUSHARA COUNTY

<ul> <li>PRIME FARMLAND - Those soils that produce the highest yields of food, fiber, feed, forage and oilseed crops when managed according to acceptable farming methods.</li> <li>PRIME FARMLAND WHERE DRAINED</li> </ul>
UNIQUE FARMLAND - Land other than prime that is used to produce specialty crops such as apple orchards, lettuce, carrots, celery, cauliflower, etc. that require a high management and investment level.
UNIQUE FARMLAND WHERE DRAINED AND PROTECTED FROM FREQUENT FLOODING
<ul> <li>STATEWIDE IMPORTANT FARMLAND - Land in addition to prime and unique that is important to the State of Wisconsin for crop production.</li> <li>STATEWIDE IMPORTANT FARMLAND WHERE DRAINED</li> <li>STATEWIDE IMPORTANT FARMLAND WHERE DRAINED AND PROTECTED FROM FREQUENT FLOODING</li> </ul>
<ul> <li>LOCAL IMPORTANT FARMLANDS - Land in addition to prime, unique and statewide that is important to Waushara County for crop production.</li> <li>LOCAL IMPORTANT FARMLANDS WHEN DRAINED</li> </ul>
OTHER LANDS - Land that has little value for producing crops.
WATER
Source: USDA-SCS, Soil Survey of Waushara County, Wisconsin, 1982. Digital Soils Data provided by NRCS. Digital Base Data provided by Waushara County.
Farmland Classes Developed by Waushara County LCD.

2000 0 2000 Feet

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EXHIBIT 1-6 TOWN OF DEERFIELD SOIL LIMITATIONS FOR SEPTAGE SPREADING							
<ul> <li>NONE TO SLIGHT - Soils relatively free of limitations that affect the intended use or the limitations are easy to overcome.</li> <li>MODERATE - Soils with moderate limitations resulting from the effects of slope, wetness, soil texture, soil depth, groundwater, etc. Normally the limitations can be overcome with correct planning, careful design, and good management.</li> <li>SEVERE - Soils with severe limitations resulting from the effects of slope, wetness, soil texture, highwater table, a Soils rated as having a severe limitation are severe end to make the use of the soil doubtful for the proposed us Careful planning and above-average design and manage are required. This often includes major soil reclamation</li> <li>NO RATING</li> <li>WATER</li> </ul>	etc. ough e. jement						
Source: USDA-SCS, Soil Survey of Waushara County, Wisconsir Digital Soils Data provided by NRCS. Digital Base Data provided by Waushara County.	ı, 1982.						
2000 0 2000	4000 Feet						
This map is neither a legally recorded map nor a survey and is not intended to be used as one. This drawing is a compilation of records information and data used for reference purposes only. ECWRPC is not responsible for any inaccuracies herein contained.							
Prepared By EAST CENTRAL WISCONSIN REGIONAL PLANNING COMMISSION - AUGUST 2001							







# EXHIBIT 1-8 TOWN OF DEERFIELD DEPTH TO GROUNDWATER

DEPTH TO GROUNDWATER 1 FT. OR LESS DEPTH TO GROUNDWATER 1 - 3 FT. DEPTH TO GROUNDWATER 3 - 6 FT. DEPTH TO GROUNDWATER > 6 FT. NO RATING WATER

Source: USDA-SCS, Soil Survey of Waushara County, Wisconsin, 1982. Digital Soils Data provided by NRCS. Digital Base Data provided by Waushara County.



This map is neither a legally recorded map nor a survey and is not intended to be used as one. This drawing is a compilation of records information and data used for reference purposes only. ECWRPC is not responsible for any inaccuracies herein contained.

EXISTING LAND USE AND ZONING

## **EXISTING LAND USE AND ZONING**

## Land Use

Within the towns of Deerfield, Hancock, Oasis and Plainfield, 5 percent to 7 percent of the existing land is developed. In the Village of Hancock, this percentage increases to over 30 percent (30.8%). The primary developed land uses in all five municipalities are single family residences and transportation. Irrigated cropland and general woodlands are the dominant land uses in the towns, comprising between 50 and 75 percent of the total acreage. Within the village, over 60 percent of the existing land use is comprised of general woodlands and other open land. See Table 2-6.

	T. Deerfield	T. Hancock	T. Oasis	T. Plainfield	V. Hancock
Land Use	% of Total	% of Total	% of Total	% of Total	% of Total
S.F. and Two Family Res.	2.0%	1.3%	1.2%	1.4%	15.1%
Farmstead	0.8%	0.2%	0.4%	0.4%	0.0%
Multi-Family/Group Quarters	0.0%	0.0%	0.0%	0.0%	0.2%
Mobile Home Parks	0.0%	0.0%	0.0%	0.0%	0.9%
Commercial	0.0%	0.4%	0.1%	0.7%	2.4%
Industrial	0.0%	0.0%	0.0%	0.0%	0.1%
Parks and Recreation	1.6%	0.0%	0.0%	0.0%	2.6%
Institutional Facilities	0.0%	0.2%	0.0%	0.1%	1.0%
Utilities	0.0%	0.1%	0.0%	0.0%	0.2%
Transportation/Roads/RR	2.7%	3.4%	2.8%	3.4%	8.3%
Total Developed	7.0%	5.6%	4.7%	6.1%	30.8%
Non-Irrigated Cropland	11.5%	3.0%	3.0%	5.0%	0.0%
Irrigated Cropland	20.4%	46.6%	59.7%	51.8%	0.0%
Silviculture	3.1%	0.4%	4.5%	0.1%	0.0%
Planted Woodlots	13.5%	9.9%	8.6%	4.3%	8.8%
General Woodlands	30.5%	21.9%	13.6%	25.5%	34.4%
Mining/Quarry Sites	0.0%	0.2%	0.2%	0.3%	0.0%
Other Open Land	12.8%	10.8%	4.7%	6.0%	25.9%
Water Features	1.2%	1.5%	1.1%	0.8%	0.1%
Total Acreage	100.0%	100.0%	100.0%	100.0%	100.0%

Table 2-1. T. of Deerfield, T. Hancock, T. Oasis, T. Plainfield, V. Hancock
Existing Land Use, 2000

Source: East Central Wisconsin Regional Planning Commission

A detailed breakdown of existing land use for each community is found below.

### **Town of Deerfield**

Of the Town of Deerfield's 22,420 acres, approximately 7 percent is developed (Table 2-2 and Figure 2-1). The primary developed land uses are single family and two family residential (438 acres), parks and recreation (361 acres), and transportation (598 acres). Collectively, these three categories make up about 89 percent (88.4%) of the developed land while farmsteads comprise another 10.8 percent. The principal uses in the remaining acreage are

woodlands (silviculture, planted woodlots, and unplanted woodlands), 47.1 percent of the total acres, and agriculture (non-irrigated cropland, irrigated cropland), 31.9 percent. About 64 percent of the cropland in the Town of Deerfield is irrigated.

		Percent of	Percent
Land Use	Acres	Developed Land	of Total
S.F. and Two Family Res.	438	27.7%	2.0%
Farmstead	170	10.8%	0.8%
Multi-Family/Group Quarters	0	0.0%	0.0%
Mobile Home Parks	0	0.0%	0.0%
Commercial	6	0.4%	0.0%
Industrial	0	0.0%	0.0%
Parks and Recreation	361	22.9%	1.6%
Institutional Facilities	6	0.4%	0.0%
Utilities	1	0.1%	0.0%
Transportation/Roads/RR	598	37.8%	2.7%
Total Developed	1,580	100.0%	7.0%
Non-Irrigated Cropland	2,583		11.5%
Irrigated Cropland	4,573		20.4%
Silviculture	692		3.1%
Planted Woodlots	3,018		13.5%
General Woodlands	6,841		30.5%
Mining/Quarry Sites	4		0.0%
Other Open Land	2,866		12.8%
Water Features	263		1.2%
Total Acreage	22,420		100.0%

Table 2-2. Town of Deerfield Existing Land Use, 2000

Figure 2-1. Town of Deerfield Existing Land Use, 2000



### Town of Hancock

The Town of Hancock covers about 21,585 acres, of which approximately 6 percent (5.6%) are developed (Table 2-3 and Figure 2-2). The primary developed land uses are single family and two family residential (289 acres) and transportation (743 acres), which jointly comprise about 85 percent (84.9%) of the developed land. Farmsteads (3.1%) and commercial (7.3%) make up another 10.4 percent of the developed land. The principal uses in the remaining acreages are agriculture (non-irrigated cropland, irrigated cropland), comprising 49.6 percent of the total acres, and woodlands (silviculture, planted woodlots, and unplanted woodlands), 32.2 percent. Within these major categories, irrigated cropland covers about 10,056 acres (46.6 percent of the total land area and 94 percent of all cropland) and general woodlands covers another 4,722 acres (21.9 percent).

		Percent of	Percent
Land Use	Acres	Developed Land	of Total
S.F. and Two Family Res.	289	23.8%	1.3%
Farmstead	38	3.1%	0.2%
Multi-Family/Group Quarters	0	0.0%	0.0%
Mobile Home Parks	0	0.0%	0.0%
Commercial	88	7.3%	0.4%
Industrial	3	0.3%	0.0%
Parks and Recreation	6	0.5%	0.0%
Institutional Facilities	37	3.0%	0.2%
Utilities	12	1.0%	0.1%
Transportation/Roads/RR	743	61.1%	3.4%
Total Developed	1,217	100.0%	5.6%
Non-Irrigated Cropland	648		3.0%
Irrigated Cropland	10,056		46.6%
Silviculture	90		0.4%
Planted Woodlots	2,147		9.9%
General Woodlands	4,722		21.9%
Mining/Quarry Sites	36		0.2%
Other Open Land	2,338		10.8%
Water Features	332		1.5%
Total Acreage	21,585		100.0%



Figure 2-2. Town of Hancock Existing Land Use, 2000

# Town of Oasis

E.

