

COMMUNITY COMPREHENSIVE PLAN Community Inventory..... Volume - II



4 From USGS Digital Elevation Model
High County EPTE
VA State DEC
VA State DOT
U.S. Census

Legend

Elevation (Meters)

High : 194

Low : 111

Lakes / Ponds

Surface Water

Road Centerline

2005 Tax Parcel Boundary

Municipal Boundary



The Town of Ira and Cato Joint Community Comprehensive Plan



Engineers • Environmental Scientists • Planners • Landscape Architects

**Towns of Ira and Cato
Cayuga County, New York**

**Community Inventory
For
Comprehensive Plan**

Volume II of III

June 2008
(Edited Sept 3, 2008)

**Adopted September 3rd, 2008 by the Town of Ira
Adopted September 4th by the Town of Cato**



Engineers • Environmental Scientists • Planners • Landscape Architects

**290 Elwood Davis Road
Box 3107
Syracuse, New York 13220**

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1.0 Introduction

1.1 Authorization

On May 10, 2006, the Ira Town Board authorized Barton & Loguidice, P.C. (B&L) to undertake the preparation of a Comprehensive Plan (The Plan) pursuant to, and in accordance with Section 272-a of New York State Town Law. Upon adoption of this resolution, the Town Board authorized the formation of a Special Board (AD-HOC Committee) consisting of one or more members of the Town Planning Board appointed by the Town Board to develop a vision for the future of the community.

On this date, the B&L planning team held a public presentation at the Ira Town Hall to discuss the planning process and the need for input from the surrounding communities. As a result, the Town of Cato determined that the best and most effective approach to completing their Comprehensive Plan was to work with Ira and combine efforts for the development of a Community Inventory and to combine public participation efforts. Therefore, this Community Inventory and the planning process that accompanies this plan was undertaken as a combined effort between the Towns of Ira and Cato and cooperation with the Villages of Cato and Meridian became important to the planning process.

The outcome of this partnership effort is a combined Community Inventory for the preparation of separate policy documents for the Towns of Ira and Cato. In creating this joint comprehensive planning document, input from the Villages of Cato and Meridian was solicited to ensure that the population centers of the two Towns receive due consideration in the planning process.

1.2 Inventory Purpose

The purpose of Volume II is to provide a comprehensive inventory of the natural, physical, and social characteristics of the community. It is designed to satisfy the inventory requirements of a Generic Environmental Impact Statement. A major component of the inventory is the incorporation of a computerized Geographic Information System to document existing conditions and to provide for the analysis necessary to develop sound land use policy for the Ira-Cato community over the next 20 to 30 years. The inventory is a summary of existing conditions

and a discussion of current trends considered during the planning process in order to provide a sound foundation for the planning goals and objectives contained in Volume I.

1.3 Inventory Components

This inventory is broken down into seven major categories with 11 subcategories. While additional information, data, and public discussion are inherent to the planning process, the Inventory is designed to address the most pertinent overriding conditions of the Town as of the year 2006. It is understood that many of the physical characteristics of the Town will remain the same throughout the planning horizon. For example, the type and location of soils throughout the Town will not change over the next 20 years. However, many aspects of the Inventory, (e.g., demographics, housing, transportation systems, and other features) may change as the result of unforeseen trends. For this reason, it is important that this inventory be revisited and updated from time to time and it is recommended that the Town Planning Board review and revise this inventory at a minimum time interval of five years.

The major components of this Inventory are as follows:

- Local History
- Demographic Profile
- Natural, Cultural and Historic Resources
- Parks, Recreation and Open Space
- Water and Wastewater Infrastructure
- Transportation and Infrastructure
- Land Use
- Community Facilities

These major planning elements form the basis for the organization of the Goals of the Comprehensive Plan. Additional information considered during a series of public Visioning Sessions is contained in Volume III and serves as the public record of the Comprehensive Planning/SEQRA Process.

1.4 History Settlement

1.4.1 General History of Cato (Courtesy of Town Historian)

The original Town of Cato was formed in 1802 and covered all the territory in Cayuga County north of Seneca River. Soon after settlement began, three ferries began to bring settlers across the Seneca River. One in the southeast corner of the Town of Cato opened a trade route to Jordan, Camillus, and Skaneateles. Another connected with Weedsport and Auburn. Midway in between the two was the middle ferry, later known as Abrams Ferry. In 1817, a toll bridge was built near the Woodworth Ferry.

The 1810 census shows a total population of 1,075 persons living north of the River in the Town of Cato and 1815 through 1820 brought a marked increase in growth. However, during the summer of 1816 there was a killing frost every month of the year so that all crops were a failure resulting in much sickness, suffering, and even death. The year 1816 has gone down in the annals of New England history as “The Year There Was No Summer.” The growing season that year was punctuated by a series of devastating cold waves that did major damage to the crops in central and northern New England. As a result, corn did not ripen and hay, fruits, and vegetables were greatly reduced in quantity and quality. This caused an exodus from New England, west to Central New York and beyond. Traders and artisans from the New England States began settling at promising corners where the East and West roads had been built which crossed the three main north and South roads.

At the largest of these (Cato four corners, later called Meridian), various articles could be purchased such as cotton cloth, garden seeds, hardware and small tools, spices, medicines, tea, tobacco, and various liquors, chiefly rum, which was served at raising and brandy which was used as medicine to combat Malaria. For these articles the folk brought in cheeses, butter, barrels of pork and beef, hides, wheat, corn, and rye, also barrels of pot and pearl ashes. These ashes were their chief source of revenue at first. These were collected from the burned trees that had been hauled into windrows when clearing the land. The ashes were hauled by teams to Oswego and shipped to England by way of Canada.

By the 1820s, the population had so increased that the Town was divided into four parts: Ira, Cato, Victory, and Conquest. The present Town of Cato includes 14 of the original 100 lots in the Southeast corner of the Township of Cato and 20 lots in the northeast corner of the Township of Brutus. In 1824 the Town of Cato had a population of about 1,000. During the early 1820s all of the Town of Cato profited by the cheaper and easier transportation that the newly opened Erie Canal afforded. The produce of the Town was hauled to either Jordan or Weedsport to be loaded onto the canal boats for the eastern seaboard. Foreign imports moved up the Hudson River and on westward over the Erie Canal.

Prior to 1840, the farmers used inexpensive tools, many of which were manufactured at home or at the numerous blacksmith shops that were located in the Town of Cato. Plowing with oxen or horses, mowing grass with the scythe, cradling the grain and binding the bundles by hand, planting corn by hand and hoeing it, threshing the grain with a flail, operating a fanning mill by hand, and turning the grindstone by hand meant many hours of hard work.

Between 1840 and 1850, 20 million immigrants came to the United States from England, Norway, and Ireland traveling to the west via the Erie Canal and the new railroads that passed just south of the Cato southern boundary. Some found work in Cato and stayed. In 1847, local men financed and built a plank road from the Village of Cato to Weedsport with tolls to keep the road and bridges in repair.

In 1859 the State cleared obstructions in the outlets of Otter Lake and Parker's Pond and drained the adjacent swamp land. The present ponds are a fraction of their earlier size. During the 1860s, tobacco farming was introduced into the Town. This gave rise to increased employment for returning Civil War soldiers. There was much hand labor needed in the growing, harvesting, curing, sorting, and cigar-making. Sorting rooms were built and establishments set up to manufacture the finished product, making winter work available to the otherwise unemployed. In 1964, the last tobacco was planted by Clarence Blumer, Sr. Between 1860 and 1870, immigrants from Germany and Poland, seeking freedom from Prussia and Russian military service, came into this country. Some people settled in Cato.

By 1860, mowing machines, reapers and threshing machines had been invented and made the work easier. At the time of the Civil War there was a great demand for farm products and prices rose accordingly. This prosperity lasted until after the Civil War, and then the lands west of the Mississippi were homesteaded and were favored by cheap railroad rates. When this happened, the farmers here had trouble competing successfully. Too much land here was marginal to begin with or was depleted by continued faulty husbandry.

In 1869 a railroad was opened that connected the port of Fair Haven on Lake Ontario with Sayre, Pennsylvania. This railroad ran the length of the Town of Cato, entering from the south just west of the outlet of Muskrat Creek and leaving at the northern end just north of the Village of Cato. Coal began moving northward and farm produce southward to the big cities. Besides freight, there were also passenger, mail, express, and telegraph services. Extra coaches were added to accommodate the throngs that went to the Fair Haven beaches for the annual Sunday School Picnic in which all the neighboring churches united.

In the 1870s and 1880s, Auburn drew people from the Town of Cato to work in the manufacture of agricultural implements and other industries. In 1903 the State began construction of the barge canal to replace the old Erie Canal. The new canal followed the course of the Seneca River. This meant that the river channel bounding the town on the south had to be widened and deepened. The new canal was finished in 1912.

In the following years Cato became a thriving community. The Lehigh Valley Railroad shipped products such as bailed hay, tobacco, cabbage, pumpkins, and milk. With the increase in the price received for fluid milk on the New York City market, the farmers began keeping more milk cows. Silos were erected and more corn was raised for silage. A legume type of hay replaced the field of timothy and less tobacco was grown. The production of milk has steadily increased over the years and today is the main source of income to Cato farmers.

1.4.2 General History of Ira (Courtesy of Town Historian)

An expanded History of the Town is available at Town Hall and on the Town web page and was provided by the Town Historian. The history of Ira is virtually the same as for the Town of Cato. Ira was formed on March 16, 1821 when military township #3, Cato, was divided into two whole towns. Ira contains the northeast 36 military lots of Township #3, with Ira “Hill” being the hub of the town. As in Cato, farming was the main occupation of people that settled the town. Sideline occupations included sawmills, tanneries, surveying, proprietors of stores, blacksmith, and carriage shops. Other early industries include cooperage and limestone quarries and a kiln.

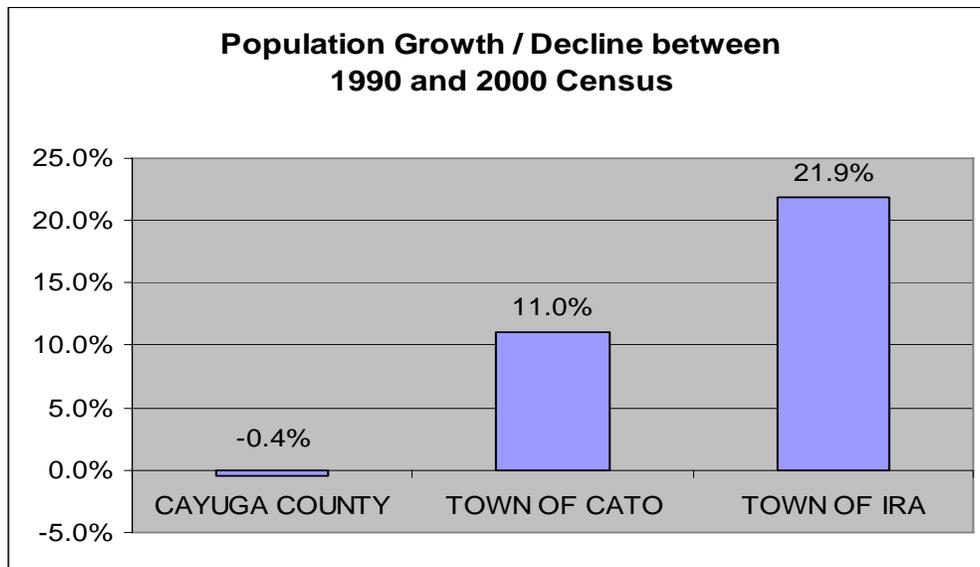
The country one-room schools were the means of educating the children for about 125 years in the Town. Ira had up to 14 school districts for many years. These schools also served as a culture center for the neighborhood, such as a library, for picnics, Church, and a meeting place.

Today, Agriculture remains a major component of the local economy and there are several new facilities along the eastern edge of the Town that train, board, and raise horses. Plainville Turkey Farm, Inc. has a growing facility for young turkeys at the junction of the Towns of Ira and Cato in Cayuga County and Lysander in Onondaga County. Nutricuticals (formerly Incredameal, Inc.) makers of nutritional food bars, is the town’s main industry.

1.5 Demographic Profile

A review of Census data provides baseline information to recognize growth or non-growth population trends, the ethnic profile of the community, and economic potential of the local work force. It is also helpful in establishing human patterns. For example, the location of employment opportunities may be evident by establishing how many people are employed locally as compared to the number of individuals who commute to other employment centers. Another example may be identifying a trend that may result in school expansion, development of senior assisted housing, or evaluation of the median income of the local population to give insight into the health of the local economy. Therefore, Census data is an important first step in the planning process.

The U.S. Bureau of the Census indicates a brisk growth rate in the Town of Ira between 1990 and 2000. In addition, the Town of Cato also experienced growth rate of 11 percent reflecting a combined average growth rate of 16.45 percent within the two Towns. The current trend in the migration out of the Syracuse Metropolitan Statistical Areas (MSA) suggests that residential growth will continue in the Ira-Cato area throughout the planning horizon. This consideration should be taken into account during the planning process and should have a profound affect on the community’s ability to balance infrastructure needs with future demands. This is necessary in order to protect the community from unplanned growth and development.