Of the Town of Oasis's 22,613 acres, only about 5 percent (4.7%) are developed (Table 2-4 and Figure 2-3). The primary developed land uses are single family and two family residential (280 acres) and transportation (630 acres), which together make up about 86 percent (86.2%) of the developed land. Farmsteads cover another 95 acres, or 9 percent of the developed land. The principal uses in the remaining acreages are agriculture (non-irrigated cropland, irrigated cropland), comprising about 62.7 percent of the total acres, and woodlands (silviculture, planted woodlots, and unplanted woodlands), 26.7 percent. Within these two major categories, irrigated cropland makes up the largest percentage of land use or about 13,494 acres and accounts for 95 percent of all cropland.

		Percent of	Percent
Land Use	Acres	Developed Land	of Total
S.F. and Two Family Res.	280	26.5%	1.2%
Farmstead	95	9.0%	0.4%
Multi-Family/Group Quarters	0	0.0%	0.0%
Mobile Home Parks	0	0.0%	0.0%
Commercial	32	3.0%	0.1%
Industrial	4	0.4%	0.0%
Parks and Recreation	6	0.6%	0.0%
Institutional Facilities	9	0.8%	0.0%
Utilities	0	0.0%	0.0%
Transportation/Roads/RR	630	59.7%	2.8%
Total Developed	1,055	100.0%	4.7%
Non-Irrigated Cropland	680		3.0%
Irrigated Cropland	13,494		59.7%
Silviculture	1,020		4.5%
Planted Woodlots	1,940		8.6%
General Woodlands	3,069		13.6%
Mining/Quarry Sites	45		0.2%
Other Open Land	1,061		4.7%
Water Features	248		1.1%
Total Acreage	22,613		100.0%

Table 2-4. Town of Oasis Existing Land Use, 2000



Figure 2-3. Town of Oasis Existing Land Use, 2000

# **Town of Plainfield**

The Town of Plainfield covers about 21,666 acres, of which approximately 6 percent (6.1%) are developed (Table 2-5 and Figure 2-4). The predominantly developed land uses are single family and two family residential (301 acres), commercial (160 acres), and transportation (741 acres), which collectively make up about 91 percent (90.5%) of the developed land, while farmsteads (6.5%), institutional facilities (1.9%), and utilities (0.7%) comprise another 9.1 percent. The principal uses in the remaining acreages are agriculture (non-irrigated cropland, irrigated cropland), which comprises about 56.8 percent of the total acres, and woodlands (silviculture, planted woodlots, and unplanted woodlands), 29.9 percent. Within these major categories, irrigated cropland covers about 11,223 acres or 51.8 percent of the total land area and 91 percent of all cropland, and general woodlands cover about 5,527 acres or 25.5 percent.

		Percent of	Percent
Land Use	Acres	Developed Land	of Total
S.F. and Two Family Res.	301	22.7%	1.4%
Farmstead	86	6.5%	0.4%
Multi-Family/Group Quarters	4	0.3%	0.0%
Mobile Home Parks	0	0.0%	0.0%
Commercial	160	12.0%	0.7%
Industrial	0	0.0%	0.0%
Parks and Recreation	0	0.0%	0.0%
Institutional Facilities	26	1.9%	0.1%
Utilities	9	0.7%	0.0%
Transportation/Roads/RR	741	55.8%	3.4%
Total Developed	1,327	100.0%	6.1%
Non-Irrigated Cropland	1,087		5.0%
Irrigated Cropland	11,223		51.8%
Silviculture	29		0.1%
Planted Woodlots	935		4.3%
General Woodlands	5,527		25.5%
Mining/Quarry Sites	55		0.3%
Other Open Land	1,306		6.0%
Water Features	178		0.8%
Total Acreage	21,666		100.0%

Table 2-5. Town of Plainfield Existing Land Use, 2000

Figure 2-4. Town of Plainfield Existing Land Use, 2000



## Village of Hancock

The Village of Hancock covers about 663 acres, of which about 31 percent (30.8%) are developed (Table 2-6 and Figure2-5). Similar to the towns, the primary developed land uses are single family and two family residential (100 acres) and transportation (55 aces), which together make up about 76 percent of the developed acreage. Commercial (7.8%) and parks and recreation (8.4%) comprise another 16.2 percent of the developed land. The principal uses in the remaining acreages are woodlands (planted woodlots, and unplanted woodlands), 43.2 percent of the total acres, and other open land, 25.9 percent.

		Percent of	Percent
Land Use	Acres	Developed Land	of Total
S.F. and Two Family Res.	100	49.1%	15.1%
Farmstead	0	0.0%	0.0%
Multi-Family/Group Quarters	1	0.6%	0.2%
Mobile Home Parks	6	2.8%	0.9%
Commercial	16	7.8%	2.4%
Industrial	0	0.2%	0.1%
Parks and Recreation	17	8.4%	2.6%
Institutional Facilities	7	3.4%	1.0%
Utilities	2	0.8%	0.2%
Transportation/Roads/RR	55	26.9%	8.3%
Total Developed	204	100.0%	30.8%
Non-Irrigated Cropland	0		0.0%
Irrigated Cropland	0		0.0%
Silviculture	0		0.0%
Planted Woodlots	58		8.8%
General Woodlands	228		34.4%
Mining/Quarry Sites	0		0.0%
Other Open Land	172		25.9%
Water Features	0		0.1%
Total Acreage	663		100.0%

Table 2-6. Village of Hancock Existing Land Use, 2000



Figure 2-5. Village of Hancock Existing Land Use, 2000
## **Existing Zoning**

The towns of Deerfield, Hancock, Oasis and Plainfield adhere to Waushara County Zoning while the Village of Hancock has its own zoning. All zoning district information is contained within either the Waushara County Zoning Ordinance for the four towns or the Village of Hancock Zoning Ordinance for the village.

#### Waushara County

A summary of the county zoning classifications and permitted uses are 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. Single family residential development on minimum one acre lots, airstrips, general farming, home occupations and new mobile homes are among the uses that are permitted under this classification.
- (A-R) Agricultural Residential Zone: This zone is intended to provide a semi-rural type of environment, allowing for 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 Zone:* This zone provides for uses found in small commercial areas located throughout the county. Single family residential only as an accessory to a principal use, banks, business and professional offices, dental and medical clinics, funeral homes, garages, laundromats, semi-public uses, restaurants, retail and bed and breakfast establishments are among the permitted uses that fall under this classification.
- *(C-C) Community Commercial Zone:* This zone provides for uses found in the central business district of small communities. Banks and similar services, business and professional offices and studios, dental and medical clinics, funeral homes, laundromats, semi-public uses, bed and breakfast establishments, and residential accommodations for shopkeepers located in the same building as the business are permitted under this classification.
- *(C-S) Service Commercial Zone:* This zone provides for commercial service type uses, uses specifically oriented towards the traveler, tourist and vacationer. Permitted uses include boat sales and service, clubs or lodges, public swimming pools, and bed and breakfast establishments.
- *(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, would not be detrimental to the surrounding area or to 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 dying establishments, commercial bakeries, greenhouses and recycling operations, distributors, farm machinery sales and/or service, food locker plants, laboratories, machine shops, manufacture and bottling of nonalcoholic beverages, manufacturing, fabrication, processing, packaging,

packing and assembly of selected products, printing or publishing, storage and sale of machinery and equipment, trade and contractors offices, warehousing and wholesaling, office, storage, power supply and other such used normally incidental to the principal use are permitted uses that fall under this classification.

- *(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.
- *(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 esthetic value. Permitted uses include agricultural husbandry, fish hatcheries, farm ponds, camping trailers, and wildlife preserves. Residential single family dwelling units (only as an accessory to a principal use) of a minimum one-acre are allowed as a conditional use.
- *(O-F) Forestry 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 camping trailers, mobile campers or houseboats used for temporary parking and living purposes, agriculture, fish hatcheries and farm ponds, wildlife preserves, debarking operations, maple syrup processing plants, and portable sawmills.
- (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 camping trailers, mobile campers or houseboats used for temporary parking and living purposes, agriculture, fish hatcheries and farm ponds, and wildlife preserves.
- (O-SW) Shoreland/Wetland Zone: The purpose of this zone is to maintain safe and healthful conditions, to prevent water pollution, to protect fishing spawning grounds and aquatic life and to preserve shore cover and natural beauty.
- *(RS-10) Residential Single Family Zone:* This zone is intended to provide a suitable environment for single family residential development on moderate size lots in areas with public sewage systems. Permitted uses include single family residential lots of a minimum of 10,000 square feet and agricultural uses.
- *(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 residential, multifamily dwellings and duplexes of a minimum lot area of 12,000 square feet (lots served by public sewer systems) and agricultural uses.

• *(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 provide a stable living environment.

Table 2-7 indicates a summary of the zoning classifications that are found within the towns of Deerfield, Hancock, Oasis and Plainfield. According to information received from Waushara County, over 91 percent of the land within the towns is zoned General Agriculture (A-G). Single family residential dwellings on one acre minimum lots are permitted in this zone as well as general farming. In the towns of Deerfield, Hancock and Oasis, no public sewerage systems exist; therefore, the majority of single family dwellings, which are not classified as General Agriculture, fall under the zoning classification Residential Single Family (RS-20). The residential lot size under this zoning classification allows for a minimum of 20,000 square feet. In the Town of Plainfield, the majority of single family dwellings which are not classified as General Agriculture fall under the zoning classification Agricultural Residential (A-R), which requires a larger minimum lot size of one acre.

	T. Dee	erfield	T. Ha	ancock T.		)asis	T. Pla	infield
Zoning Classification	Acre	Percent	Acre	Percent	Acre	Percent	Acre	Percent
Gen. Ag. (A-G)	21,119	94.2%	19,667	91.1%	21,131	93.4%	20,414	94.3%
Ag. Res. (A-R)	45	0.2%	89	0.4%	0	0.0%	221	1.0%
Gen. Comm. (C-G)	0	0.0%	7	0.0%	11	0.0%	95	0.4%
Commun+B8ity Comm. (C-C)	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Ser. Comm. (C-S)	33	0.1%	0	0.0%	0	0.0%	0	0.0%
Gen. Man. (M-G)	0	0.0%	0	0.0%	2	0.0%	38	0.2%
Int. Man. (M-I)	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Nat. Res. Pres. (O-N)	15	0.1%	23	0.1%	0	0.0%	43	0.2%
Forestry (O-F)	0	0.0%	327	1.5%	277	1.2%	0	0.0%
Park and Rec. (O-P)	93	0.4%	17	0.1%	1	0.0%	0	0.0%
Shoreland/Wetland (O-SW)	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Res. S. F. (RS-10)	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Res. S. F. (RS-20)	254	1.1%	392	1.8%	315	1.4%	32	0.1%
Res. M. F. (R-M)	0	0.0%	0	0.0%	0	0.0%	2	0.0%
Res. S. F. Plan. Dev. (RSP-10)	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Water	264	1.2%	323	1.5%	244	1.1%	135	0.6%
Roads	598	2.7%	740	3.4%	633	2.8%	659	3.0%
Total	22,421	100.0%	21,585	100.0%	22,613	100.0%	21,639	100.0%

## Table 2-7. Waushara County Zoning

## Village of Hancock

A summary of the Village of Hancock zoning classifications and permitted uses are listed below.

- *(R) Residential District:* This district provides a suitable environment for residential uses of various densities. Agricultural uses, home occupations, group homes, and single family dwelling units on a minimum 10,000 square foot lot are permitted under this classification.
- (C-C) Community Commercial District: This district preserves and enhances the appearance and function of the community's commercial core by providing for a variety of commercial and institutional uses. Banks and similar services, business and professional offices and studios, dental and medical clinics, funeral homes, laundromats, public and semi-public uses, restaurants, retail department stores, grocery and specialty stores, and residential accommodations for shopkeepers located in the same building as the business are permitted under this zoning classification.
- *(HC) Highway Commercial District:* This district provides for commercial services and uses requiring larger land areas which are oriented toward highway transportation. Commercial recreational facilities, commercial recycling operations, farm implement, heavy truck and construction equipment sales and service, orchards and nurseries, transportation terminals, veterinary hospitals, and wholesaling establishments are permitted uses under this classification.
- *(I) Industrial District:* This district establishes areas for industrial development that are compatible with adjoining land uses. All uses permitted in the Highway Commercial District, commercial bakeries, cleaning, pressing and dyeing establishments, commercial green houses, commercial recycling operations, light industrial, and manufacturing and bottling of non-alcoholic beverages are permitted uses under this classification.
- *(AH) Agricultural/Holding District:* This district provides for the continuation of general farming and related uses in areas of the village not yet committed to urban development. It is further intended to protect lands from urban development until their orderly transition into urban-oriented districts is required.
- *(MH) Mobile Home Park District:* This district promotes improved environmental design in the establishment and development of mobile home parks, while insuring substantial compliance with the basic intent of the zoning code and the Community Development Plan. Mobile homes are permitted only in the Mobile Home Park District.

Table indicates a summary of the zoning classifications that are found within the Village of Hancock. According to information received from the Village, over 48 percent of the land within the village is zoned residential. Single family dwelling units on minimum 10,000 square foot lots are permitted as well as home occupations, group homes and agricultural uses. Another 26 percent of the land within the village falls under the Agricultural/Holding District, which provides for the continuation of general farming until the land is committed to urban development.

Zoning Classification	Acre	Percent
Residential (R)	320	48.3%
Community Commercial (CC)	17	2.5%
Highway Commericial (HC)	29	4.4%
Industiral (I)	38	5.7%
Agricultural/Holding (AH)	173	26.0%
Mobile Home Park (MH)	30	4.5%
Water	0	0.1%
Roads	56	8.5%
Total	663	100.0%

## Table . Village of Hancock Zoning

## EXHIBIT 2-1

## TOWN OF DEERFIELD EXISTING LAND USE 2004



# EXHIBIT 2-1 **TOWN OF DEERFIELD EXISTING LAND USE** 2004

#### EXISTING LAND USES





# EXHIBIT 2-2 TOWN OF DEERFIELD EXISTING ZONING



Source: Waushara County Zoning, 2004. Digital Base Data provided by Waushara County.



This map is neither a legally recorded map nor a survey and is not intended to be used as one. This drawing is a compilation of records information and data used for reference purposes only. ECWRPC is not responsible for any inaccuracies herein contained.

Prepared By EAST CENTRAL WISCONSIN REGIONAL PLANNING COMMISSION - JULY 2004

DEVELOPMENT TRENDS

#### **DEVELOPMENT TRENDS**

#### Land Use

According to land use inventories completed by East Central Wisconsin Regional Planning Commission, cropland and residual were the dominant land uses in 1980 within the towns of Deerfield, Hancock, Oasis and Plainfield. In 1980, the residual land use category included streets, highways, water features, planted and unplanted woodlots, open land, and land not under cultivation. In addition, even though cropland and pastureland were included under a separate category, parts of these categories could have been included under residual. In the Village of Hancock, residual land accounted for the major existing land use followed by single family.

	T. Deerfield	T. Hancock	V. Hancock	T. Oasis	T. Plainfield
Existing Land Use	Acres	Acres	Acres	Acres	Acres
Single Family	425	347	101	280	268
Group Homes	0	3	0	17	0
Industrial	0	26	17	35	122
Parks and Recreation	24	31	0	0	5
Utilities	0	2	1	1	0
Commercial	7	13	15	7	39
Cropland	11,117	11,974	0	15,485	13,414
Institutional Facilities	77	34	5	5	20
Cons. & Preservation	0	45	0	0	382
Residual	10,770	9,110	525	6,785	7,429
Total Acreage*	22,420	21,585	663	22,616	21,681

#### Table 3-1. Land Use Acreages, 1980

\*Note: Total adjusted to 2002 total acres.

Single Family includes 2 & 3 family, mobile homes, and seasonal.

Parks and Recreation includes resorts & group camps.

Institutional Facilities includes cemeteries, public assembly, government and educational facilities.

ECWRPC regularly conducts existing land use inventories of the region to track land use changes. A land use inventory was conducted by ECWRPC in 1980 and again in 2000 within the towns of Deerfield, Hancock, Oasis, Plainfield and the Village of Hancock. The information presented in this section was obtained during these inventories. In addition, the towns and Village of Hancock were asked in 2002 to review the data and indicate any revisions that needed to be made. While these inventories indicate general land use trends, they should not be used to track specific acreage losses or gains. Land use acreages were divided into seven major categories. These categories were residential (multi-family, single family, farmsteads, mobile homes, group quarters and part-time and seasonal homes); 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 facilities); cropland (irrigated and non-irrigated and pastureland); and residual (residual, streets, highways, water features, utilities, planted woodlots, unplanted woodlands, silviculture and other open land).

#### Town of Deerfield

In 1980, approximately 425 acres of land were designated as residential in the Town of Deerfield. Between 1980 and 2000, residential acreage increased by 183 acres or about 9 acres per year. From 1981 to 2000, 151 residential building permits (an average of 7.6 per year) were issued in the town, the majority of them single family new homes. (Table 3-7 and Table 3-8). Part of this increase could have been due to the availability of parcel data which was used to determine residential acreage in subdivisions. Increases during this time frame also occurred in parks and recreation, and residual. Parks and recreation, which includes resorts and group camps, increased from 24 to 361 acres (over 1,000 percent), while residual increased from 10,770 to 14,279 acres (33 percent). The large increase in parks and recreation was most likely due to differences in the way that land use was calculated. Information for both land use inventories was collected by visual observation; however, in 1980, prior to the advent of prevalent computer use, all area calculations were done by hand. In 2000, land use acreage was calculated using parcel data obtained from Waushara County and computers, thus increasing the area that was assumed to fall into this category.

Commercial acreage between 1980 and 1996 remained constant at about 6 to 7 acres. In 1980, cropland (including pasture land) comprised 11,117 acres of land in the town. By 2000, cropland had decreased by 3,961 acres (36 percent) to 7,156 acres.

	1980	2000	Change	Percent
Existing Land Use	Acres	Acres	Acres	Change
Residential	425	608	183	43%
Industrial	0	4	4	
Commercial	7	6	-1	-14%
Parks and Recreation	24	361	337	1404%
Institutional Facilities	77	6	-71	-92%
Cropland	11,117	7,156	-3,961	-36%
Residual	10,770	14,279	3,509	33%
Total	22,420	22,420		

#### Table 3-2. Town of Deerfield, Land Use Acreages, 1980 and 2000

## Town of Hancock

Residential acreage in the Town of Hancock comprised approximately 350 acres in 1980. Between 1980 and 2000, residential acreage decreased by 23 acres. However, during this same time period, 121 residential building permits (an average of 6 per year) were taken out in the town, the majority of them single family new homes. (Table 3-7 and Table 3-8). This discrepancy between land use acreage and building permits points to either a difference in the way in which land use acreages were compiled between 1980 and 2000 or that existing larger lots were being divided into smaller parcels between 1980 and 2000. Increases during this timeframe also occurred in industrial (13 acres or 50 percent), commercial (75 acres or 577 percent) and residual (1,272 acres or 14 percent).

Decreases again occurred in cropland, which declined from 11,974 to 10,704 acres or 11 percent.

	1980	2000	Change	Percent
Existing Land Use	Acres	Acres	Acres	Change
Residential	350	327	-23	-7%
Industrial	26	39	13	50%
Commercial	13	88	75	577%
Parks and Recreation	76	6	-70	-92%
Institutional Facilities	34	37	3	9%
Cropland	11,974	10,704	-1,270	-11%
Residual	9,112	10,384	1,272	14%
Total	21,585	21,585		

 Table 3-3. Town of Hancock, Land Use Acreages, 1980 and 2000

## Village of Hancock

In 1980, approximately 101 acres of land were designated as residential, which included mobile homes, single family, multi-family farmsteads, group quarters and part-time or second homes. Between 1980 and 2000, residential acreage increased by about 6 acres. However, from 1985 to 2000, years that data is available, 26 residential building permits (an average of 1.6 houses per year) were taken out in the village, the majority of them single family new homes. (Table 3-7 and Table 3-8). Land use acreages within the categories remained relatively stable during this timeframe. Commercial and institutional showed little change.