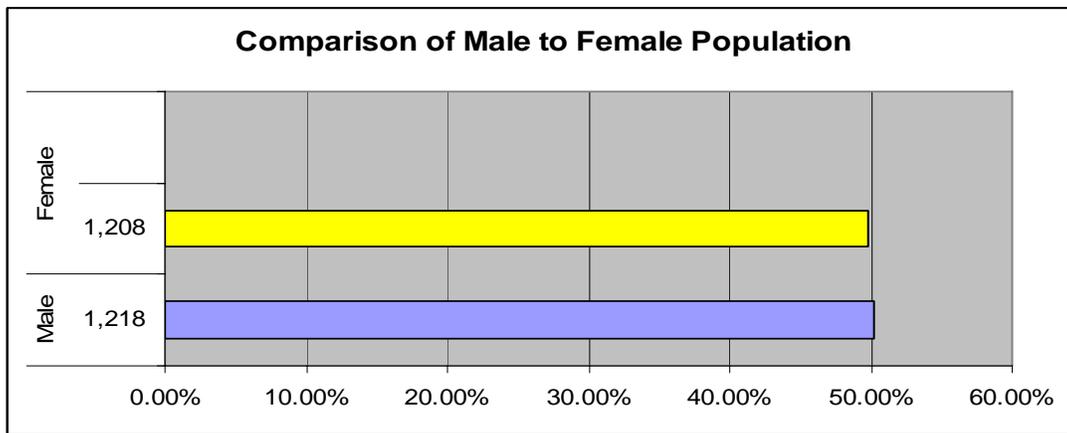
While Cayuga County in general is experiencing a moderate decline in population, it is assumed that the Ira-Cato proximity to the Syracuse area is attracting a commuter population that seeks to benefit from the open space and quality of life that is afforded by the community. In addition, recent improvements to Route 370 and accessibility of the New York State Thruway will facilitate new single family home development in the area.

To better understand the makeup of the individual communities within Ira and Cato, the Demographic inventory that follows addresses each Town. Census data for the Towns includes the Villages or, in the case of Ira, the portion of the Village of Cato within the Town. It is followed by a more detailed view of the demographic makeup of the Village of Cato and

Meridian as the commercial center of the community and the two most populated areas within the two towns.

1.5.1 Town of Ira

The Town of Ira (including the portion of the Village of Cato within the Town) includes 34.9 square miles (22,336 acres). According to the 2000 data available from the U.S. Census Bureau, there were 2,426 people, 822 households, and 669 families residing in the town. The population density was 69.6 individuals per square mile and there were 24.9 residential units per square mile for a total of 867 housing units.



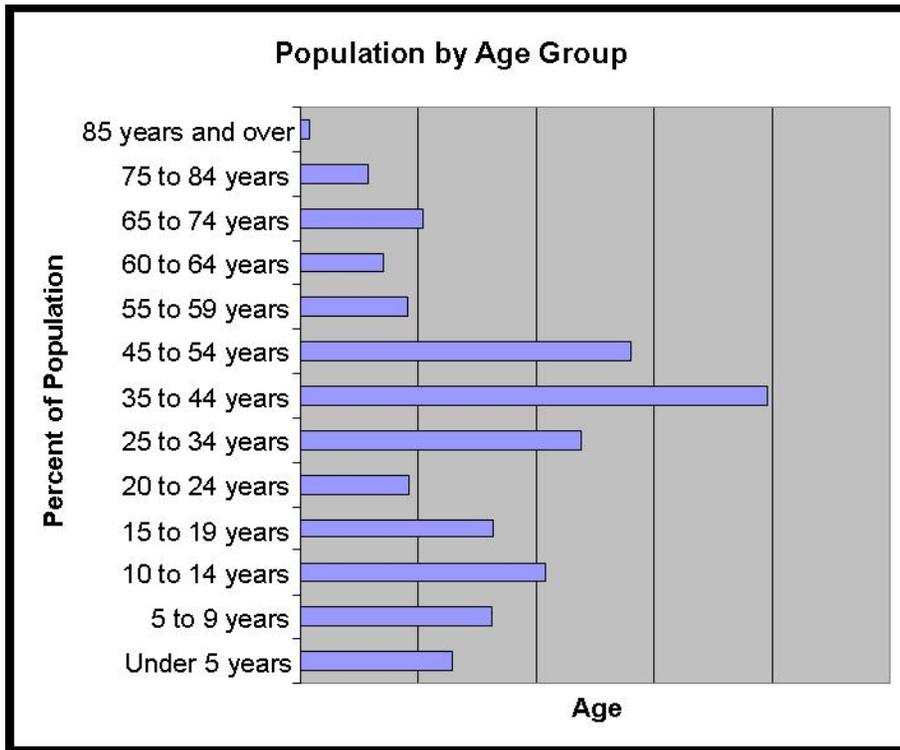
The Town’s racial composition in 2000 was as follows:

White	97.03%
African American	0.70%
Native American	0.04%
Asian	0.04%
Pacific Islander	0.00%
Hispanic or Latino of any Race	1.03%
Other Races	0.00%
Two or More races	1.77%

Census data also reflects 822 households out of which:

- 41.4% had children under the age of 18 living with them
- 65.5% were married couples living together
- 10.7% had a female householder with no husband present
- 18.5% were non-families

In addition, 14.1 percent of all households were made up of individuals living alone and 4.1 percent had someone living alone who was 65 years of age or older and the average household size was 2.95. The average family size of the average family is 3.20.



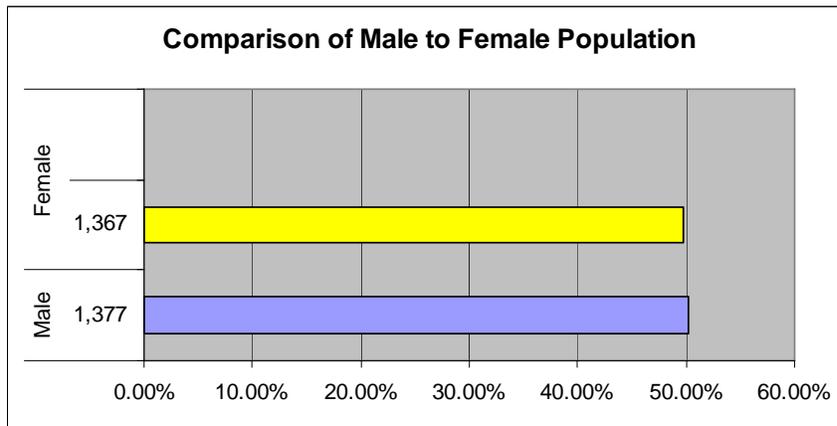
As of the year 2000, the median age of the Town population (including the residents of the Town within the Village of Cato) was 35 years.

The median income for a household in the Town was \$46,027 and the median income for a family was \$48,750. Males had a median income of \$35,472 versus \$25,134 for females.

The per capita income for the town was \$16,954. Seven percent of the population and 3.4 percent of families were below the poverty line. Nine percent of those under the age of 18 and 5.3 percent of those 65 and older were living below the poverty line.

1.5.2 Town of Cato

The Town of Cato is 36.2 square miles of land area or approximately 23,168 acres of area (including the portion of the Town within the Villages of Cato and Meridian). Census data available for the Town of Cato reflects 2,744 individuals within the Town, 994 households, and 747 families residing in the town. The population density is approximately 81.6 persons per square mile. As of the year 2000, there were 1,293 housing units at an average unit density of 38.4 units per square mile.



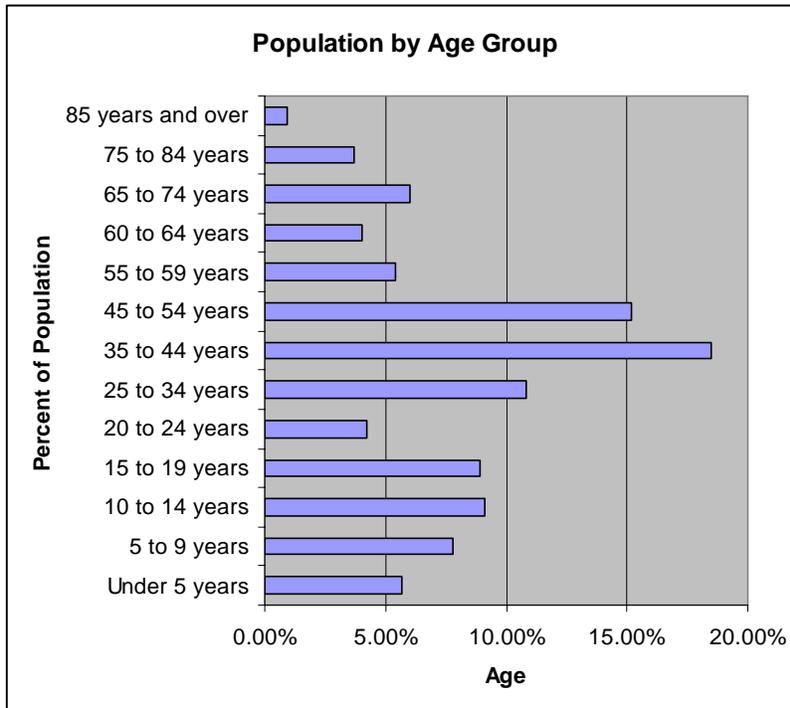
Cato’s racial makeup in the year 2000 was as follows:

White	97.74%
African American	0.36%
Native American	0.40%
Asian	0.29%
Pacific Islander	0.07%
Hispanic or Latino of any Race	0.36%
Other Races	N/A
Two or More races	N/A

Year 2000, Census Data indicates 994 households with the following characteristics:

- 36.4% had children under the age of 18 living at home.
- 62.0% were married couples living together.
- 7.6% had a female householder with no husband present.
- 24.8% were considered “non-families.”
- 9.9% had someone living alone who was 65 years of age or older.

The average household size was 2.76 and the average family size was 3.16.



The median income for a household in the town was \$43,281 and the median income for a family was \$49,028. Males had a median income of \$35,150 versus \$24,572 for females.

The per capita income for the town was \$19,941: 8.3 percent of the population and 6.0 percent of families were below the poverty line; 9.5 percent of those under the age of 18 and 11.7 percent of those 65 and older were living below the poverty line.

1.5.3 Village of Cato

The Village of Cato lies partly within the Town of Ira and partly within the Town of Cato. New York State Route 370 divides the Village and the population data for the two Town’s includes the portion of the Village within each Town. However, the data reflected below is specific to the Village of Cato and does not reflect any demographic trends beyond the Village boundary.

In the year 2000, there were 601 people, 238 households, and 154 “traditional families” residing in the village. The density of the local population within the Village is 608.2 persons per square mile.

There are 253 housing units at an average density of 256 residential units per square mile.

The racial makeup of the village in the year 2000 is:

White	97.5%
African American	0.33%
Native American	0.50%
Asian	0.00%
Pacific Islander	0.33%
Hispanic or Latino of any Race	0.50%
Other Races	N/A
Two or More races	N/A

There are 238 households living within the Village and 35.3 percent have children under the age of 18 living with them. According to the Census, 51.3 percent are married couples living together, 11.3 percent have a female householder with no husband present, and 34.9 percent are non-families.

In the Village of Cato, 31.5 percent of all households are made up of individuals and 19.7 percent have someone living alone who is 65 years of age or older.

The average household size is 2.53 and the average family size is 3.15.

The age of the local population is spread out with 29.5 percent under the age of 18, 6.3 percent from 18 to 24, 27.8 percent from 25 to 44, 19.3 percent from 45 to 64, and 17.1 percent who are 65 years of age or older. The median age is 38 years.

The median income for a household in the village is \$35,938 and the median income for a family is \$49,219. Males have a median income of \$37,303 versus \$26,250 for females. The per capita income for the village is \$17,511; 6.9 percent of the

population and 2.9 percent of families are below the poverty line. Out of the total population, 5.5 percent of those under the age of 18 and 21.0 percent of those 65 and older are living below the poverty line.

1.5.4 Village of Meridian

Although New York State Route 370 passes through the Village of Meridian, the Village lies entirely within the Town of Cato. Census data listed for the Town of Cato above includes the Village of Meridian. However, the data provided below is specific to the Village of Meridian.

In the year 2000, there are 350 people residing in the Village of Meridian including 118 households, and 90 “traditional families.” The density of the local population within the Village is 505.8 persons per square mile. The 2000 Census data reflects 120 housing units within the Village at an average density of 173.4 units per square mile.

White	97.43%
African American	0.00%
Native American	0.57%
Asian	0.00%
Pacific Islander	0.00%
Hispanic or Latino of any Race	1.14%
Other Races	N/A
Two or More races	N/A

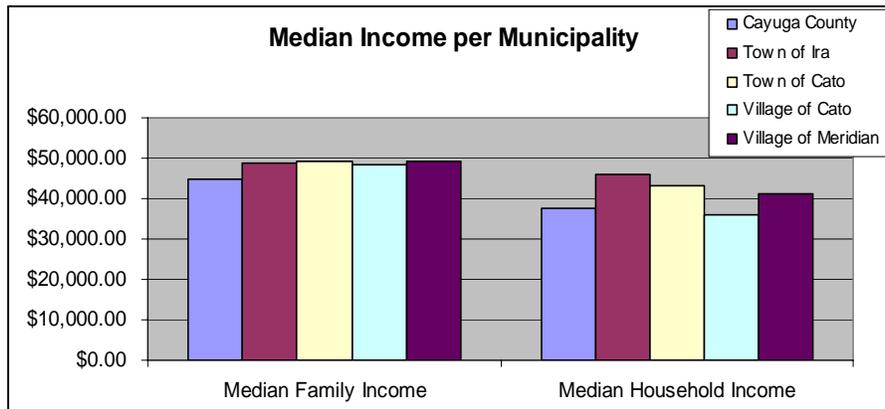
There are 118 households residing within the Village of Meridian, out of which 38.1 percent have children under the age of 18 living with them, 61.0 percent are married couples living together, 10.2 percent have a female householder with no husband present, and 22.9 percent are non-families. The average household size is 2.97 and the average family size is 3.34. In the year 2000, 17.8 percent of all households were made up of individuals and 6.8 percent have someone living alone who is 65 years of age or older.

In the Village of Meridian, the population age groups are spread out with 31.4 percent under the age of 18, 8.0 percent from 18 to 24, 29.1 percent from 25 to 44, 19.1 percent from 45 to 64, and 12.3 percent who are 65 years of age or older. The median age is 34 years.

The median income for a household in the village is \$41,250 and the median income for a family is \$48,250. Males have a median income of \$35,313 versus \$25,125 for females. The per capita income for the village is \$15,567; 9.4 percent of the population and 5.5 percent of families are below the poverty line. Out of the total population, 10.5 percent of those under the age of 18 and 5.7 percent of those 65 and older are living below the poverty line.

1.6 Employment and Education

1.6.1 *Local Estimated Income*



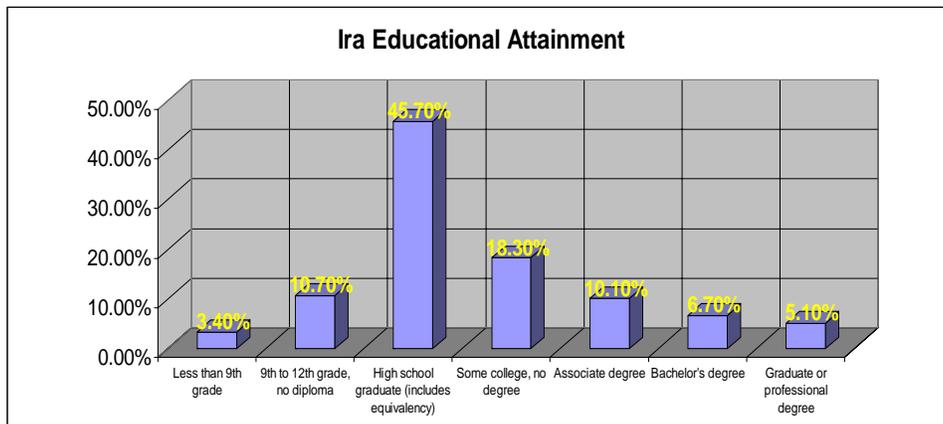
1.6.2 *Location of Resident Employment*

Out of a combined population of 5,170 people living within the Ira-Cato community, between 63 percent (Ira) and 68 percent (Cato) of the local population is employed at a full time status (35 hours per week or greater). As of the year 2000, the local unemployment rate was 3.9 percent for Ira and 2.8 percent in Cato. This reflects a slightly higher unemployment rate for the Town of Ira. However, the combined rate of unemployment within the community is relatively low. Based upon these employment statistics, the average percentage of people living below the poverty line within the two communities is 4.7 percent.

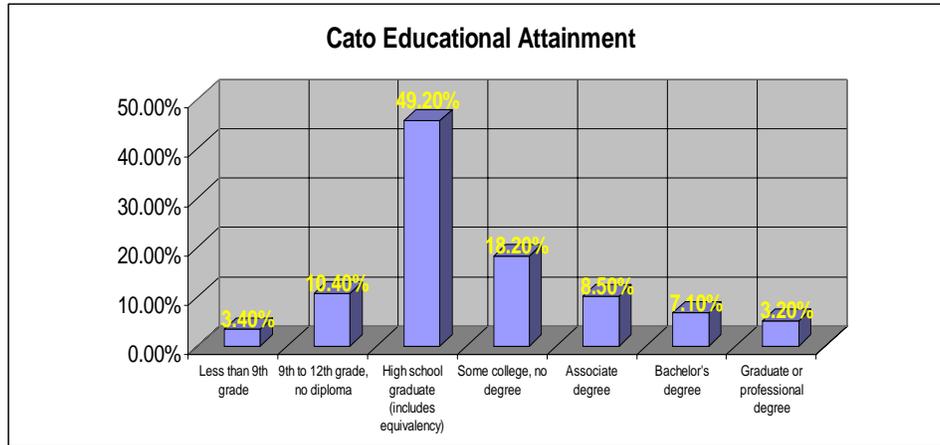
Of the total number of workers in the combined Towns, the average travel time to work in 2000 was between 29 and 32 minutes. This means that over half of the local residents travel outside of the area to commute to employment in other communities. It is likely that the average 30-minute travel time to work is the result of local residents commuting to Syracuse, Auburn, Weedsport, Jordan, or other communities within 30 miles of Ira and Cato.

1.6.3 Local Educational Profile

The Ira-Cato area has a relatively well-educated population compared to other similar rural communities. Of the total population, more than 85 percent of the population of Ira and 87 percent of the population of Cato have obtained High School Diplomas.



Within the two Towns, approximately 1,256 individuals, male and female, have some college education which accounts for approximately 25 percent of the total population of the area.



Additionally, 661 individuals hold an Associates Degree, Bachelors Degree, or Masters Degree from a college or university. This level of education provides a number of opportunities to present new concepts to the local population to enhance the community by establishing more progressive planning goals and objectives. It also suggests that there is an adequately trained workforce available to local businesses and entrepreneurs both within the community and as a commuter workforce to the greater Auburn, Syracuse, or Rochester area.

1.7 Summary

The demographic information listed above serves as the basis for growth estimates and the demographic analysis contained in Volume I of the Ira Cato Community Comprehensive Plan. It is important in understanding the demographic and social characteristics of the community and will be used to estimate future trends in residential and commercial land use within the community (See Volume 1 for Demographic analysis).

2.0 Natural and Cultural Resources

2.1 Natural Resource Inventory

2.1.1 Introduction

Natural resources are the life-blood of a local community. In Ira and Cato, this is evident in the long and successful history of agriculture and agribusiness. It is also the basis for establishing quality of life for local residents and improving the economic potential of the area. Natural resources provide the setting for making long-term planning decisions due to potentially constrained areas that may limit development. They are relevant to many issues with respect to septic systems, soils, steep slopes, other natural factors, and availability of potable groundwater. On the other hand, natural resources provide opportunities with respect to economics, recreation, land use potential, and land values. The inventory portion of the natural resources portion of the plan is thus important in establishing the setting for the future vision of Town residents and is useful in developing realistic goals and objectives to guide future policy.

The natural resource inventory (NRI) provides the basis for formulating land use decisions that are environmentally sustainable. This NRI is based upon a Geographic Information System (GIS) that is designed to aid community officials in designating vital areas in need of protection (example: wetlands, groundwater resources) as well as areas that can accommodate future growth and development.

Human activities associated with the use of natural resources can adversely affect their quality and availability. At the same time, the natural conditions of the community can limit the development potential of land within the community. By inventorying and analyzing the environmental constraints of the land, the NRI will be vital to the local community by providing the foundation for sound land use policy. This will help to alleviate potential environmental impacts of growth and changing land use as the community evolves in the future.

2.1.1.1 General Geography

The Towns' of Ira and Cato are located in the northern portion of Central New York and Cayuga County. The combined land area of the two Towns are bounded by the Seneca River to the south; the Town of Sterling to the north; Onondaga County to the east, and the Cayuga County Towns of Victory and Conquest to the west.

The Town of Ira includes an area of 34.9 square miles with approximately .26 percent of the surface covered by water. Cato has a land area of 36.2 square miles with approximately 7.1 percent of the surface covered by water. When combined, the total land area of Ira and Cato comprises 71.1 square miles (including the Villages of Cato and Meridian).

The two Towns generally reflect similar topography and contain the physical and environmental attributes of the Erie-Ontario lowlands. The two communities are also similar in that they are predominantly rural in nature with most of the landscape devoted to farming. Open space outside of environmentally constrained areas is dominated by agriculture and vacant land.

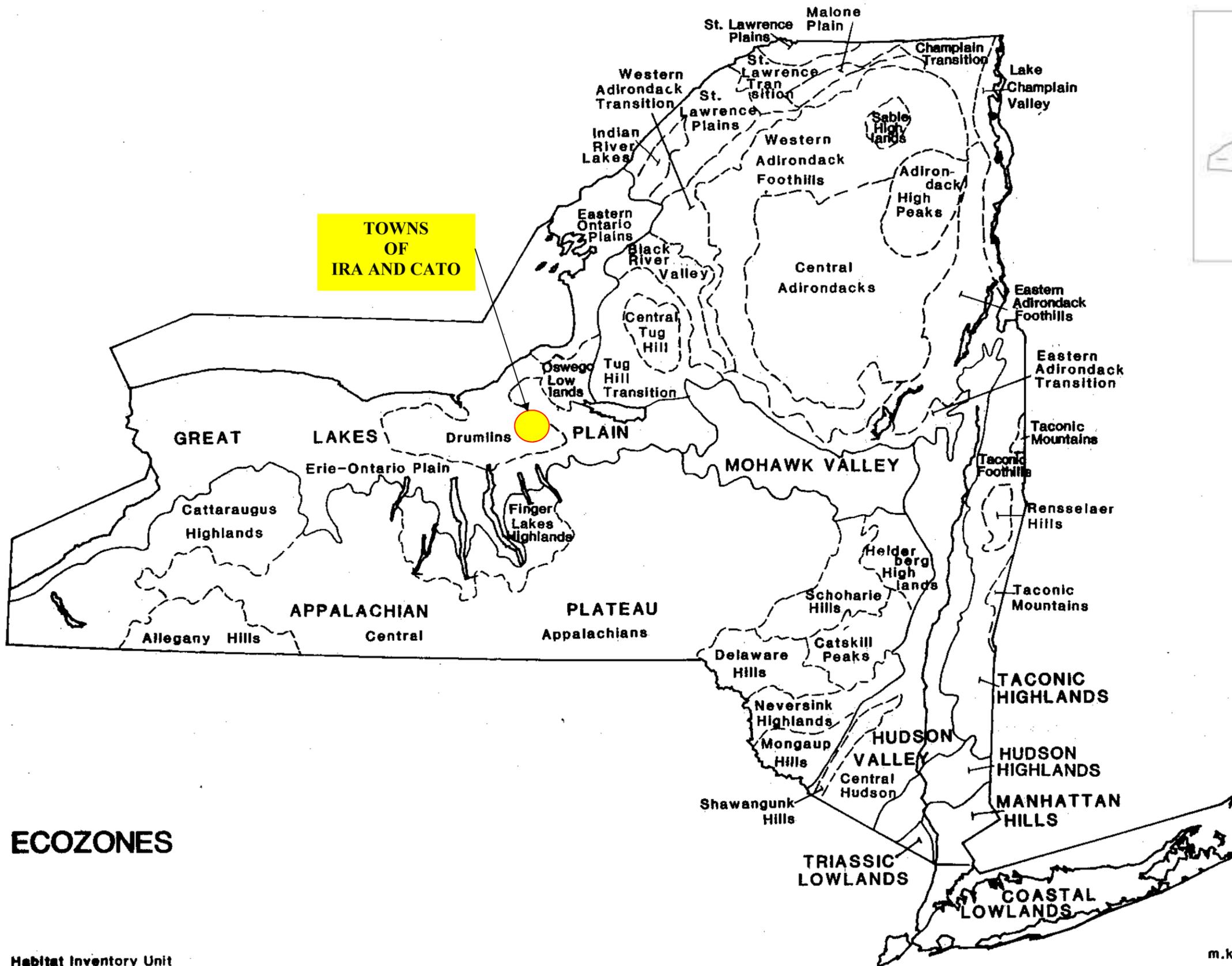
2.1.1.2 Ecological Zones and Watersheds

According the New York State Natural Heritage Program, both communities are located within the Great Lakes Drumlin Field. Drumlins are long linear hills that were formed as glaciers moved over the area approximately 10,000 years ago. This drumlin field is the second largest in the world and provides topographic conditions that allow for diverse habitats ranging from upland species of plants and animals to rich wetlands and stream corridors (Figure 2-1).

All of the land area within the Town of Cato including portions of Ira comprises pieces of the Seneca River watershed and ultimately discharges into the Seneca and Oswego Rivers. The Oswego River is the second largest tributary to Lake Ontario and contributes a large amount of pollutants to the Great Lake.

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CONTEXT MAP

ECOZONES

Habitat Inventory Unit

m.k.t



TOWN OF IRA - TOWN OF CATO
JOINT COMPREHENSIVE PLAN
COMMUNITY INVENTORY

Town of Ira
Town of Cato
Context Map - New York Ecozone Map
of
Ira and Cato
Cayuga County
New York

June 6, 2006
Barton
Bogardus, P.C.
Regional Environmental Scientists / Planning / Landscape Designers

FIGURE
2-1
Project No.
1069.001

Data Sources: State Ecozones - NYS Natural Heritage Program

Upstream pollutants are known to have traveled through the river and have affected the Lake Ontario ecosystem, thereby forming the basis for the “Area of Concern” designation.

The remainder of the Town of Ira drains north to Lake Ontario through the Oswego Towns of Hannibal and Oswego and the Cayuga County Town of Sterling (Figure 2-2). Understanding the location of watersheds within the community and the concepts of Watershed Management is an important factor in land use planning. The concept of watershed management includes the analysis, protection, development, operation or maintenance of the land, vegetation and water resources of a drainage basin for the conservation of all its resources for the benefit of its residents. Essentially, this approach recognizes that natural resources transcend municipal boundaries and that intercommunity cooperation is an important aspect of practicing sound conservation. By managing land use and development practices in a watershed management approach, communities can plan for the future in a way that addresses the cumulative impacts upon lakes, streams, rivers, and important groundwater resources.