	1980	2000	Change	Percent
Existing Land Use	Acres	Acres	Acres	Change
Residential	101	107	6	6%
Industrial	17	0	-17	-100%
Commercial	15	16	1	7%
Parks and Recreation	0	17	17	
Institutional Facilities	5	7	2	40%
Cropland	0	0	0	0%
Residual	525	516	-9	-2%
Total	663	663		

#### Town of Oasis

In 1980, approximately 297 acres were designated as residential. Between 1980 and 2000, residential acreage increased to 375 acres, or about 4 acres per year. During this same time period, 72 residential building permits (an average of 4 per year) were taken out in the town, the majority of them single family new homes. (Table 3-7 and Table 3-8). Increases during this time also occurred in every land use category except cropland, which experienced a loss of 1,311 acres, or about 8 percent. Industrial acreage increased from 36 to 49 acres (36 percent), commercial acreage increased from 7 to 32 acres (357 percent), parks and recreation increased

from 0 to 6 acres, institutional facilities increased from 5 to 9 acres (80 percent) and residual increased from 6,786 to 7,968 acres (17 percent).

	1980	2000	Change	Percent
Existing Land Use	Acres	Acres	Acres	Change
Residential	297	375	78	26%
Industrial	36	49	13	36%
Commercial	7	32	25	357%
Parks and Recreation	0	6	6	0%
Institutional Facilities	5	9	4	80%
Cropland	15,485	14,174	-1,311	-8%
Residual	6,786	7,968	1,182	17%
Total*	22,616	22,613		

#### Table 3-5. Town of Oasis, Land Use Acreages, 1980 and 2000

\* Diff. in total due to land in T. of Oasis that was annexed to V. Plainfield

#### **Town of Plainfield**

Residential acreage increased from approximately 268 acres in 1980 to approximately 391 acres in 2000 or about 6 acres per year. During this same time period, 63 residential building permits were issued in the town or an average of about 3 per year, the majority of them single family new homes. (Table 3-7 and Table 3-8). Increases during this period also occurred in commercial, institutional and residual. Commercial land experienced a substantial increase from about 39 acres in 1980 to about 159 acres in 2000, a net change of 120 acres (308 percent). Institutional facilities and residual saw much smaller increases, increasing from approximately 20 to 26 acres (30 percent) and from 7,430 to 8,725 acres (17 percent), respectively.

Decreases occurred in industrial, parks and recreation and cropland. Industrial experienced a decrease of 67 acres, falling from 122 acres in 1980 to 55 acres in 2000. Parks and recreation had 388 acres in 1980, the majority of it listed under conservation and preservation areas, while in 2000 no acreage was listed under this category. As was the trend in the other three towns, cropland experienced a decrease of 1,104 acres, dropping from 13,414 acres in 1980 to 12,310 acres in 2000

	1980	2000	Change	Percent
Existing Land Use	Acres	Acres	Acres	Change
Residential	268	391	123	46%
Industrial	122	55	-67	-55%
Commercial	39	159	120	308%
Parks and Recreation	388	0	-388	0%
Institutional Facilities	20	26	6	30%
Cropland	13,414	12,310	-1,104	-8%
Residual	7,430	8,725	1,295	17%
Total*	21,681	21,666		

 Table 3-6. Town of Plainfield, Land Use Acreages, 1980 and 2000

\* Diff. in total due to land in T. Plainfield that was annexed to V. Plainfield

Waushara County issues permits for buildings and dwellings that are built within the towns of Deerfield, Hancock, Oasis and Plainfield. Within the Village of Hancock, building permits are issued by the village. Unfortunately, in the towns, unless the permit results in a conditional use permit, the respective town does not become aware of a new building and/or dwelling unit until after the permit has been issued by the county. Table 3-7 below indicates the number of building permits issued for new residential development during the 1981 to 2001 time period.

During this time, 460 permits were issued in the five municipalities, which averages to just under 22 per year (data not available for the Village of Hancock prior to 1985). The towns of Deerfield and Hancock had 158 and 131 permits issued respectively, while the towns of Oasis (76) and Plainfield (68) had about half of this amount. The Village of Hancock, which is missing data for 1981 through 1984, had only 27 new residential building permits. The 1994 to 2000 time period reflects the highest number of permits issued in the towns of Deerfield and Hancock (81 in Deerfield and 62 in Hancock) for single family residential. In the towns of Oasis and Plainfield, the number of new permits issued per year from 1980 to 2001 was more stable. In the Village of Hancock, 12 new residential permits were issued during the four-year period 1994-97, the highest level of activity in four consecutive years between 1985 to 2001.

Year	T. Deerfield	T. Hancock	V. Hancock	T. Oasis	T. Plainfield	Total
1981	5	4	na	4	1	14
1982	3	4	na	2	2	11
1983	1	6	na	6	5	18
1984	2	5	na	2	5	14
1985	2	3	0	5	4	14
1986	4	3	0	2	0	9
1987	5	8	5	2	3	23
1988	6	1	1	5	1	14
1989	7	5	1	2	2	17
1990	6	7	1	3	4	21
1991	13	4	1	1	4	23
1992	9	3	1	6	0	19
1993	7	8	0	4	7	26
1994	14	4	2	2	3	25
1995	7	13	5	3	4	32
1996	10	11	5	4	4	34
1997	12	8	1	6	3	30
1998	16	10	0	7	2	35
1999	12	6	2	1	5	26
2000	10	10	1	5	4	30
2001	7	8	1	4	5	25
Total	158	131	27	76	68	460

## Table 3-7. New Residential Building Permits

na not available

Source: Waushara County and Village of Hancock

Note: 1994 includes replacement mobile homes, 1995 includes multi-family, 1996 includes multi-family/commercial, 1997 - 2000 includes replacement homes and replacement mobile homes.

U.S. Census Bureau data available in 1990 and 2000 can be used to compare the total housing units and building permit data. According to the U.S. Census Bureau, Waushara County and the Village of Hancock, new housing permits represented between 0.43 to 2.05 percent of the total housing units in 1990 and between 0.39 to 2.60 percent of the total housing units in 2000. See Table 3-8.

	1990			2000		
	Housing Units	Bldg Permits	Percent	Housing Units	Bldg Permits	Percent
T. Deerfield	360	6	1.67%	487	10	2.05%
T. Hancock	341	7	2.05%	384	10	2.60%
V. Hancock	232	1	0.43%	254	1	0.39%
T. Oasis	259	3	1.16%	258	5	1.94%
T. Plainfield	228	4	1.75%	230	4	1.74%

Source: U.S. Census, 1990 & 2000. Waushara County. Village of Hancock.

#### Transportation

Wisconsin Highway Traffic Volume data reveals that the annual average daily traffic (AADT) increased significantly between 1990 and 2000 in the area. USH 51/I-39, which has historically provided north-south access through the center of the state, saw a 46 percent growth in traffic volumes north of the Village of Plainfield, increasing from 9,920 AADT in 1990 to 13,600 AADT in 2000. During this same time period, USH 51 was upgraded to interstate status and the designation I-39 was added. STH 73, which interchanges with I-39 near Plainfield and links the Wautoma area to the east with the Wisconsin Rapids area to the west, also experienced a steady increase in traffic. West of Plainfield and I-39, AADT increased from 2,730 in 1990 to 4,500 in 2000 (65 percent) while east of the village and CTH A, traffic volumes increased from 1,600 AADT in 1990 to 3,000 AADT in 2000 (88 percent).

The roads classified as major collectors also experienced increases. CTH C, which provides access from Wautoma west into Adams County, saw a large increase in traffic volumes. West of Wautoma, AADT volumes on CTH C increased by 83 percent from 1,310 in 1990 to 2,400 in 2000. An even larger increase of 364 percent occurred on CTH C west of I-39 (280 in 1990, 1,300 in 2000). CTH P provides access from STH 22 north of Wild Rose to STH 73 east of the Village of Plainfield. Traffic counts (AADT) increased by 120 percent near STH 22 (590 in 1990, 1,300 in 2000) and 68 percent near Plainfield (1,010 in 1990, 1,700 in 2000). Other major collectors of shorter length in the area also experienced increases. These include CTH V (Village of Hancock to STH 21 west of Coloma), CTH BB (from STH 73 into Portage County) and CTH J (from CTH 73 north into Portage County).

PUBLIC AND COMMUNITY FACILITIES

#### PUBLIC AND COMMUNITY FACILITIES

One responsibility of a community is to maintain a certain level of community services. To achieve it, communities must continuously maintain, upgrade and expand existing facilities in a cost-effective manner based on future growth projections and the desires of their residents. The involvement of the community in the planning process illustrates the importance that the board places on maintaining a high level of public services and facilities. The following section provides an inventory of some of the services and facilities available in the community. The analysis of facilities is based on generalizations and predictions and is no substitute for detailed engineering or architectural studies, which should be completed before municipal funds are expended on specific projects. The size of community facilities along with the cost of providing services is typically related to land use, development patterns and the existing and future densities of development. Please see the existing land use map which illustrates the location of the various items discussed below.

#### Town Hall and Community Center

#### Town Hall

The towns of Deerfield, Oasis and Plainfield each have individual town halls which are briefly described below. The towns feel that their respective existing town halls are adequate for their needs and there are no plans for expansion or relocation.

**Town of Deerfield.** The Deerfield town hall is located on the north side of CTH C, near the intersection of CTH B about 3-1/2 miles east of the Village of Hancock. The town hall, built around 1894, was remodeled in 1994. Elections and town meetings, including town board meetings, which are held on the second Tuesday of the month, are held here. In addition, the building houses the town records and provides office space for town officials. The building is available for rent to town residents for special events.

**Town of Oasis.** The Oasis town hall is located on the south side of STH 73, west of 11<sup>th</sup> Avenue about 3-1/2 miles east of the Village of Plainfield. The town hall was built around 1900 and is used for elections and town meetings, which are held on the second Wednesday of the month. Town records are housed in this building as well as at the homes of the Town Chairman and Clerk. In addition to a town hall, a community center used by town residents is located on the west side of CTH J at the intersection of CTH A.