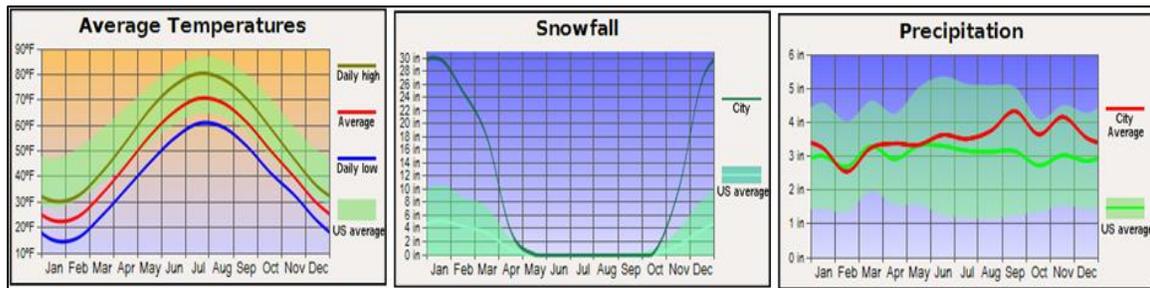
2.1.1.3 Climate

Climate and weather patterns are important to the planning process. Weather determines the agricultural potential of the area and variations in weather patterns can influence the length and quality of the growing season. Weather also influences many aspects of the community from the type and quantity of energy available to heat homes and businesses to the cost of maintaining future roads and infrastructure.

Climate is an important factor in planning for the built environment. It can affect the placement of windows on buildings, the landscaping of a residential lot, or have a great deal of influence on energy use, insulation needs, building requirements and the depth of frost that can impact foundations, waterlines and roads.

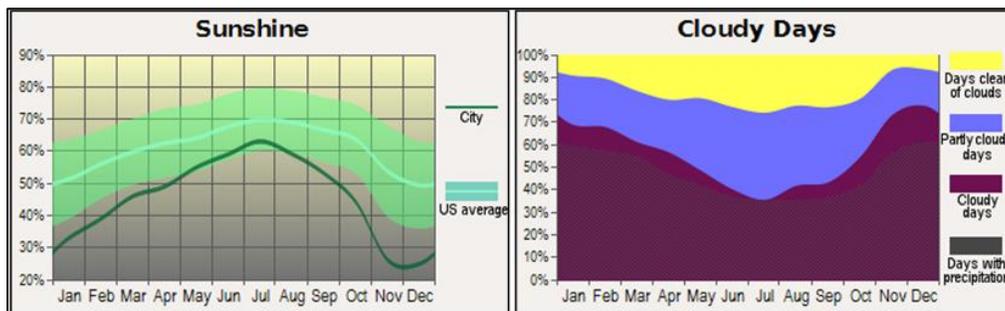
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Northern Cayuga County has a humid-continental climate, similar to most of the interior portions of the northeastern United States. The climate is a function of cold dry air masses from the northwest that dominate in the winter and humid winds from the south and southeast that prevail in the summer. Weather patterns in Ira and Cato are strongly influenced by Lake Ontario. As air masses move across the lake, moisture is transported to the area in the form of rain and snow. The average snowfall in the City of Oswego to the northeast is approximately 100-125” per season.



Graphic 2-1

The lake has a moderating effect on temperature, causing cool springs and a warm fall season. This creates a favorable condition for crops by moderating large temperature swings from season to season. The frost-free season in the area ranges from approximately 160 to 180 days, representing an extended growth period for local crops. The lake also creates a condition that results in a prolonged period of cloudiness in the fall and winter and prevalent sunshine in the spring and summer. By comparison, fall and winter averages about 20 to 30 percent of the maximum amount of possible sunshine whereas, spring and summer average approximately 70 percent of possible sunny days.



Graphic 2-2

Climate also affects the annual cycles of groundwater recharge and discharge in that the main source of groundwater in the area has a direct relationship with rainfall, the type and location of land uses surrounding critical groundwater supplies. Without proper planning, changing land uses can affect the quality and quantity of groundwater resources that are naturally balanced by nature.

2.1.1.4 Physiography and Topography

Ira and Cato are characterized by rolling drumlins separated by bottomland wetlands, streams and ponds. According to the U.S. Geological Survey, the highest elevation of the two Towns is located at the height of drumlins in the west central part of Ira (top elevation approximately 630 feet) and the Southwestern portion of Cato (top elevation approximately 620 feet). The remaining topography of the two towns is very variable, from 630 feet to the lowest known point at which Cross Lake flows into the Seneca River at 327 feet. The prevalence of drumlins reflects a wide variation in topography within the limited elevation of the Erie-Ontario Lowland. The general topography is indicated on the Topographic Relief Map (Figure 2-3).



Photo 2-1 - A Drumlin in the west portion of Ira

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Legend

- Lakes / Ponds
- Surface Water
- Municipal Boundary
- 2007 Tax Parcel Boundary
- Road Centerline

Elevation (Meters)

High : 194

Low : 111

Data Sources:
 Shaded Relief - Derived From USGS Digital Elevation Model
 2005 Tax parcels - Cayuga County RPTS;
 Surface Water - New York State DEC;
 Road Centerlines - New York State DOT;
 Municipal Boundary - U.S. Census



**TOWN OF IRA - TOWN OF CATO
 JOINT COMPREHENSIVE PLAN**

COMMUNITY INVENTORY

Town of Ira Town of Cato

**Shaded Relief Map
 of Ira and Cato**

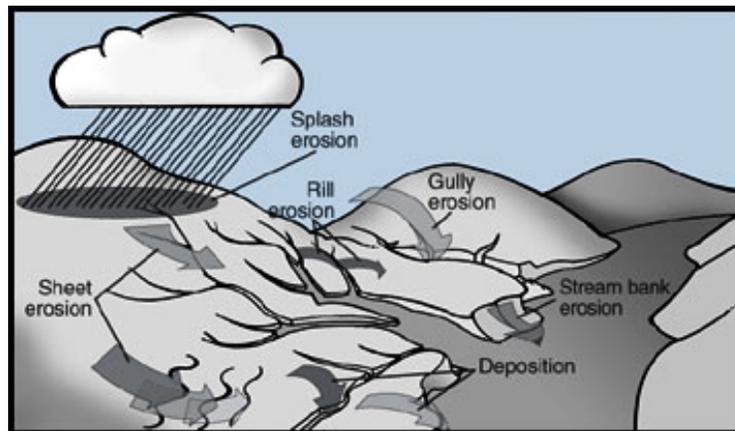
Cayuga County 2/6/07 New York



FIGURE
 2-3

Project No.
 1069.001

The steepness of the topography (known as slope) is expressed in a percentage and can be a determining factor in the suitability of land for development. It can also affect the viability of farming and other factors that are important to the planning process including drainage, erosion and flood potential. The general slope of drumlin land forms that are prevalent in the Town of Ira and Cato are usually greater than 8 percent (or one-foot increase in elevation for every 8 feet of horizontal distance).



Graphic 2-3 - Steep Slopes and the Erosion Process

The list below is a summary of slope classifications and their limitations for the purposes of making informed land use decisions:

- 0-3 percent: Nearly level land suitable for most land uses as long as the soils have good drainage. If the area is poorly drained, hydric soils may exist and slow moving water, standing water, or seasonal flooding may occur.
- 3-8 percent: A distinct slope becomes visible and the land is frequently well suited to most types of land use. Excess water can “run off” slopes in sheet form and use of heavy equipment or farm implements is not impeded by slope.
- 8-15 percent: Soils become increasingly prone to erosion when stripped of vegetation or tilled for crops. Use of heavy machinery and farm

implements becomes problematic. Conventional septic systems and standard leach fields become impractical without special installation techniques. Construction becomes more difficult and costs associated with building and road construction increase.

- 15+ percent: Heavy machinery and farm implements become prone to slipping. Non-vegetated slopes are prone to erosion and sedimentation. Soils associated with these slopes have severe limitations for septic systems and leach fields. Effluents readily flow on to land surfaces without soil absorption. Building construction is not recommended on slopes 15 percent or greater.

A breakdown of the slope classification in Ira and Cato is indicated in Figure 2-4. Based on GIS analysis, the average slope of land in the Towns of Ira and Cato is approximately 6 percent. The following is a breakdown of slope classification based upon a GIS analysis of the U.S.G.S. topographic maps for the area (see Figure 2-3). [Note: Based on ArcView Spatial Analyst. Estimate may vary by ± 2 percent.]

- Slopes 0-3% comprise 40% of the land area
- Slopes 3-8% comprise 33% of the land area
- Slopes 8-15% comprise 17% of the land area
- Slopes 15+ % comprise 10% of the land area

2.1.1.5 Glacial Geology

In New York State, the oldest known rocks are found in the Adirondack Mountains and the highlands of the Hudson River Valley. These rocks were formed in the Precambrian age and are known as “basement” formations. This basement material was formed about 600 million years ago and was uplifted during subsequent geologic events. Today this basement lies about 1,400 feet below the Ira-Cato landscape.

(Page Reserved for Figure 2-4)

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The bedrock features below Ira and Cato were formed over many centuries and the landscape that we see today is the result of wind erosion, water erosion, and glacial activity that occurred approximately 10,000 years ago. These glaciers took place during the Pleistocene era and were responsible for the rolling hills and Drumlins that are typical to the region. The Towns of Ira and Cato are comprised of two major bedrock groups. The Clinton Group underlies the majority of the land area in both Towns. This bedrock group contains shale, green and grey marine sand stone, hematatic limestone, dolostone, and conglomerates (e.g., pebbles and stones cemented together). The bedrock that lies beneath the two Towns has limited resource potential for natural gas or aggregate for building purposes but has a great deal of potential to provide underground sources of potable water (see Figure 2-5). However, the quality of groundwater and accessibility of it is very limited.

Surficial geology is an important indicator of soil types because they comprise the “parent material,” when physically or chemically weathered, form the soils within the region. Essentially, the surficial geology refers to the unconsolidated material that covers the bedrock that was deposited following the retreat of the Pleistocene era glaciers.

The glaciers that covered the northeastern portion of the country 10,000± years ago is a significant factor of the visual character of the area. They advanced and receded several times over a period of thousands of years. It is estimated that glacial ice was as much as a mile in height. Millions of tons of ice scoured bedrock, transported and mixed soils and significantly altered the topography in New York State. During the glacial retreat, runoff formed glacial till and outwash plains that formed shallow valleys around the remaining drumlins. As the glaciers melted, what is now known as Lake Ontario was much larger (Glacial Lake Iroquois) and the land area of Ira and Cato was submerged beneath lake water.

(Page Reserved for Figure 2-5)

As a result, there are generally six types of surficial geologic deposits in the area. Most of these deposits include till, lacustrine, glaciofluvial, alluvial, and organic deposits. Till is the material deposited from glacial ice and there are two types of till common to the area:

- Ablation Till (at) is the material that was once either carried on top of the glacier or within the ice core of the glacier. Ablation till was deposited on the surface as the glacier melted. These tills are loose and vary in permeability. They are much coarser than lodgement till and allow for surface water to infiltrate into the groundwater table.
- Lodgement Till (lt) formed at the base of the glaciers. These deposits were compacted by the weight of the glacier and are impermeable. Frequently, ablation till overlies areas of lodgement till but, due to the nature of the land area of the Town as a source of materials that were deposited to the south, there are large areas of lodgement till with small inclusions of ablation till.
- Glaciofluvial deposits were formed through a combination of glacial activity and wave action that occurred as the ice melted and Lake Iroquois covered the land. These deposits consist of stratified sand and gravel including kame sand and gravel, beach and sand gravel; and wave and sand gravel. These deposits are found throughout the Town with the exception of beach sand and gravel that is found in very limited quantity.
- Alluvial deposits are comprised of sand and gravel that were deposited in stream channels or on adjacent flood plains. Although some of the soils in the Town were formed from alluvium parent material, there are no major deposits of alluvium in the Town.

- Organic deposits contain peat, marl, and muck. These soils have high percentages of decomposed vegetation. These soils are found mainly in wetland areas between hills and drumlins.

In general, surficial geology is important in understanding some of the aspects of permeability throughout the area and the origin of soils that dominate the community. By understanding the origin of local soils, some planning assumptions can be made as to important areas for groundwater recharge, or discharge, or areas that are more suitable for crops and/or development. It is also important to identify areas that may be more prone to pollutants. Surficial deposits may also have some economic value. For example sand and gravel has commercial potential and some parent materials may be indicators of aquifer potential or potential for natural gas resources.

Although some potential exists in Cato and Ira, general information suggests that the use of deposits in the two towns for commercial purposes is limited. However, the area has the potential for providing potable groundwater resources either to local residents or for commercial distribution, particularly along the Town boundary in proximity to the Villages of Cato and Meridian.

2.1.1.6 Soils

Soils are a critical factor in determining the most appropriate type of land use. Knowledge of soil characteristics is basic to land use and development potential because it allows for an analysis of the soils that are most appropriate for building and road construction and provides information regarding susceptibility of important groundwater resources to pollutants and contaminants. Commercial and residential construction as well as highways must be placed on soils that have the appropriate bearing capacity for the type of land use that is proposed and can help to identify potential for problems associated with poor drainage and erosion. Soils are also an important natural resource due to their economic potential to the community when used for agriculture and forestry. From the farmers standpoint, the practice of farming, particularly with respect to crop production is fundamental to the types of soils in a given land area.



Photo 2-3 - Active Farmland in Cato

With regards to farmland and agricultural production, soils in Figure 2-9 represent the most important soils for crop production. However, that does not necessarily mean that only those soils are suitable for economically viable farmland. Dairy farms, cattle farms, and equestrian farms do not require a large amount of important farmland soils.

Soils are intrinsically linked to the availability and quality of water resources. This is important in determining the type of waste disposal and storage that is appropriate to the area and the amount of unit density that can be accommodated without adverse impacts to water quality. For this reason, the physical characteristics of soils must be taken into consideration when undertaking and evaluating any type of development plans.