**Town of Plainfield.** The Plainfield town hall is located at the intersection of STH 73 and 3<sup>rd</sup> Drive about two miles west of the Village of Plainfield. The building was constructed around 1950 as a Grange Hall and was turned over to the town in the early 1970s. The town hall is used for elections, town meetings, office space and storage of town records. Town board meetings are held on the second Wednesday of the month

#### Area Community Center

The towns of Deerfield and Hancock and the Village of Hancock utilize the area community center located in the Village of Hancock at 420 N. Jefferson St. This building, constructed in approximately 1960, is administered by a six member board with representatives from the Village of Hancock and the towns of Hancock and Deerfield. The building and surrounding 10-acre site previously served as the Hancock Elementary School before local children were bussed to Plainfield. The building contains a large meeting room along with several smaller meeting rooms, four restrooms and a well-equipped kitchen, where the entire county's "Meals on Wheels" are prepared. Local governments, organizations and private parties from the supporting communities hold meetings here. Both the Town and Village of Hancock hold board meetings in this facility on the second Monday of the month and public records for both are housed here. The Area Community Center also serves as a polling place for the towns of Deerfield and Hancock and the Village of Hancock.

Additionally, the building serves as an elderly nutrition site and bingo hall. Other improvements include a softball diamond, several pieces of play equipment, a wood climber and a small paved area. Behind the building is a small hillside that is used as a sledding hill. The old school forest occupies several acres of the site.

#### Town/Village Garage

**Towns of Deerfield, Hancock and Oasis.** The towns of Deerfield, Hancock and Oasis do not have a town garage. Routine maintenance and snow plowing of town roads are provided under contract with a private firm. The towns are satisfied with this arrangement and there are no plans to change it.

**Village of Hancock.** Formerly a county garage, this brick building is located in the southeast area of the village at the corner of W. Brown and Foster Streets. The building houses the village truck, road and street equipment, and two maintenance employees. A large fenced storage yard is located adjacent to the building. Due to the age of the building, general repairs are needed, including the windows, which are in need of replacement. In order to reduce energy costs, the village should look at insulating the building.

**Town of Plainfield.** The town garage is located at the intersection of STH 73 and 3<sup>rd</sup> Drive, about two miles west of the Village of Plainfield. The town garage was built in 1973 and is used for storage and repair of town equipment. The building houses three trucks and one tractor. The town feels that the building is adequate for its needs and there are no plans for expansion. The town maintains the town roads and provides snow plowing as needed.

#### **Police Service**

**Town of Deerfield, Hancock, Oasis and Plainfield.** The Waushara County Sheriffs Department provides around the clock law enforcement services to the towns as needed. The sheriff's department has two vehicles patrolling the entire county from 5:00 AM to 5:00 PM, while three patrol vehicles work in the county the remainder of the day. Emergency response time in the Town of Deerfield is about 10 minutes, while response time in the Town of Plainfield

is approximately 20 minutes. Response time in the Town of Oasis varies depending on where the patrol vehicle is when the call comes in. Response time in the Town of Hancock is about 10 minutes. In addition, during the summer months and holidays, a boat patrol financed through the towns of Deerfield and Hancock and manned by part-time off duty police officers patrols Fish Lake, Marl Lake, and the White River Millpond for about 100 to 125 total hours annually. Currently the residents of the towns of Deerfield and Hancock are happy with the level of police protection and there are no plans to upgrade it at this time. However, the towns of Oasis and Plainfield are not happy with their level of police protection and response time and feel that changes should be looked into.

Waushara County instituted an enhanced county-wide 911 system about three years ago. The system appears to be working well and no problems have been reported.

**Village of Hancock.** Police protection for the village is provided by one full-time officer whose office is located in the Community Center. Waushara County provides backup support for the village. According to a recent survey, the majority of the residents feel that the level of police protection is good or very good. The village is currently looking at hiring an additional officer part-time to provide relief for the current police chief.

#### **Fire Protection**

The Town of Deerfield is served by both the Hancock Volunteer Fire Department (70%) and the Wautoma Area Fire District (30%). The Village of Hancock and the Town of Hancock are served solely by the Hancock Volunteer Fire Department. The Village of Plainfield Volunteer Fire Department provides service to the towns of Oasis and Plainfield.

The Hancock Volunteer Fire Department is housed in the Village of Hancock at the corner of CTH V (North Lake Street) and Jefferson Street. This 4,900 square foot structure, built about 35 years ago and recently updated, has four automatic insulated doors and storage for up to eight emergency vehicles. Restrooms and a meeting room allow the building to serve other community functions. The 35 volunteer fire fighters and 35 fully trained first responders serve the Village of Hancock and the towns of Hancock, Deerfield and Colburn. The department owns six vehicles, including two pumpers, two tankers, a grass truck and a rescue truck. There is a mutual aid agreement with Marquette, Adams, Portage and Waushara County. Residents are happy with their level of fire protection.

The Wautoma Area Fire District is housed on Fair Street in the City of Wautoma. The fire department operates three front line pumpers, one 100-foot aerial ladder truck, two tankers with 3,500 gallon capacity, three brush trucks, one portable pump truck, a command post van and a rescue squad. The Fire District employs 35 volunteer fire fighters and 10 fully trained first responders. There is a mutual aid agreement with the other fire departments in Waushara County as well as with fire departments in surrounding counties.

The Plainfield Volunteer Fire Department is housed on S. Main Street in the village. The fire department operates two pumpers, two tankers, one rescue vehicle and two brush rigs. The fire department employs 28 volunteer fire fighters and 6 to 7 First Responders. Response time varies among communities, from 30 minutes in the towns of Oasis and Plainfield to less than 10

minutes in the Village of Plainfield. There is a mutual aid agreement with the many of the surrounding communities, including the towns of Hancock, Almond, Wild Rose and Bancroft.

The Insurance Service Office (ISO) of Wisconsin through the use of the Grading Schedule evaluates the adequacy of fire protection within the state for Municipal Fire Protection. The schedule provides criteria to be used by insurance grading engineers in assessing the physical conditions of municipalities relative to fire hazards and rating municipalities' fire defenses. Ratings obtained under the schedule are widely used to establish base rates for fire insurance. While ISO does not presume to dictate the level of fire protection services that a municipality should provide, reports of evaluation results published by its Municipal Survey Office generally outline any serous deficiencies found through the evaluation. Over the years, these findings have come to be used as a guide to municipal officials planning improvements to local fire protection services.

The grading is obtained by ISO based upon its analysis of several components of fire protection, including fire department equipment, alarm systems, water supply systems, fire prevention programs, building construction, and the distance of potential hazard areas from the fire station. In rating a community, total deficiency points in the areas of evaluation are used to assign a numerical rating of 1 to 10, with a 1 representing the best protection and 10 representing an essentially unprotected community. Many towns and villages in the more rural counties within the region typically have ratings of class 8 through 10. The 2002 ISO rating for the Hancock Volunteer Fire Department is 7 within the village and 9 within the rural towns. The Plainfield Volunteer Fire Department has an ISO rating of 6 within the village and 9 within the City of Wautoma and areas served by public water and a 9 within the rural towns.

The standards for fire station location utilized by the National Board of Underwriters are given in Table 4-1. These standards are based on the density of development in the station service area. Since the town is a relatively low-density rural area, a four to six mile service radius is the recommended standard.

#### **Public Schools**

The area is served by three different public school districts; Almond-Bancroft, Tri-County and Wautoma Area. The towns of Hancock and Plainfield and the Village of Hancock and a portion of the towns of Deerfield and Oasis are part of the Tri-County School District. A small area along the northern edge of Oasis is in the Almond-Bancroft School District, and the eastern half of the Town of Deerfield is part of the Wautoma Area School District.

The Tri-County School District, home of the Penguins, operates one school in the Village of Plainfield that accommodates students from kindergarten through twelfth grade. A referendum that would have funded expansion of existing school facilities failed to pass in the spring of 2002. The district is currently exploring different alternatives to meet its needs.

	Suggested Service Radius		
	Engine or Pumper	Ladder	
Land Use	Company	Company	
Commercial/Industrial	.75 - 1.0 miles	1.0 miles	
Res. Med./High Density			
(<100' bet. Structures)	2.0 miles	3.0 miles	
Res. Scattered			
(>100' bet. Structures)	3.0 - 4.0 miles	3.0 miles	
Res Rural Low Density	4.0 - 6.0 miles	-	

## Table 4-1. Recommended Density/Distance Standards for Fire Protection

Source: 1988 Small Town Planning Handbook, American Planning Association, p12

Students attending the early childhood and kindergarten within the Almond-Bancroft School district attend the Bancroft Elementary School in Bancroft. The remaining students within the school district are educated at the Combined Almond-Bancroft School in Almond. Both schools were expanded in 1999 and no future expansions are planned.

Students in the Town of Deerfield who live within the Wautoma Area School District attend one of three schools in the City of Wautoma. Riverview Elementary School, kindergarten through third grade; Parkside School, fourth grade through eighth grade; and Wautoma High School; ninth through twelfth grade. The Wautoma Area School District has no plans for expansion at this time. General information about the Tri-County, Almond-Bancroft and Wautoma Area School Districts is shown below in Table 4-2.

Category	Almond-Bancroft	Tri-County	Wautoma Area
Total Enrollment	540	860	1,630
PreK - 8	363	587	1,070
9 - 12	177	273	560
Student/teacher Ratio	13.04	13.46	13.21
Valuation per Student	\$193,261	\$266,543	\$363,639
Expenditure/Student	\$7,478	\$7,239	\$6,521

## Table 4-2. School Districts, 1996 – 1997 School Year

Source: Basic Facts About Wisconsin's Elementary and Secondary Schools, 2001 - 2002.

## Libraries

Residents within the area have good access to three libraries. The Hancock public library, located at 114 S. Main Street in the Village of Hancock, is funded by residents of the Town of Deerfield, and the town and village of Hancock. The Plainfield public library, located at 126 S. Main Street in the Village of Plainfield, is used by residents of the towns of Plainfield and Oasis. Finally, the Wautoma Public Library, located at 410 W. Main Street in the City of Wautoma, is used by residents of the Town of Deerfield. The libraries, as are all libraries within the county, are part of the Winnefox Federated Library System. The federated library system is designed to provide expanded library service to more people without making additional large expenditures. The libraries receive the majority of their revenue from the local municipalities and county

based on resident usage. Any town, city or village resident has access to the materials in any county-supported library within Waushara County. Besides other services listed below, the libraries offer their patrons Internet service. Table 4-3 provides relevant information for the Hancock, Plainfield and Wautoma Public Libraries.

	Hancock	Plainfield	Wautoma
Volumes Owned	5,544	10,570	13,954
Periodical Subscriptions	39	42	83
Audio Material	34	201	968
Video Material	963	1,064	1,474
Hours Open/Week	24	25	50
FTE Staff	0.97	1.29	2.99
Volumes Added	471	2,119	3,006

## Table 4-3. Public Library Statistical Data

Source:Public Library 2000 Statistical Data, www.dpi.state.wi.us

## **Open Space and Recreation**

**The Ice Age Trail.** The Ice Age Trail was created to allow the public an opportunity to view and enjoy the glacial topography of Wisconsin. The trail is expected to run through the towns of Deerfield, Hancock and Oasis, but its exact location has not been determined at this time. A proposed trail corridor has been identified to generally include the southeastern portion of the Town of Hancock (sections 24, 25, 13 and 36), a diagonal section of the Town of Deerfield from the southwest to northeast corner of the town (sections 1, 2, 9-12, 15-17, 19-22, 28-31), and the southeast corner of the Town of Oasis (section 36). Portions of the trail are presently in place and are shown on the proposed land use map.

**Greenwood State Wildlife Refuge.** Greenwood State Wildlife Refuge is located in the towns of Hancock and Deerfield between CTH FF and 7<sup>th</sup> Drive. This 1,438 acre wildlife area is comprised of woodlands, oak savanna and prairie. A variety of wildlife including deer, geese, squirrels, ruffed grouse, bobwhite quail and turkey can be found here. The refuge lies within the proposed Ice Age Trail corridor.

**Plainfield/Second Lakes State Natural Area (No. 226)** is located east of the Village of Plainfield near Second and Sherman Lakes. This 27-acre area site is comprised of woodlands, meadow and shoreline areas and was designated a state natural area in 1990.

#### Parks

Waushara County's park system is comprised of 16 sites containing a total of 686 acres. The county park system is considered to primarily provide active recreational opportunities. Three county parks are found within the area and are indicated below. In addition, the Village of Hancock operates a village park on the western end of Fish Lake, which contains many recreational opportunities as well as a public campground. On the west side of the park is the Whistler Mound Group, which is included on the National Register of Historic Places (NRHP).

**Town of Deerfield.** Two county-maintained park facilities exist in the Town of Deerfield. Marl Lake County Park, located on the east end of Marl Lake between Wautoma and Hancock, is about <sup>1</sup>/<sub>4</sub> mile north of CTH C on 12<sup>th</sup> Avenue. This 24-acre wooded site is leased by the county from the town. Facilities include a paved boat ramp, a shelter, restroom facilities, picnic facilities, play equipment, drinking water, and an unimproved swimming beach. Because of limited parking capacity, parked vehicles often infringe on adjacent lawn areas during periods of heavy use. There are no major improvements planned for this park at the present time.

George Sorenson Natural Area is a newly acquired 78-acre county park site located on Hartford (Lyman's) Lake near CTH C about four miles east of Hancock. To enhance the lake's natural setting and small size, Waushara County plans minimal development for this site; however, it does have the potential to provide complementary facilities for the Ice Age Trail. Present development is limited to a small parking area off of 11<sup>th</sup> Avenue, which provides walk-in access to the lake.

**Village of Hancock.** Village Park and Whistler Mounds Park occupy a 43-acre site a mile east of Hancock on Fish Lake. Whistler Mounds Park is a 12-acre parcel accessible from 6<sup>th</sup> Avenue, which forms the park's western boundary. This area contains the largest group of Indian mounds known to exist in Waushara County. A trail encompasses the mound group and provides access to other portions of the site as well as to the campground area in Village Park, which is separated from Whistler Mounds by the inflow stream to Fish Lake. Recently, a 20' x 30' shelter/information center with electricity was added in Whistler Mounds Park. Future improvements to the shelter could include drinking water. See Environmental section for more information.

Village Park's 9-acre campground area provides 50 sites, all of which contain electrical hookups. Restrooms, picnic facilities, water, dump station, telephone, and soft drink machine area also available. Most sites are rented out on a seasonal basis. The campground generates about \$12,000 annually in revenues for the village. A boat launch is located along the eastern edge of the campground area where limited parking is available.

The beach and picnic area, which is east of and separated from the campground and boat launch by a private residence, contains less than three acres. Restrooms, dressing rooms, play equipment, and a drinking fountain complement swimming and picnic facilities. During the warmer months, a pier is extended into the lake. Adequate parking is available. Retaining walls constructed in this area show evidence of slope slippage.

The 19-acre flat upland area north of CTH GG is the largest section of the park. The eastern portion of this area contains two fenced ball fields (one lit), bleachers, a concession stand, and adequate parking. These fields are used for T-ball, little league and softball. The remaining open area is leased by the village to the Hancock Sportsman's Club for use as trap range. The range includes a traphouse, restrooms, and two range houses. A backstop in one corner of the range allows the area to accommodate ball games. This portion of the park has benefited significantly from the assistance of the local Lion's Club.

**Town of Oasis.** Lake Huron County Park is located four mile east of the Village of Plainfield. This park is owned by the town and leased by the county for development and maintenance. The 1.5-acre park functions primarily as a boat access site to Lake Huron. Lake Huron is widely regarded as one of the county's finest lakes. Facilities include a boat launch, swimming area, picnic facilities, and restrooms. Conflicts between park users and nearby residents are leading some town officials to re-evaluate their relationship with the county regarding the future of this site.

#### Public Access

Many significant lakes can be found within the area and provide a diversity of boating and fishing opportunities. The majority of the lakes within the area do not have public access and are open to private landowners only.

**Town of Deerfield.** Fish Lake is located in both the towns of Deerfield and Hancock and the Village of Hancock. This 177-acre lake provides about four miles of shoreline. Facilities within the Town of Deerfield include a public boat landing and parking area at the northeast corner of the lake off of 7<sup>th</sup> Drive. There are no plans to expand the facilities at this time.

Upper White River Millpond, a 64-acre impoundment of the White River, is located in the southeast corner of the town. Facilities include a public boat ramp with parking, located on the north side of the impoundment off of Lake Drive.

The following lakes within the town do not have public access: Bohn Lake, Crooked Lake, Ueeck Lake, Round Lake and Virginia Lake.

**Town of Hancock.** Pine Lake is located in the town as well as the Village of Hancock. This 163-acre lake offers 2.3 miles of shoreline. Facilities include a public boat landing and gravel parking lot on the east end of the lake off of  $6^{th}$  Avenue.

Fish Lake is located in both the towns of Deerfield and Hancock and the Village of Hancock (see Town of Deerfield and Village of Hancock). Facilities within the town include a public boat landing on the northwest end of the lake.

A developer has begun developing a ski lake (Phat Pond) in section 10, south of Beechnut Avenue. Facilities include a small shelter.

The following lakes allow public access, but do not have a public boat landing: Deer Lake, Goose Lake, Reeder Lake and Bullhead Lake.

**Town of Oasis.** Plainfield Lake is located east of the Village of Plainfield. This shallow 31-acre lake provides less than one mile of shoreline. Access to the lake is provided off of STH 73. No public facilities exist on this lake.

Long Lake is located east of Plainfield Lake. This shallow 45-acre lake provides about two miles of shoreline. A boat ramp off of 8<sup>th</sup> Avenue provides public access to this lake.

Huron Lake is located four mile east of the Village of Plainfield. This 48-acre lake provides about 1.5 miles of shoreline. A boat launch at the county park provides access to the lake.

The following lakes do not have public access and are open to private land owners only: Herrick Lake, Slafler Lake, Mud Lake, Shumway Lake, Weymouth Lake, Fiddle Lake, Horsehead Lake, Pumpkinseed Lake, Piper Lake, Walters Lake, Kawalski Lake and Yonkee Lake.

#### Church and Youth Camps

Waushara County has long been a popular area for churches and other organizations to develop camps and retreats for members and their children. Several of these facilities are located in the area.

**Town of Deerfield.** The Bay Lakes Council of the Boy Scouts of America operates a 200-acre camp north of Lake Virginia. Maywood Wilderness is used year round for council activities and individual Boy Scout troops and houses a full-time resident caretaker.

Camp Phillip owned by Camp Phillip Properties Inc. is located on the western side of the Upper White River Millpond. This 177-acre property has facilities for 250 people, including 40 campsites and is open year round.

#### School and Town Forests

The Tri-County Area School District owns over 240 acres, including a 160-acre conservation easement in the northeast corner of the Town of Hancock. This property includes part of Goose and Bullhead Lakes. In 1969 roads and fire lanes were established in the forest to provide access. Cross-country ski trails and hiking trails are available for the public and school groups to utilize. In 1994, an amphitheater was constructed that overlooks one of the lakes.

#### Snowmobile Trails

About 250 miles of state-funded snowmobile trails are available in Waushara County. The public trail network and interconnected privately maintained club trails are readily accessible to all portions of the county and link up with trails of surrounding counties as part of a statewide system. Private trails within the area are maintained by the Wautoma Snow Drifters in the Town of Deerfield, the Hancock Sno-Goers in the Town and Village of Hancock, the Tri-County Drifters in the Town of Oasis, and the Snow Drifters in the Town of Plainfield. A public snowmobile trail located west of I-39 is connected to private state funded trails in the area.

#### Sportsman's Clubs and Conservation Organizations

Lands owned by sportsman and conservation organizations accommodate a variety of uses, including trap and other shooting ranges, hunting and fishing grounds, and areas set aside for preservation.

**Town of Deerfield.** The Greenwood Rod and Gun Club, a private gun club, owns three parcels encompassing about 234 acres, west and south of the Greenwood State Wildlife Refuge.

## Golf Course

Marl Links is a private 9-hole golf course located in the Town of Deerfield east of Marl Lake. This golf course is open to the public.