As discussed in section 2.1.1.3, soils of the Town of Ira and Cato have a strong relationship to their parent material. They are continually being formed by the chemical and physical weathering actions of plants, animals, water, and wind. General soil types in the Towns of Ira and Cato are shown on the General Soil Map (See Figure 2-6).

Of the most important evaluations for soil types the following factors are the most important for land use planning:

- Soil Limitation for dwellings with basements
- Soil limitations for dwellings without basements
- Soil suitability for septic systems
- Soil susceptibility for erosion
- Soil susceptibility for drainage limitations
- Soil suitability for agricultural purposes.

The maps that follow indicate portions of the Town that contain soils that provide limitations for development based upon a combination of the limitations listed above.

- Figure 2-7 Location of Hydric Soils
- Figure 2-8 Soils by Drainage Classification
- Figure 2-9 Prime Agricultural Soils

These maps should serve as a future guide as to areas that have the most limitations for future development as well as those in which development may have adverse impacts to groundwater resources. Figure 2-9 is also a good indicator of the most valuable soils in the Town to provide for the future viability of crop production. Although these soils are important for the production of cash crops, it should be noted that recent trends in the use of farmland for providing fuel sources may make land areas that contain marginal agricultural soils more viable for farming in the future. As the use of Ethanol becomes more prevalent during the current rise in the price of oil and gasoline, many experts in the area of ethanol production believe that the importance of agriculture to produce “biofuels” will become a major component of our nation’s energy strategy.

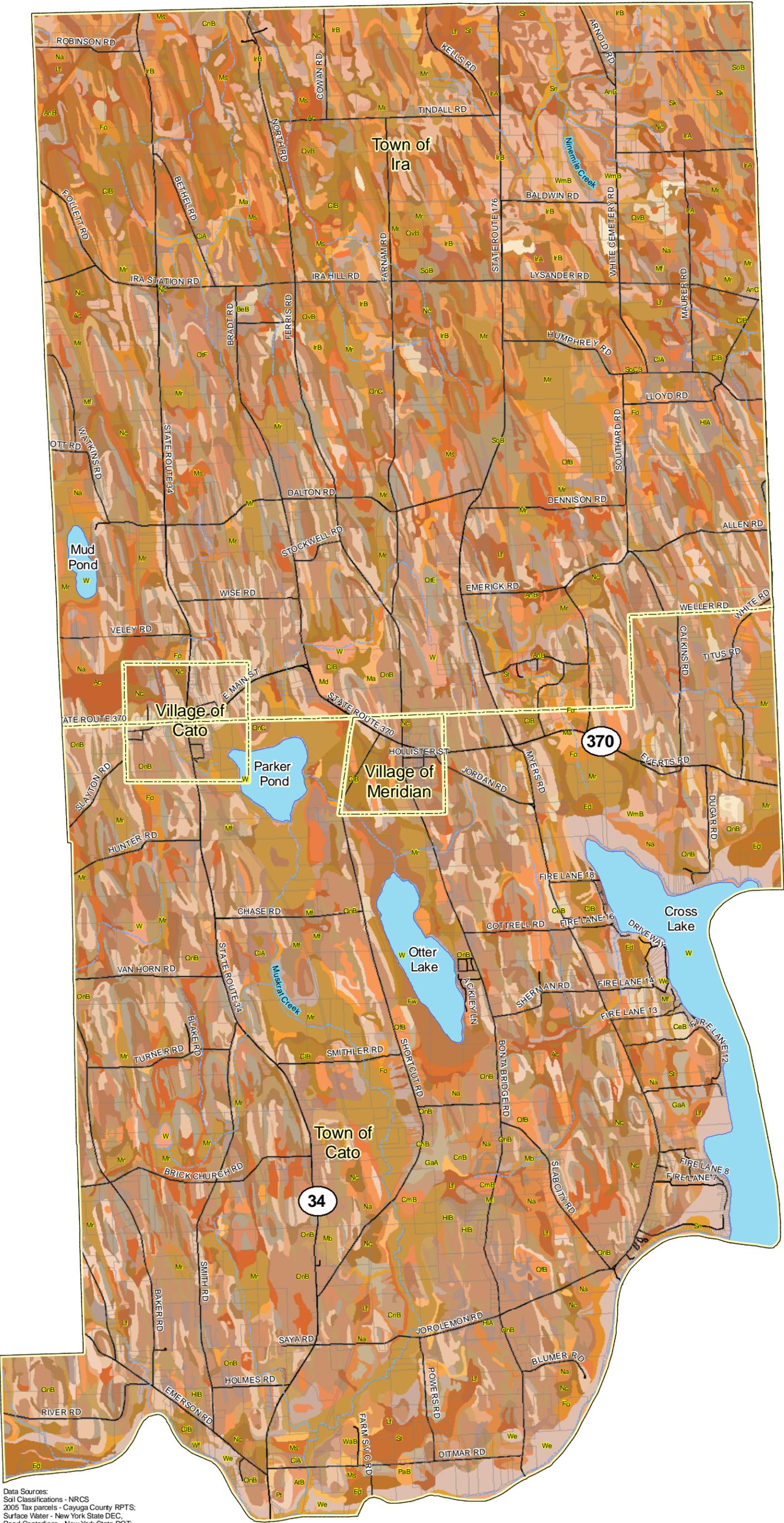
(Page Reserved for Figure 2-6)

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Legend

Soils by Drainage Classification

- Ac, Alden mucky silt loam
- Ad, Alden mucky silt loam, till substratum
- Al, Alluvial land
- AmA, Alton cobbly loam, 0 to 3 percent slopes
- AmB, Alton cobbly loam, 3 to 8 percent slopes
- AnA, Alton gravelly sandy loam, 0 to 3 percent slopes
- AnB, Alton gravelly sandy loam, 3 to 8 percent slopes
- AnC, Alton gravelly sandy loam, 8 to 15 percent slopes
- AoD, Alton and Howard soils, 15 to 25 percent slopes
- AsB, Appleton and Lyons loams, 0 to 5 percent slopes
- AtB, Arkport fine sandy loam, 1 to 6 percent slopes
- AtC, Arkport fine sandy loam, 6 to 12 percent slopes
- BeB, Benson loam, 1 to 8 percent slopes
- BeC, Benson loam, 8 to 14 percent slopes
- BIB, Brockport and Lockport silty clay loams, 2 to 6 percent slopes
- CaC3, Camillus silt loam, 6 to 12 percent slopes, eroded
- CeB, Cazenovia silt loam, 2 to 8 percent slopes
- CeC, Cazenovia silt loam, 8 to 14 percent slopes
- CeC3, Cazenovia silt loam, 5 to 14 percent slopes, eroded
- CeCK, Cazenovia silt loam, rolling
- CeD, Cazenovia silt loam, 12 to 20 percent slopes
- ChE, Cazenovia and Schoharie soils, 20 to 40 percent slopes
- CIA, Collamer silt loam, 0 to 2 percent slopes
- CIB, Collamer silt loam, 2 to 6 percent slopes
- CmB, Colonie loamy fine sand, 1 to 6 percent slopes
- CmC, Colonie loamy fine sand, 6 to 12 percent slopes
- CnB, Colonie fine sandy loam, 1 to 6 percent slopes
- CpD, Colonie and Arkport soils, 12 to 22 percent slopes
- DuB, Dunkirk silt loam, 1 to 6 percent slopes
- DuC3, Dunkirk silt loam, 6 to 12 percent slopes, eroded
- DuD3, Dunkirk silt loam, 12 to 18 percent slopes, eroded
- Ed, Edwards muck
- Ee, Eel silt loam
- Eh, Eel silt loam, high bottom
- Fo, Fonda mucky silt loam
- Fr, Fredon loam
- Fw, Fresh water marsh
- GaA, Galen fine sandy loam, 0 to 2 percent slopes
- GaB, Galen fine sandy loam, 2 to 6 percent slopes
- Go, Genesee silt loam, high bottom
- HIA, Hilton loam, 0 to 3 percent slopes
- HIB, Hilton loam, 3 to 8 percent slopes
- HnC3, Honeoye silt loam, 8 to 14 percent slopes, eroded
- HoCK, Honeoye soils, rolling
- Ira, Ira gravelly loam, 0 to 3 percent slopes
- Irb, Ira gravelly loam, 3 to 8 percent slopes
- IsD, Ira and Sodus very stony loams, 2 to 20 percent slopes
- KIA, Kendaia and Lyons silt loams, 0 to 3 percent slopes
- La, Lamson fine sandy loam
- Lf, Lamson mucky fine sandy loam
- LIA, Lima silt loam, 0 to 3 percent slopes
- LiB, Lima silt loam, 3 to 8 percent slopes
- Ma, Madalin silt loam
- Mb, Madalin silt loam, sandy subsoil variant
- Mc, Made land, sanitary land fill
- Md, Made land, tillable
- Mf, Minoa fine sandy loam
- Mr, Muck, deep
- Ms, Muck, shallow
- Na, Niagara fine sandy loam
- Nc, Niagara and Canandaigua silt loams
- Oib, Ontario fine sandy loam, 2 to 8 percent slopes
- Ofc, Ontario fine sandy loam, 8 to 14 percent slopes
- OfCK, Ontario fine sandy loam, rolling
- OnB, Ontario loam, 2 to 8 percent slopes
- OnC, Ontario loam, 8 to 14 percent slopes
- OnC3, Ontario loam, 8 to 14 percent slopes, eroded
- OnCK, Ontario loam, rolling
- OnD, Ontario loam, 14 to 20 percent slopes
- OnD3, Ontario loam, 14 to 20 percent slopes, eroded
- Ora, Ontario silt loam, moderately shallow variant, 0 to 3 percent slopes
- OrB, Ontario silt loam, moderately shallow variant, 3 to 8 percent slopes
- Oie, Ontario, Honeoye, and Lansing soils, 20 to 35 percent slopes
- Oif, Ontario, Honeoye, and Lansing soils, 35 to 50 percent slopes
- Ova, Ovid silt loam, 0 to 2 percent slopes
- Ovb, Ovid silt loam, 2 to 6 percent slopes
- PaB, Palmyra gravelly sandy loam, 3 to 8 percent slopes
- PaC, Palmyra gravelly sandy loam, 8 to 15 percent slopes
- Pga, Palmyra gravelly loam, 0 to 3 percent slopes
- Pgb, Palmyra gravelly loam, 3 to 8 percent slopes
- Pgc, Palmyra gravelly loam, 8 to 15 percent slopes
- PmD, Palmyra soils, 15 to 25 percent slopes
- Pne, Palmyra, Howard, and Alton soils, 25 to 40 percent slopes
- Pt, Pits, sand and gravel
- Pv, Phelps gravelly silt loam
- RgB, Riga and Lairdsville silt loams, 2 to 6 percent slopes
- RiC3, Riga and Lairdsville silty clay loams, 6 to 12 percent slopes, eroded
- Ro, Romulus silty clay loam
- ShD, Schoharie silty clay loam, 12 to 20 percent slopes
- Sk, Scriba gravelly loam
- Sm, Scriba very stony loam
- Sn, Sloan silt loam
- SoB, Sodus gravelly loam, 2 to 8 percent slopes
- SoC, Sodus gravelly loam, 8 to 14 percent slopes
- SoC3, Sodus gravelly loam, 8 to 14 percent slopes, eroded
- SoCK, Sodus gravelly loam, rolling
- SoD, Sodus gravelly loam, 14 to 20 percent slopes
- SoE, Sodus gravelly loam, 20 to 40 percent slopes
- St, Stafford fine sandy loam
- W, Water
- WaA, Wampsville gravelly silt loam, 0 to 3 percent slopes
- WaB, Wampsville gravelly silt loam, 3 to 8 percent slopes
- We, Warners loam
- Wf, Warners loam, fan
- WmA, Williamson silt loam, 0 to 2 percent slopes
- WmB, Williamson silt loam, 2 to 6 percent slopes
- WmC, Williamson silt loam, 6 to 12 percent slopes
- WmC3, Williamson silt loam, 6 to 12 percent slopes eroded
- Municipal Boundary
- Lakes / Ponds
- 2007 Tax Parcel Boundary
- Surface Water
- Road Centerline



Data Sources:
 Soil Classifications - NRCS
 2005 Tax parcels - Cayuga County RPTS;
 Surface Water - New York State DEC,
 Road Centerlines - New York State DOT,
 Municipal Boundary - U.S. Census