#### **Other Recreational Opportunities**

This area is rich in trout fishing opportunities. Trout streams within the area include Schmudlach Creek in the Town of Deerfield; Carter Creek, a state fishery area in the Town of Hancock; Roche a Cri Creek, a state fishery area in the Town of Hancock; and the Leola Ditch in the Town of Plainfield.

#### **Post Office**

Residents within the area use one of three post offices; the City of Wautoma Post Office, the Village of Hancock Post Office and the Village of Plainfield Post Office. The Wautoma Post Office, located on Main Street in the City of Wautoma, serves a portion of the Town of Deerfield. The remainder of the Town of Deerfield as well as the Town of Hancock and the Village of Hancock are served by the post office in the Village of Hancock at 127 W. North Lake Street. The towns of Oasis and Plainfield are served by the post office in the Village of Plainfield located on North Street. All three facilities are full service and provide local delivery to area residents. At the present time there are no plans for expansion of these facilities.

#### Cemeteries

A number of public and private cemeteries located with the area and are indicated below by town.

**Town of Deerfield.** Fish Lake Cemetery: Located on the west side of 7<sup>th</sup> Lane between CTH GG and CTH V. This public cemetery is maintained by the town.

North Deerfield Cemetery: Located on the south side of CTH O, west of CTH B. This public cemetery is maintained by the North Deerfield Cemetery Association.

Grace Lutheran Church Cemetery: Located on the south side of CTH C, west of the intersection of CTH B. Maintenance of this private cemetery is provided by the church.

Woodville Cemetery: Located on the south side of Brown Deer Avenue, east of the intersection of CTH B. This public cemetery is maintained by the town.

**Town and Village of Hancock.** Hancock Cemetery: This cemetery is situated in both the town and the village and is located north of CTH C on the east side of 4<sup>th</sup> Avenue. This public cemetery is maintained by the town through money provide by both the Town and Village of Hancock.

**Town of Oasis.** Hillside Cemetery: Located east of the Village of Plainfield on the north side of CTH P at the intersection of STH 73; maintained by the Town of Oasis.

St. Paul's Cemetery: Located northwest of the Village of Plainfield on the south side of Alp Avenue, east of CTH BB; maintained by the church.

Oasis Cemetery: Located on the west side of  $11^{th}$  Drive, south of STH 73. This public cemetery is maintained by the town.

Lord Cemetery: Located north of the intersection of STH 73 and 12<sup>th</sup> Court. This is a historic Native American cemetery.

**Town of Plainfield.** Plainfield Cemetery: Located west of the Village of Plainfield, in the Town of Plainfield, on the east side of 5<sup>th</sup> Avenue north of the intersection of STH 73. This cemetery is jointly owned and maintained by the town and village of Plainfield.

Unnamed Cemetery: Located about <sup>3</sup>/<sub>4</sub> of mile south of Archer Avenue on the east side of 5<sup>th</sup> Avenue. This cemetery is maintained by the Tubbs family.

#### Wastewater Collection and Treatment

The towns of Deerfield, Hancock, Oasis and the majority of the Town of Plainfield are served by private on-site wastewater treatment systems. Within the Town of Plainfield one residential and one commercial building are on the village municipal system. There are no problems with on-site systems in the towns of Oasis, Plainfield and Deerfield. Within the Town of Hancock, the west end of the town (west of CTH KK) requires mound systems; no other problems are known to exist.

The Village of Hancock municipal wastewater collection and treatment system was installed in 1988 at a total cost of \$2.1 million. The system consists of laterals and mains discharging into a treatment facility located south of Bighorn Avenue. While this facility is located in the town, the land it sits on is owned by the village. This facility has an activated sludge "Orbal" Biological Reactor with a design flow of 0.066 million gallons per day (MGD). The system services 176 year round homes of which 114 are low and moderate income (LMI) and seasonal homes. The collection system covers the entire developed area of the village. According to the village added a new sludge storage tank as mandated by the WDNR. Routine maintenance of the plant is completed as needed; larger maintenance items are included in the capital improvement fund which also is required by the state. Due to the age of the plant, the rails in the lift station are in need of replacement, and the village is presently looking at replacement of these items. Currently, the future growth area near I-39 is not sewered. The village should consider extending the sewer to this area prior to development occurring.

#### Water Supply and Storage

#### Supply

The towns of Deerfield, Hancock, Oasis and Plainfield are served by private wells. Elevated nitrate levels have been detected in a few of the private drinking water wells within the region. See the environmental section of the plan for more information.

The Village of Hancock is served by a public water system. The village has one active well to serve its residents, a 250 GPM 10-inch well driven 250 feet into sandstone. In 1996, per the

Wisconsin Public Service Commission Annual Report, the well pumped an average of 0.044 MGD. A backup well was recommended by the WDNR and never installed. About 30 private wells are still being used along West Bighorn, North Main Street, Conlin Court, Oakwood Street, and Homestead Estates Mobile Home Park. An additional 10 homes have access to public water but have not hooked up. Recommendations for water extension along West Bighorn, North Main Street, Conlin Court, Oakwood Street, and Homestead Estates Park were made in the 1990 Community Development Plan for the village, but these extensions were never completed.

#### Storage

The Village of Hancock has one elevated storage tank with a capacity of 50,000 gallons. Usage in 1996 was estimated to be 1.134 MGD. According to the Village of Hancock Community Development Plan, dated July 1990, an additional 270,000 gallons of storage is needed for fire protection.

#### Storm Sewer

The surface water drainage system within the Village of Hancock consists principally of roadside ditches. Problems with erosion and standing water exist in several locations due to improper grading, inadequate ditch stabilization, and lack of or improperly installed culverts.

Storm sewer has been installed along segments of North Lake and Wood streets to alleviate drainage problems from the Main Street area. Additional storm sewer, ditching, and shoulder paving are needed in selected areas within the village.

## Solid Waste Disposal and Recycling

Waushara County maintains two solid waste transfer facilities with the area. Residents bring their waste and recyclables to the site and place them in 6 cubic yard containers that are emptied twice a week. The sites are manned two days a week by county employees. Residents within the towns of Deerfield and Hancock and the Village of Hancock predominately use the facility located in the Village of Hancock. In addition, the Village of Hancock provides curbside collection of solid waste to village residents. Recyclables are not collected by the village; therefore, residents dispose of these materials at the transfer facilities. Residents in the towns of Oasis and Plainfield use the facility situated in the Village of Plainfield. In addition, for a fee, several private firms provide curbside collection to residents that reside within the towns.

**Village of Hancock.** Located on the east side of the village, this 2-acre site is situated on the north side of CTH V. Waushara County maintains a yearly lease with the village to use this site, which is manned by two county employees.

**Village of Plainfield.** The 2.5-acre site is situated in the northwestern corner of the village on Pine Street. Waushara County has a yearly lease agreement with the village to use this site. One county employee mans this site.

#### Health Care Facilities/Emergency Medical Services

There are no hospitals located within the area; however there are six hospitals located within approximately 50 miles. The six General Medical-Surgical hospitals include Wild Rose Community Memorial Hospital in Wild Rose, Adams County Memorial Hospital in Friendship, Berlin Memorial Hospital in Berlin, St. Michael's Hospital in Stevens Point, Divine Savior in Portage, and Riverview Hospital Association in Wisconsin Rapids. Table 4-4 indicates which hospitals are used by residents of the various communities as well as the approximate distance between the hospital and the municipality. Table 4-5 gives general information about the area hospitals.

Emergency medical services for the entire area are provided by the Waushara County EMS. The First Responders through the Hancock Area Volunteer Fire Department service the Town and Village of Hancock while the First Responders through the Plainfield Volunteer Fire Department serve the town of Plainfield and Oasis. An ambulance, shared jointly between the Coloma Fire Department and the Village of Plainfield, resides half time in the Village of Coloma and half time in the Village of Plainfield in alternating months. This ambulance provides service to the entire area and response time depends on where the ambulance is located at the time. The residents of the area are generally satisfied with the response time and level of service.

1					
	T. Deerfield	T. Hancock	V. Hancock	T. Oasis	T. Plainfield
Adams Co.					
Memorial	NA	25	NA	NA	30
Wild Rose					
Comm. Mem.	9	14	14	7	13
Riverview					
Hosp. Assoc.	NA	NA	NA	27	22
Berlin					
Memorial	26	NA	NA	28	32
Divine					
Savior	47	NA	NA	NA	45
St. Michael's	32	25	33	25	22

Table 4-4.	Distance to	Hospitals
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Notes: NA not used.

	Adams Co.	Wild Rose	Riverview	Berlin	Divine	
	Memorial		Hosp. Assoc.	Memorial	Savior	St. Michael's
De de						
Beds	40	27	79	61	42	114
Adult Med-Sur, Acute	1	1	1	1	2	1
Orthopedic	2	2	2	2	2	2
Rehab & Phy. Med.	2	2	2	2	2	5
Hospice	4	2	4	2	5	2
Other Acute	5	5	5	5	5	5
Pediatric, Acute	2	2	2	2	2	1
Obstetrics	5	5	1	1	1	1
Psychiatric	5	5	2	2	5	1
Alcoholism/Chem. Dep.	5	2	2	2	2	2
ICU/CCU:						
MedSur.	5	5	2	2	1	2
Cardiac	5	5	2	2	5	2
Pediatric	5	5	2	2	5	2
Burn Care	5	4	5	2	5	5
Mixed IC	5	5	1	1	5	1
Step-Down (Sp. Care)	5	5	2	5	5	5
Neonatal Interm/IC	5	5	5	5	5	1
Other	5	2	5	5	5	5
Subacute	5	2	5	5	5	5

## Table 4-5. Area Hospitals, Level of Service

Note: 1=Provided-Distinct Unit, 2=Provided-Not Distinct, 3=Available in Network, 4=Contracted, 5=Service Not Provided *Source: 1999 Wisconsin Hospital Guide, Office of Health Care Information, State of Wisconsin* 

## TRANSPORTATION FACILITIES

#### **Road Network**

The primary transportation system consists of a hierarchal network of highways, byways, and other roads and streets that pass through a community. In 1998 the combined road mileage for the five municipalities in the Group C Planning Cluster totaled almost 308 miles (Table 4-6). The Town of Hancock had the most total highway miles (81.60 miles) while the Village of Hancock had the least mileage (6.53 miles). County trunk and state highways comprise the Federal Aids Secondary System, thus qualifying them for federal aid for capital projects involving construction or repair. Waushara County is responsible for routine maintenance on these roadways. Maintenance of roads such as town roads and village streets not on the state or county system rests with the local jurisdiction. As Table 4-6 indicates, these roads comprised the bulk of a community's total roadway mileage. The Town of Plainfield had the most extensive local road system (55.58 miles). To assist communities with the cost of constructing and maintaining these roads, state highway aids are available based on lane mileage. For two-lane roads, most municipalities will receive approximately \$1,825 in state aids per mile in 2004.