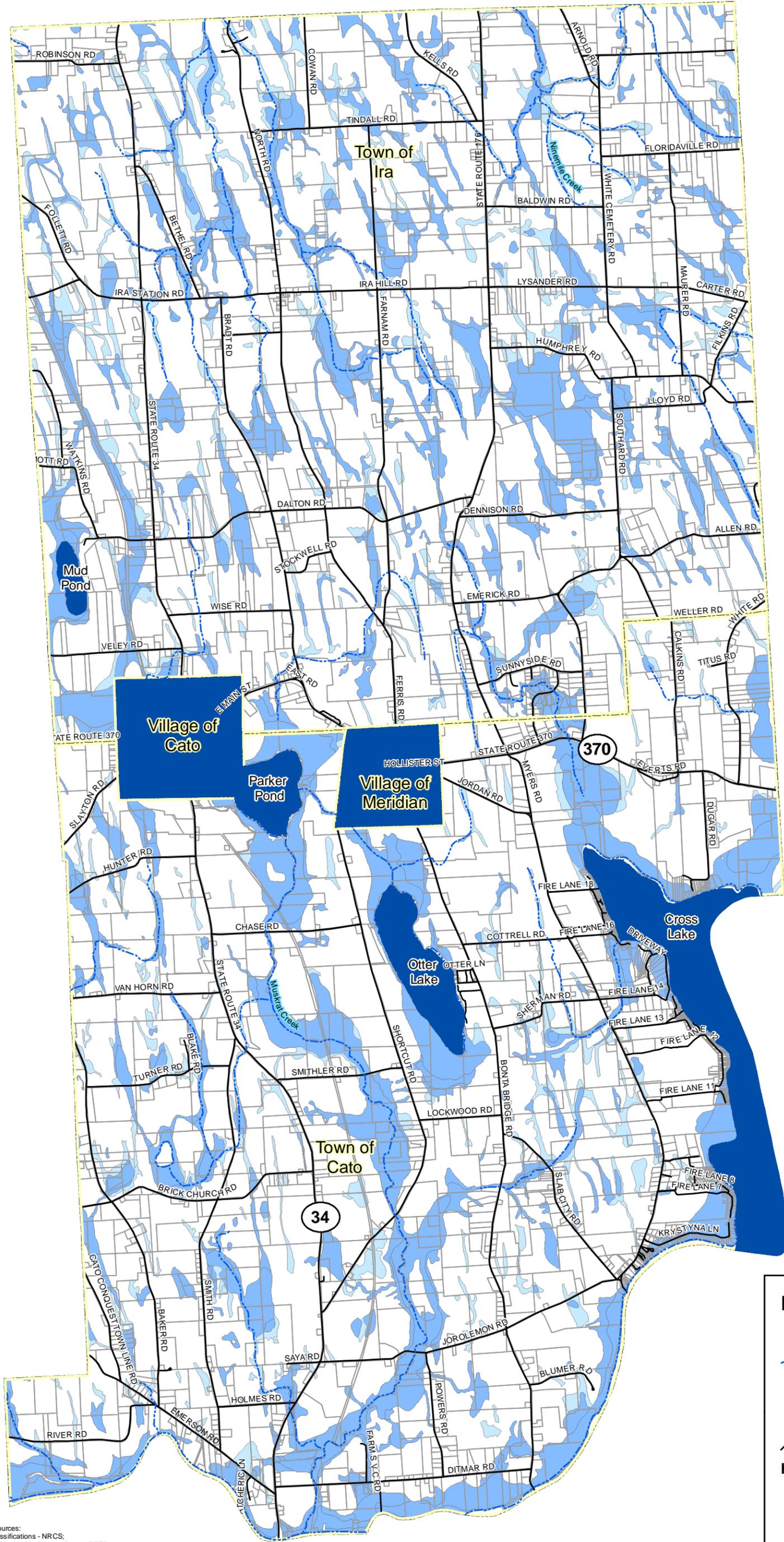


**TOWN OF IRA - TOWN OF CATO
 JOINT COMPREHENSIVE PLAN
 COMMUNITY INVENTORY**

Town of Ira Town of Cato
**Soil Classifications
 of Ira and Cato**
 Cayuga County New York



**FIGURE
 2-6**
 Project No.
 1069.001



Legend

- Lakes / Ponds
- Surface Water
- 2007 Tax Parcel Boundary
- Municipal Boundary
- Road Centerline

Hydric Soil Classifications

- Partially hydric
- All hydric

Data Sources:
 Soil Classifications - NRCS;
 2005 Tax parcels - Cayuga County RPTs;
 Surface Water - New York State DEC;
 Road Centerlines - New York State DOT;
 Municipal Boundary - U.S. Census



TOWN OF IRA - TOWN OF CATO
 JOINT COMPREHENSIVE PLAN
 COMMUNITY INVENTORY

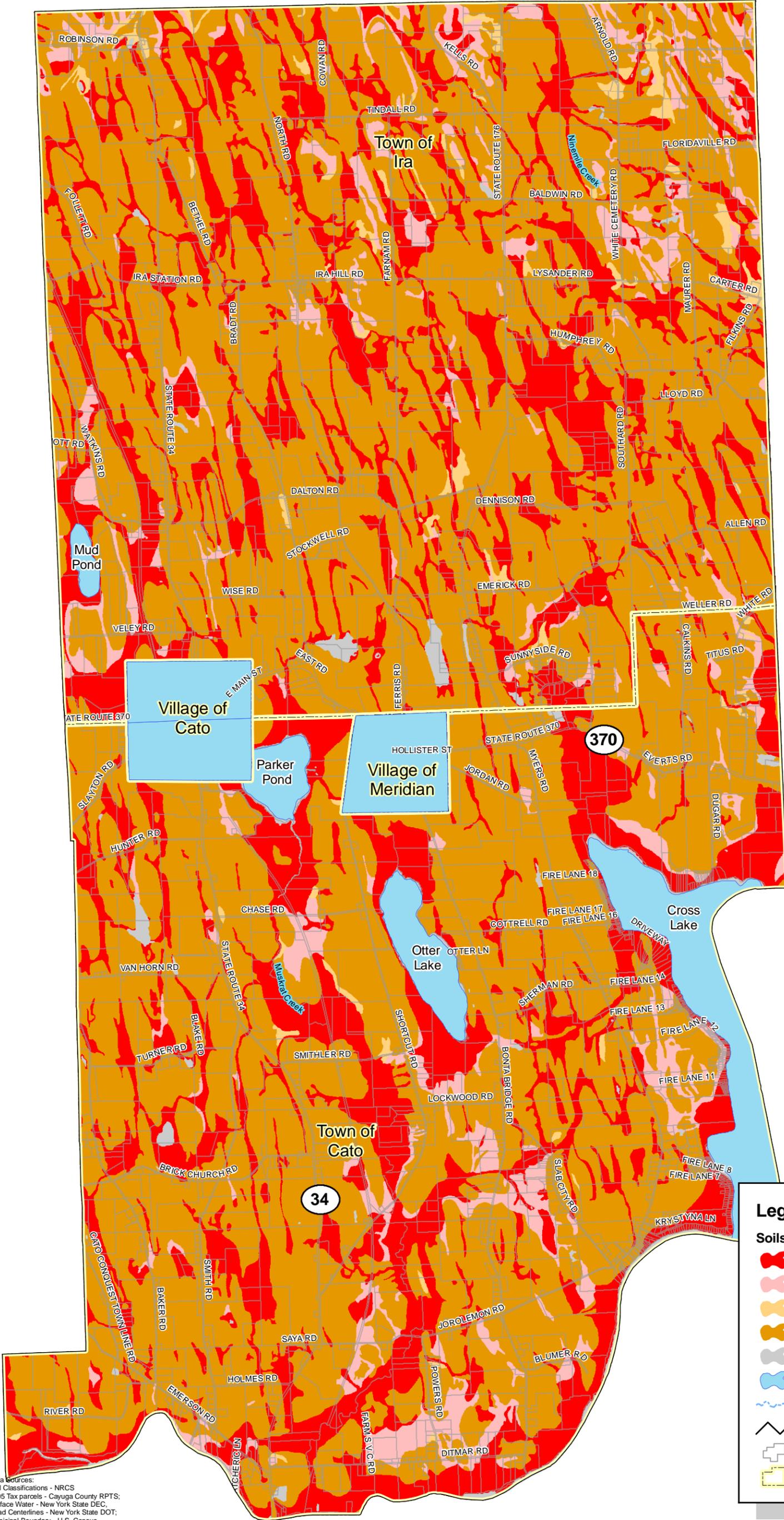
Town of Ira Town of Cato
**Hydric Soil Classifications
 of Ira and Cato**
 Cayuga County 2/6/07 New York



FIGURE
 2-7
 Project No.
 1069.001

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(Page Reserved for Figure 2-9)



Legend

Soils By Drainage Classification

- Poorly drained; Very poorly drained
- Somewhat poorly drained
- Somewhat Excessively Drained
- Moderately To Well Drained
- N/A
- Lakes / Ponds
- Surface Water
- Road Centerline
- 2007 Tax Parcel Boundary
- Municipal Boundary

Data Sources:
 Soil Classifications - NRCS
 2005 Tax parcels - Cayuga County RPTS;
 Surface Water - New York State DEC,
 Road Centerlines - New York State DOT;
 Municipal Boundary - U.S. Census

**TOWN OF IRA - TOWN OF CATO
 JOINT COMPREHENSIVE PLAN**

COMMUNITY INVENTORY

Town of Ira Town of Cato

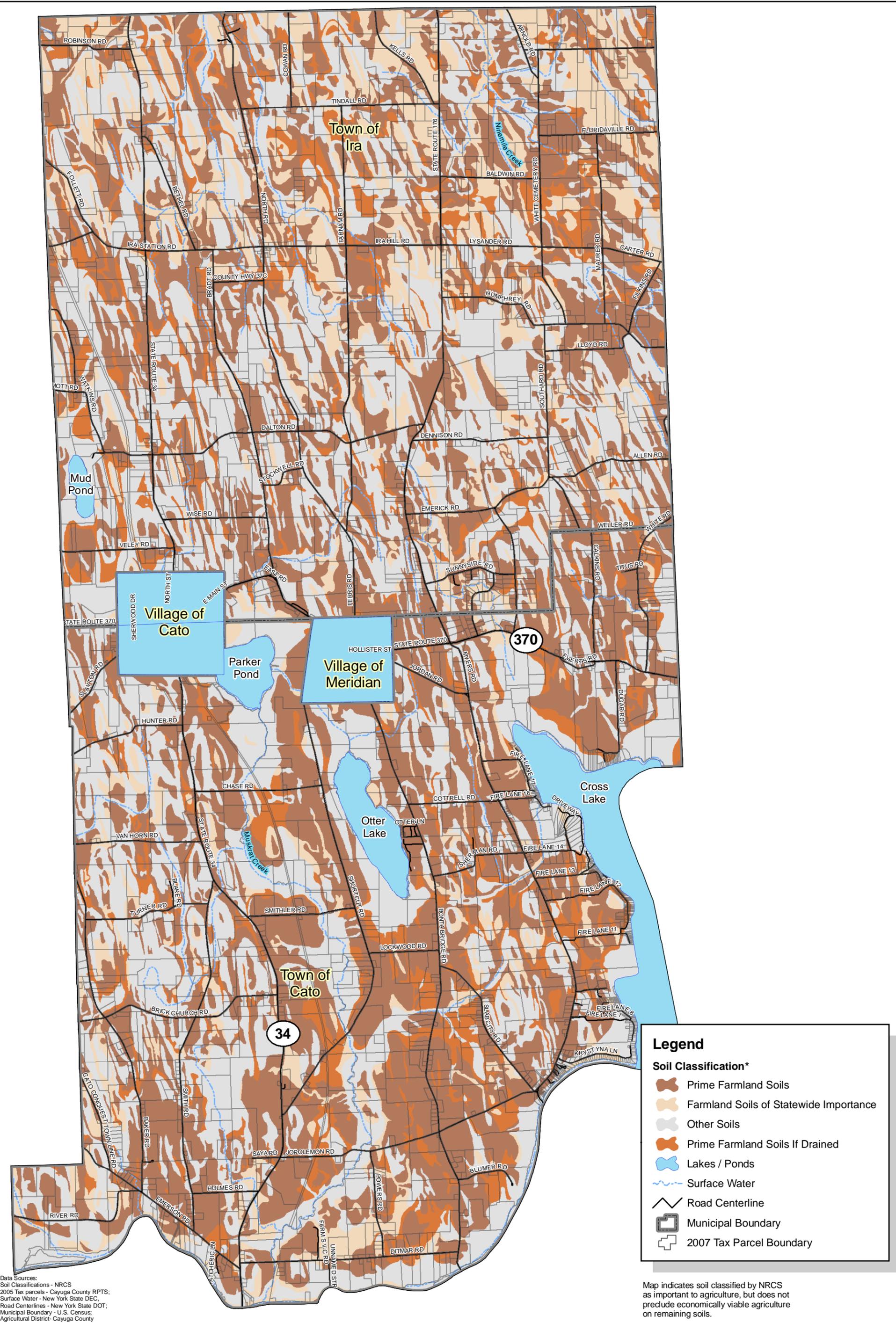
**Soils By Drainage Classification
 of Ira and Cato**

Cayuga County New York

2/6/07

FIGURE
 2-8

Project No.
 1069.001



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Soil Classification*

- Prime Farmland Soils
- Farmland Soils of Statewide Importance
- Other Soils
- Prime Farmland Soils If Drained
- Lakes / Ponds
- Surface Water
- Road Centerline
- Municipal Boundary
- 2007 Tax Parcel Boundary

Data Sources:
 Soil Classifications - NRCS
 2005 Tax parcels - Cayuga County RPTS;
 Surface Water - New York State DEC,
 Road Centerlines - New York State DOT;
 Municipal Boundary - U.S. Census;
 Agricultural District - Cayuga County

Map indicates soil classified by NRCS as important to agriculture, but does not preclude economically viable agriculture on remaining soils.



**TOWN OF IRA - TOWN OF CATO
 JOINT COMPREHENSIVE PLAN**

COMMUNITY INVENTORY

Town of Ira Town of Cato

**Important Farmland Soils
 of Ira and Cato**

Cayuga County New York

2/6/07



FIGURE
 2-9

Project No.
 1069.001

For agricultural considerations, the prevalence of drumlins in the region is an important factor in the types of soils present. Hydric soils are found mainly in low lying areas between drumlins and are associated with wetlands scattered throughout the two Towns. In broad terms, the highest land areas in the Town (the top of the drumlins) contain shallow soils that were eroded by glacial action and weathering over time and deposited at the base of the sloping hills. The most productive soils are located on hillsides and at the lower elevations of hillsides throughout the area.