	STH	СТН	Local	Total
Municipality	Miles	Miles	Miles	Miles
Town of Deerfield	0.00	25.54	49.18	74.72
Town of Hancock	6.11	26.62	48.87	81.60
Town of Oasis	7.47	18.38	45.78	71.63
Town of Plainfield	10.67	7.14	55.58	73.39
Village of Hancock	0.00	0.24	6.29	6.53
Total	24.25	77.92	205.70	307.87

Table 4-6.	Road	Network	by	Jurisdiction
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Source: WisDot, 1998

The hierarchy of the road network calls for each roadway to be classified according to its primary function, ranging from its ability to move vehicles (i.e., a freeway) to its ability to provide direct access to individual properties (i.e., a local street). The three general categories of functional classification used by transportation officials include arterials, collectors, and local roads. While arterials are intended to promote the movement of vehicles and local roads are intended to provide direct access to individual parcels of land, the role of collectors is to provide a connecting link between the two and, consequently, serve both local and through traffic needs. Maintaining this hierarchy of functions throughout a community's road network is the key ingredient to providing a safe and efficient transportation system.

Because traffic volumes are typically a good indicator of a roadway's appropriate functional classification, the Wisconsin Department of Transportation (WisDOT) conducts traffic counts at key locations throughout the state on a regular rotating basis. Displayed as average annual daily traffic (AADT), these counts are statistically adjusted to reflect daily and seasonal fluctuations that occur on each roadway. The most recent counts in Waushara County date from 1996 and 2000 and generally show a modest increase in traffic. When a significant difference in the two counts is encountered, it can generally be explained by a road closure, detour, or similar circumstance that temporarily disrupts the normal flow of traffic. Exhibit 4-1 displays the functional classification and AADT of selected roadways within the area.

#### **Principal Arterials**

Principal arterials provide mobility for through traffic. There is one principal arterial within the area.

• <u>I-39 (U.S. 51) is a designated interstate highway from central Illinois to Wausau, serving as the primary north/south artery through the center of the state</u>. It is designed to freeway standards (no at-grade access) as far north as Merrill. The interstate runs basically north/south through the towns of Plainfield and Hancock directly west of the two villages. Access to the interstate is available from STH 73 near Plainfield and CTH V near Hancock. Under/overpasses at Archer Avenue, CTH O, Beechnut Avenue, CTH C, Buttercup Avenue, and Chicago Avenue accommodate east/west travel within the area, but none of these roadways have direct access to I-39. Annual average daily traffic (AADT) on I-39 is nearly 14,000 north of Hancock but less than 13,000 south of the village, suggesting that area residents tend to look northward for shopping and employment opportunities.

## **Minor Arterials**

Minor arterials also provide mobility for through traffic. There is one minor arterial within the area.

 <u>STH 73 is classified as a minor arterial, providing a linkage between the Wautoma area</u> and the Wisconsin Rapids area. The I-39 interchange area near Plainfield produces STH 73's highest AADTs, with 6,900 east of the interchange and only 4,500 to the west. This discrepancy reinforces the important role of STH 73 of funneling traffic generated by area residents onto I-39. East of the village, AADTs on STH 73 quickly drop off from 5,500 to 3,000 beyond its junction with CTH P, bottom out at around 2,600 west of its junction with CTH J, and then increase again to about 3,000 as the highway approaches Wautoma.

## Major Collectors

Major collectors typically provide access between local roads and both principal and minor arterials. These roads serve as access to land use to greater degree than the previously discussed classifications, but primarily still function to carry traffic to and from arterials.

- <u>CTH P from STH 22 north of Wild Rose to STH 73 just east of the Village of Plainfield</u>. This is the most important east-west collector in the area, with AADTs ranging from 1,100 east of CTH J to 1,700 as the highway approaches the Plainfield area.
- <u>CTH C from its intersection with STH 73 in Wautoma west into Adams County</u>. AADTs quickly drop off from 2,400 west of Wautoma to 790 east of CTH B, 710 west of CTH B, 590 east of CTH FF, and 390 west of CTH FF.
- <u>CTH O from STH 22 south of Wild Rose/a short connecting segment of CTH B/CTH V west</u> to the Village of Hancock. Traffic volumes are relatively light and decrease significantly from east to west. AADTs are highest near STH 22 (450), decrease to 290 west of CTH O's intersection with STH 73, and drop off to a mere 160 on CTH V east of Hancock.
- <u>CTH V continues as a major collector through the Village of Hancock and extends</u> <u>southwesterly from the village to STH 21 west of Coloma</u>. Since this roadway interchanges with I-39, AADTs on CTH V are as high as 1,200 in Hancock near the interchange, but fall off to 860 west of the interchange and to 670 midway between Hancock and STH 21.
- <u>CTH BB from STH 73 near the east edge of the Village of Plainfield north into Portage</u> <u>County</u>. An AADT of 820 was recorded in 2000 a short distance north of the village.
- <u>CTH J from STH 73 north into Portage County</u>. AADTs range from 330 north of STH 73 to 410 south of the Portage County line, increasing as motorists near the Village of Almond.
- <u>CTH FF from its intersection with CTH V in the Village of Hancock southeasterly along the</u> <u>south shore of Pine Lake to CTH C</u>. Traffic volumes averaged 680 in 2000 (1,100 in 1996) in the downtown area but fell off to 340 (280 in 1996) near the southern edge of the village.

5<sup>th</sup> Avenue between STH 73 near Plainfield and CTH V in the Village of Hancock. An AADT of 960 was recorded in 2000 at the north edge of Hancock. It is unusual for a town road to be designated as a major collector; however, at one time 5<sup>th</sup> Avenue was actually U.S. 51 and served as the primary link between the two communities.

#### **Minor Collectors**

Minor collectors also provide access between local roads and both principal and minor arterials. These roads serve as access to land use to a greater degree than the previously discussed classifications, but still function to carry traffic to and from arterials.

- <u>CTH O from 5<sup>th</sup> Avenue west into Adams County</u>. AADTs on CTH O increased from 490 to 780 between counts taken in 1996 and 2000.
- <u>CTH B from its intersection with STH 73 south into Marquette County</u>. AADTs generally decline from 420 near STH 73 to 230 north of its intersection with CTH C. Even lower traffic volumes are found further south beyond the study area.
- <u>CTH FF south from its intersection with CTH C to its intersection with STH 21 in the Village</u> <u>of Coloma</u>. No traffic counts are available for this roadway segment.
- <u>CTH GG from CTH V east of Hancock along the north shore of Fish Lake to CTH C</u>. AADTs were 210 in 2000 and 270 in 1996.

#### Local Roads

The remaining roads in the town are classified as local and provide access to residential, recreational, commercial and industrial uses within the town. No official traffic courts have been undertaken for these roads, but most of them carry fewer than 100 vehicles per day.

#### **Current and Future Transportation Projects**

There are no upgrades planned for any of the roads discussed above.

#### Railroads

There no longer are any operating railroads in Waushara County. The nearest rail service is available at Stevens Point, which is a division headquarters for the Canadian National Railroad. Other rail lines include the Union Pacific, which passes through southern Marquette County, and the Canadian Pacific Railway, which has a major yard facility in Portage. All three lines generally connect Chicago with the Twin Cities and points westward. Amtrak utilizes the Canadian Pacific line to provide passenger service. In addition to Portage, station stops include Columbus, Wisconsin Dells, and Tomah.

## Airports

The three airports most convenient to area residents that provide scheduled commercial air service are: Central Wisconsin Regional Airport in Mosinee, Outagamie County Regional Airport in Appleton, and Dane County Regional Airport in Madison. Other airports/airfields offering a lesser range of services include those in Oshkosh, Stevens Point, Wisconsin Rapids, Wautoma, Waupaca, and Wild Rose.

#### **Bus Service**

There is no scheduled bus service within the county. However, the Department of Aging administers two programs on a countywide basis that serve the elderly and disabled residents of Waushara County. These two programs are a volunteer driver program and a mini bus program. The mini bus program is based in the City of Wautoma and provides transportation for both medical and personal trips. Other members of the public can also utilize the mini bus if space is available.

## EXHIBIT 4-1

## TOWN OF DEERFIELD FUNCTIONAL CLASS AND AVERAGE DAILY TRAFFIC VOLUMES



# **EXHIBIT 4-1 TOWN OF DEERFIELD FUNCTIONAL CLASS AND AVERAGE DAILY TRAFFIC** VOLUMES 1996 & 2000 DATA



PRINCIPAL ARTERIAL - INTERSTATEPRINCIPAL INTERSTATE - OTHER MINOR ARTERIAL
 MAJOR COLLECTOR ||||| MINOR COLLECTOR



200 1996 ANNUAL AVERAGE DAILY TRAFFIC **189** 2000 ANNUAL AVERAGE DAILY TRAFFIC

Source: WisDOT, Rural Functional Class System, 1997; WisDOT Wisconsin Highway Traffic Volume Data, 1997 & 2000. Digital Base Data provided by Waushara County.



This map is neither a legally recorded map nor a survey and is not intended to be used as one. This drawing is a compilation of records information and data used for reference purposes only. ECWRPC is not responsible for any inaccuracies herein contained.

Prepared By EAST CENTRAL WISCONSIN REGIONAL PLANNING COMMISSION - AUGUST 2001