In general, the vast majority of soils in the Town have some limitations for the construction of buildings with basements and a large area of the two Towns show limitations for building construction. Figure 2-10 indicates a large area of soils with limitations based upon their general suitability classification. In addition, the soil suitability for standard on-site wastewater treatment systems and septic tank absorption fields is limited throughout the Towns as will be discussed in Section 3 of this Inventory. An analysis of the maps indicate that high density development and more intensive land uses in the Towns should be located in areas that have the most potential for future water and sewer development and lot size requirements should be considered that will reduce potential contamination of the local groundwater supplies. This may be particularly applicable south of the Villages of Cato and Meridian. This is also important due to the fact that all of the residents rely on groundwater as the sole source of potable water.

2.1.1.7 Wetlands

Wetlands are areas of land where surface or groundwater is present on the surface long enough to become the primary factor in soil development. This results from a lack of oxygen in the soil due to the prolonged saturation of low lying land areas. This changes the chemical

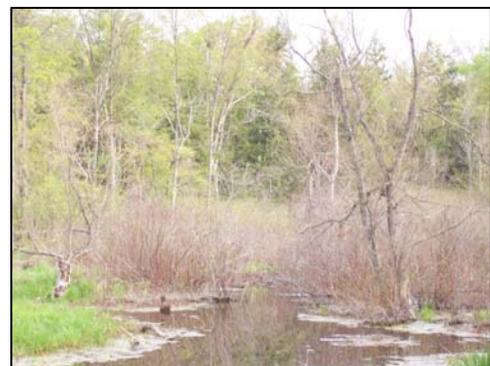


Photo 2-4 - A Palustrine Wetland in Ira

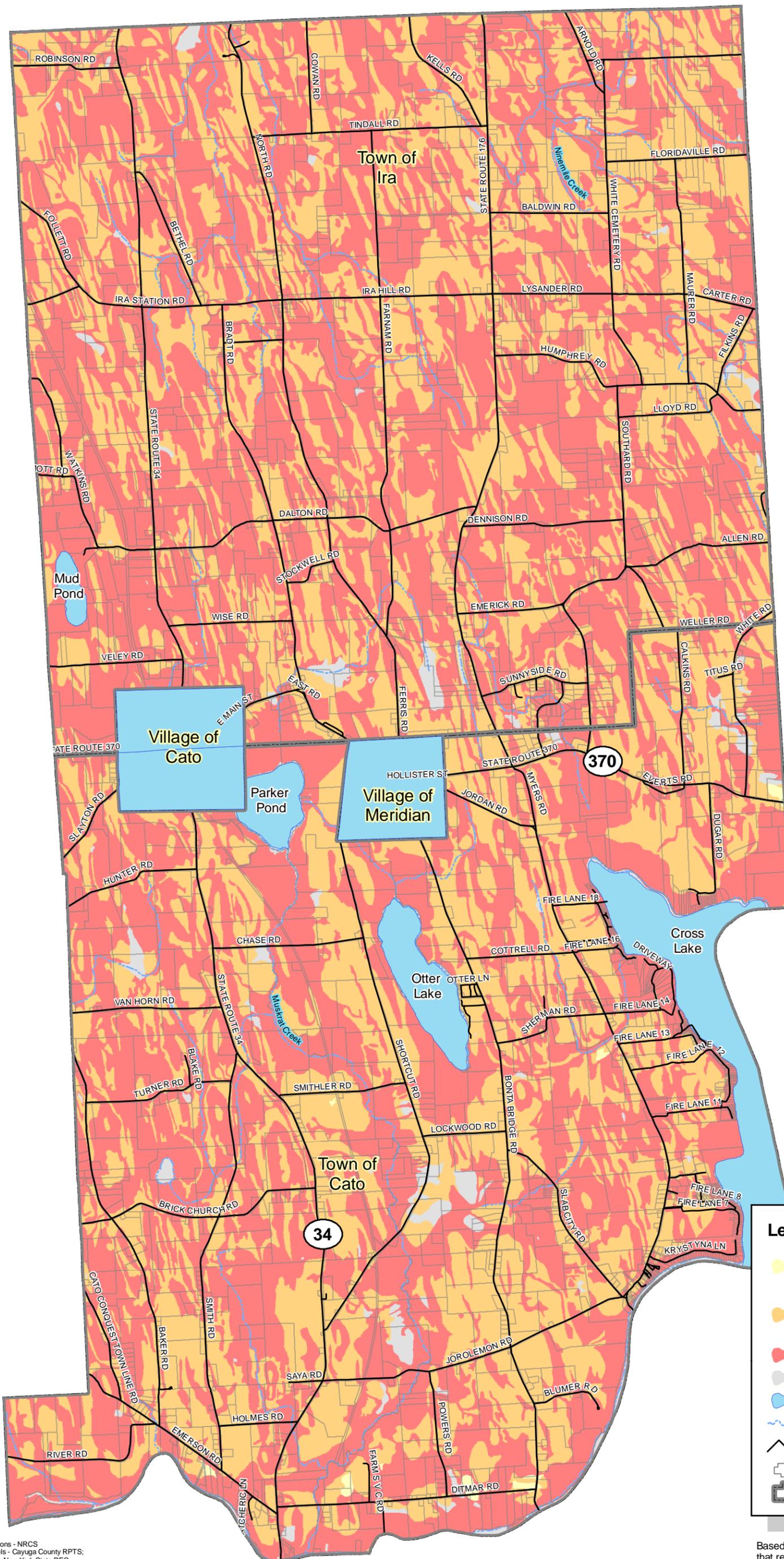
structure of the soil and reduces the natural decay of organic material. Wetlands may be described in many terms (e.g., swamps, marshes, wet meadows, and bogs). They differ from other land areas by the nature of their soils, the amount of water within the soils, the amount of time (permanently or seasonally) that the soil is saturated, and the types of plants that can grow in these areas. Hydric species of plants for example, provide havens for a diverse number of wildlife species. They provide spawning areas for fish, habitat for waterfowl, and food sources for a wide variety of animals.

Wetland areas of the Town are important because many activities associated with development are regulated under the Freshwater Wetlands Act and are an important consideration when reviewing development proposals. Although wetlands are considered by many as undesirable natural features, they actually have many values that are important to a community. The following list contains some of the values associated with wetland areas:

- Flood Protection and Abatement - During storms and periods of heavy rain or spring snow melt, wetlands serve as natural reservoirs or channels for conveying excess water, slowing the movement of water through the watershed. Filling in wetlands often results in increased flooding, both downstream, by speeding water along, or upstream, by blocking water flow.
- Erosion and Sedimentation Control - Wetlands vegetation helps to filter sediment by decreasing water velocity. Suspended particles settle in the wetland and do not enter navigational channels, lakes, and reservoirs. In much the same manner, wetlands also help prevent erosion of shorelines and valuable agricultural land by serving as buffers between wave or stream activity and adjacent lands.
- Water Quality Maintenance - Microorganisms in wetlands break down and use nutrients and can significantly reduce levels of natural and human-induced pollution in water as it filters through the wetland. Chemical processes in the soil also immobilize chemicals and heavy

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Legend

- Soils Have Slight Limitations That Restrict Their Use
- Soils Have Moderate Limitations That Reduce The Choice Of Plants or Require Moderate Conservation Practices
- Soils Have Severe Limitations
- n/a
- Lakes / Ponds
- Surface Water
- Road Centerline
- 2007 Tax Parcel Boundary
- Municipal Boundary

Based upon soil suitability classification that requires special measures for development purposes.

Data Sources:
 Soil Classifications - NRCS
 2005 Tax parcels - Cayuga County RPTS;
 Surface Water - New York State DEC;
 Road Centerlines - New York State DOT;
 Municipal Boundary - U.S. Census

**TOWN OF IRA - TOWN OF CATO
 JOINT COMPREHENSIVE PLAN
 COMMUNITY INVENTORY**

Town of Ira Town of Cato
**Soil Suitability For Development Potential
 of Ira and Cato**
 Cayuga County New York
 2/6/07

FIGURE
 2-10
 Project No.
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metals. Water leaving a wetland is frequently cleaner than water entering the wetland. Wetlands also protect fresh groundwater supplies in coastal areas by preventing saltwater intrusion.

- Recharging Groundwater Supplies - Wetlands sometimes are helpful in recharging groundwater. This function is especially important where groundwater is the sole-source of drinking water or constitutes the major source of usable water.
- Maintaining Surface Flows - Wetlands frequently serve as groundwater discharge sites, thereby maintaining the quality and quantity of surface water supplies.
- Fish and Wildlife Habitats - Many species of fish and wildlife depend on wetlands for critical parts of their life cycle. By providing breeding, nesting, and feeding grounds and cover, wetlands are recognized as one of the most valuable habitats for wildlife. Young fish find food and shelter in the protective vegetation. Many species of endangered, threatened, or special concern fish and wildlife depend on wetlands. Tidal wetlands are vital to the continued health of vertebrate and invertebrate species of the waters of New York's marine district. Over two-thirds of the fish, shellfish and crustaceans harvested in New York (including both commercial and recreational harvest) are dependent on tidal wetlands for some portion of their life cycles. In addition, wetlands are habitat for thousands of species of the plants of New York. One half of New York's protected native plants, many of which are endangered or threatened, are wetlands species.
- Nutrient Production and Cycling - Wetlands are one of the most ecologically productive systems on earth, converting sunlight and nutrients into food sources for animals. Some tidal wetlands exceed even tropical rainforests in energy conversion. Wetlands also serve as filters for sediment and organic and chemical nutrients. These components are recycled in wetlands, where the nutrients are broken down and reentered into the food web.

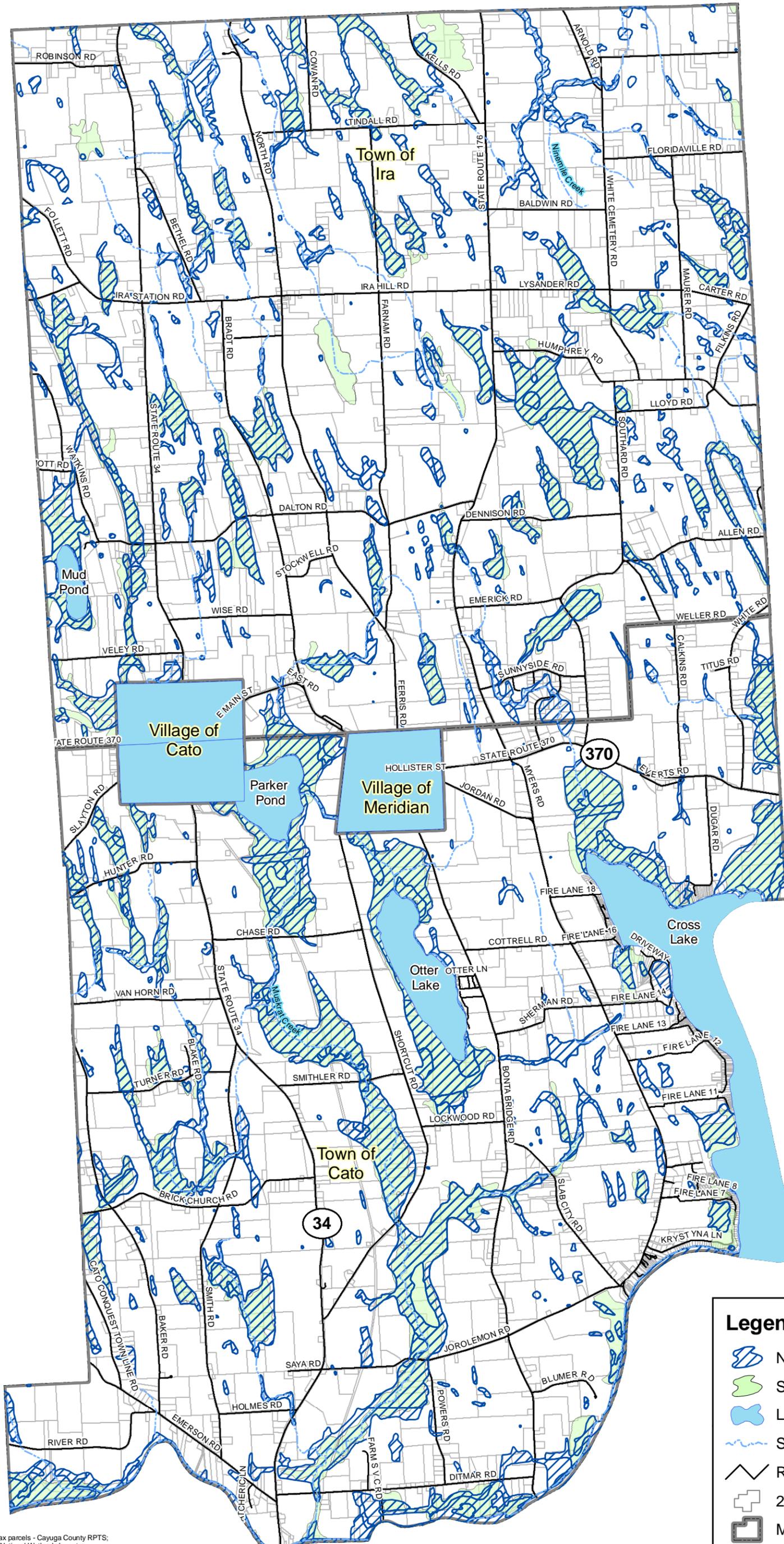
- Recreation - Hiking, bird watching, hunting, fishing, trapping, boating, photography, and camping are some of the recreational uses provided by wetlands. Over 12 million New Yorkers annually participate in these outdoor activities. In a 1991 report to the Legislature on the economic return from hunting, fishing, and other uses of wildlife, it was estimated that these activities had a total annual worth of more than \$5 million.
- Open Space - Wetlands are often the only undeveloped areas along crowded riverfronts and coastal regions or in urbanized areas. In some areas, real estate near open space, such as wetlands, command significantly higher prices.
- Educational and Scientific Research - Wetlands provide readily accessible outdoor biophysical laboratories, living classrooms, and vast training and education resources.
- Biological Diversity - Society is becoming increasingly concerned about local, regional and global biological diversity. Wetlands are important components of the landscape and contribute significantly to the state's overall biological diversity. Wetlands are habitat for many rare and indigenous species of plants and animals and many, in themselves, represent unique natural communities.

These values are important when considering many opportunities in the community ranging from the traditional sportsmanship associated with hunting, fishing, and trapping to the potential for managing runoff and non-point pollution sources from development sites.

There are approximately 5,500 acres of Regulated wetlands in the Towns of Ira and Cato (see Figure 2-11). Regulated wetlands include New York State DEC wetlands and are indicated on National Wetlands Inventory (NWI) maps. Of wetlands within major watersheds within the two Towns, approximately 165 acres of State regulated wetlands are within the Oswego River watershed; 1,785 acres of NYSDEC wetlands fall within Irondequois-Ninemile watershed and 3550 within the Seneca River watershed. Wetlands in the area are generally

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Legend

- NWI Wetland
- State Regulated Wetlands
- Lakes / Ponds
- Surface Water
- Road Centerline
- 2007 Tax Parcel Boundary
- Municipal Boundary

Data Sources: 2005 Tax parcels - Cayuga County RPTS;
 Wetlands - NYSDEC, National Wetlands Inventory
 Surface Water - New York State DEC,
 Road Centerlines - New York State DOT,
 Municipal Boundary - U.S. Census



**TOWN OF IRA - TOWN OF CATO
 JOINT COMPREHENSIVE PLAN**
COMMUNITY INVENTORY

Town of Ira Town of Cato
**NWI and State Regulated Wetlands
 of Ira and Cato**
 Cayuga County 2/6/07 New York



FIGURE
 2-11
 Project No.
 1069.001

evenly distributed throughout the Towns due to the presence of Great Lakes Drumlins.

The following is a breakdown of State and Federally regulated wetlands within the two townships based upon a GIS calculation of State and Federal wetland maps:

Table 2-3

Community Wetlands	Estimate Method	NYSDEC Wetlands	NWI Wetlands
Town of Ira*	GIS Estimated	2117 acres	3240 acres
Town of Cato*	GIS Estimated	3383 acres	4288 acres
Combined Towns*	GIS Estimated	5500 acres	7528 acres

Note: NWI wetlands are regulated by the U.S. Army Corps of Engineers. Wetlands less than 12.4 acres are indicated on the National Wetlands Inventory maps (NWI) and may be classified as federally regulated wetlands. On-site wetland delineation is required to determine an exact number of acres classified as State or Federal wetlands.

2.1.1.8 Vegetation and Wildlife

Aesthetic, educational, and recreational opportunities in Ira and Cato hinge greatly upon the wildlife and vegetation indigenous to the area. Plant and animal communities occur naturally in the absence of land management, and adapt to environmental and human changes. Due to the rural nature of Ira and Cato and the diversity of landforms, there are many sites within the Towns that offer recreational opportunities as well as scenic enjoyment. People interested in nature study will find a myriad of opportunities in forested lands, wetlands, and meadows, ponds and the Seneca River/Canal Corridor

While vegetation and wildlife contribute greatly to aesthetic and related values of an area, they also add economic value to a community, especially in rural areas. Family income may be supplemented by activities such as hunting,

trapping, fishing, and small-scale timber production and these activities add to the recreational opportunities of the community.

To date, there has been no specific inventory of wildlife and vegetation species common to the area. However, it can be assumed that many plants and animals common to Cayuga County and the drumlin fields of Central New York are indigenous to the area (excluding those species requiring an aquatic habitat).

The tables below list birds commonly found in the drumlins of northern Cayuga County. Although not complete, it gives an idea of the wide variety of species that are indigenous to the area. Bird-watching is a hobby enjoyed by all ages of people and is a learning experience in itself. Closely akin to bird-watching is the study of mammals. Many people enjoy observing animals in much the same way while others pursue hunting.



Photo 2-5 - Mallard Duck in an Ira Wetland

There are many types of trees and shrubs that are commonly found in the area, some of which are listed in the tables below. Vegetation is important in defining habitat types for wildlife and it can have a profound effect on climate on a small area (“micro-climate”). Many plants also serve as indicator species – denoting the cover type, the types of soils that exist, the amount of soil moisture that is present and the availability of drainage on the site.

Land use planning should include a general inventory of wildlife and vegetation. This would identify locations where rare or endangered species of vegetative cover types exist. It also points out areas important to the maintenance of environmental quality in a region, such as wetlands, river and stream corridors. Since virtually all human activities have an impact on the

natural vegetation and wildlife of an area, consideration of these two aspects should be a beginning step in the planning process.

Table 2-4 Checklist of Common Birds of Northern Cayuga County, New York	
American Goldfinch	<i>(Cardeulis tristis)</i>
American Kestrel	<i>(Falco sparverius)</i>
American Redstart	<i>(Setophaga ruticilla)</i>
American Robin	<i>(Turdus migratorius)</i>
Bank Swallow	<i>(Riparia riparia)</i>
Barn Swallow	<i>(Hirundo rustica)</i>
Bay-breasted Warbler	<i>(Dendroica striata)</i>
Black Duck	<i>(Anas rubripes)</i>
Black-capped Chickadee	<i>(Parus atricapillus)</i>
Blackpoll Warbler	<i>(Dendroica palmarum)</i>
Black-throated Green Warbler	<i>(Dendroica virens)</i>
Blue Jay	<i>(Cyanocitta cristata)</i>
Blue-winged Teal	<i>(Anas discors)</i>
Bobolink	<i>(Dolichonyx orizyvorous)</i>
Brown Creeper	<i>(Certhia familiaris)</i>
Brown-headed Cowbird	<i>(Molothrus ate)</i>
Canada Goose	<i>(Branta aanadensis)</i>
Cardinal	<i>(Cardinalis cardinalis)</i>
Cedar Waxwing	<i>(Bombycilla cedrorus)</i>
Chestnut-sided Warbler	<i>(Dendroica pensylvanica)</i>
Chimney Swift	<i>(Chaetura pelagica)</i>
Chipping Sparrow	<i>(Spizella passernia)</i>
Common Crow	<i>(Corvus bracyrhynchos)</i>
Common Flicker	<i>(Colaptes auratus)</i>
Common Grackle	<i>(Quiscalus quiscula)</i>
Common Merganser	<i>(Mergus merganser)</i>
Common Nighthawk	<i>(Chordeiles minor)</i>
Common Redpoll	<i>(Carduellis flammea)</i>
Common Snipe	<i>(Capella gallinago)</i>
Common Yellowthroat	<i>(Geothypis trichas)</i>
Dark-eyed Junco	<i>(Junco hyemalis)</i>
Downey Woodpecker	<i>(Picoides pubescens)</i>
Eastern Kingbird	<i>(Tyrannus tyrannus)</i>
Eastern Meadowlark	<i>(Sturnella magna)</i>
Eastern Phoebe	<i>(Sayornis phoebe)</i>
Eastern Wood Peewee	<i>(Contopus virens)</i>
Evening Grosbeak	<i>(Hesperiphona vespertina)</i>
Field Sparrow	<i>(Spizella pusilla)</i>
Gray Catbird	<i>(Dumetella carolinensis)</i>
Great Blue Heron	<i>(Ardea herodias)</i>
Great-crested Flycatcher	<i>(Myiarchus crinitus)</i>
Green Heron	<i>(Butorides Striatus)</i>
Hairy Woodpecker	<i>(Picoides villosus)</i>
Hermit Thrush	<i>(Catharus guttatus)</i>
Hooded Merganser	<i>(Lophodytes cucullatus)</i>
House Sparrow	<i>(Passer domesticus)</i>

Table 2-4 Checklist of Common Birds of Northern Cayuga County, New York	
House Wren	<i>(Troglodytes aedon)</i>
Indigo Bunting	<i>(Passerina cyanea)</i>
Killdeer	<i>(Charadrius vociferous)</i>
Least Flycatcher	<i>(Empidonax minimus)</i>
Lesser Yellowlegs	<i>(Totanus flavipeo)</i>
Magnolia Warbler	<i>(Dendroica magnolia)</i>
Mallard	<i>(Anas platyrhynchos)</i>
Mourning Dove	<i>(Zenaida macroura)</i>
Northern Oriole	<i>(Icterus galbula)</i>
Northern Waterthrush	<i>(Seiurus noveboracensis)</i>
Otter, Common Otter	<i>(Lutra lutra)</i>
Palm Warbler	<i>(Dendroica palmarum)</i>
Pine Siskin	<i>(Carduelis pinus)</i>
Purple Finch	<i>(Carpodacus purpeus)</i>
Purple Martin	<i>(Progne sibir)</i>
Red Crossbill	<i>(Loxia curvirostra)</i>
Red-eyed Vireo	<i>(Vireo olivaceus)</i>
Red-tailed Hawk	<i>(Buteo jamaicensis)</i>
Red-winged Blackbird	<i>(Agelaius phoeniceus)</i>
Ring-billed Gull	<i>(Larus delawarensis)</i>
Ring-necked Pheasant	<i>(Phasianus colchicus)</i>
Rock Dove	<i>(Columba livia)</i>
Rose-breasted Grosbeck	<i>(Pheucticus lucovicianus)</i>
Rough-legged Hawk	<i>(Buteo lagopus)</i>
Ruby-crowned Kinglet	<i>(Regulus calendula)</i>
Rusty Blackbird	<i>(Euphagus carolinus)</i>
Savannah Sparrow	<i>(Passerculus sandwichensis)</i>
Scarlet Tanager	<i>(Piranga olivacea)</i>
Snow Bunting	<i>(Plectrophenax nivalis)</i>
Song Sparrow	<i>(Melospiza melodia)</i>
Spotted Sandpiper	<i>(Actitis macularia)</i>
Starling	<i>(Sturnus vulgaris)</i>
Tree Sparrow	<i>(Spizella arborea)</i>
Tree Swallow	<i>(Iridoprocne bicolor)</i>
Turkey Vulture	<i>(Cathartes aura)</i>
Veery	<i>(Catharus fuscescens)</i>
Water Pipit	<i>(Anthus spinoletta)</i>
White-breasted Nuthatch	<i>(Sitta carolinensis)</i>
White-crowned Sparrow	<i>(Zonotrichia leucophrys)</i>
Wild Turkey	<i>(Meleagris gallopavo)</i>
Willow Flycatcher	<i>(Empidonax minimus)</i>
Wood Duck	<i>(Aix sponsa)</i>
Wood Thrush	<i>(Hylocichla mustelina)</i>
Yellow Warbler	<i>(Dendroica petechia)</i>
Yellow-bellied Sapsucker	<i>(Sphyrapicus varius)</i>

Table 2-5 Mammals Common to Northern Cayuga County, New York	
Beaver	<i>(Castor Canadensis)</i>
Chipmunk	<i>(Tamias straitus)</i>
Common Mole	<i>Scalopus aquaticus)</i>
Coyote	<i>(Canis latrans)</i>
Deer Mouse	<i>(Peromyscus maniculatus)</i>
Eastern Cottontail	<i>(Sylvalagus floridanus)</i>
Gray Squirrel	<i>(Sciurus carolinensis)</i>
House Mouse	<i>(Mus musculus)</i>
Little Brown Bat	<i>(Myotis lucifugus)</i>
Masked Shrew	<i>(Sorex cinereus)</i>
Meadow Vole	<i>(Microtus pennsylvanicus)</i>
Mink	<i>(Mustela vison)</i>
Muskrat	<i>(Ondatra zibethicus)</i>
Norway Rat	<i>(Rattis norvegicus)</i>
Opossum	<i>(Didelphis marsupialis)</i>
River Otter	<i>(Lontra Canadensis)</i>
Porcupine	<i>(Erethizon dorsatum)</i>
Raccoon	<i>Procyon lotor)</i>
Red Fox	<i>(Vulpes vulpes)</i>
Red Squirrel	<i>(Tamiasciurus hudsonicus)</i>
Short-tailed Shrew	<i>(Blarina brevicauda)</i>
Short-tailed Weasel	<i>(Mustela ermine)</i>
Snowshoe Hare	<i>(Lepus americanus)</i>
Striped Skunk	<i>(Mephitis mephitis)</i>
White-footed Mouse	<i>(Peromyscus leucopus)</i>
White-tailed Deer	<i>(Odocoileus virginianus)</i>
Woodchuck	<i>(Marmota monax)</i>

Alternate-leaved dogwood	<i>(Cornus alternifolia)</i>
American beech	<i>(Fagus grandifolia)</i>
Apple	<i>(Pyrus malus)</i>
Balsam fir	<i>(Abies balsamea)</i>
Basswood	<i>(Tilia americana)</i>
Beaked hazelnut	<i>(Corylus cornuta)</i>
Black cherry	<i>(Prunus serotina)</i>
Blackberry	<i>(Rubus allegheniensis)</i>
Bunchberry	<i>(Cornus canadensis)</i>
Bush honeysuckle	<i>(Diervilla lonicera)</i>
Butternut	<i>(Juglans cinera)</i>
Canadian yew	<i>(Taxus canadensis)</i>
Choke cherry	<i>(Prunus virginiana)</i>
Common buckthorn	<i>(Rhamnus cathartica)</i>
Glaucous willow	<i>(Salix discolor)</i>
Hawthorn	<i>(Crataegus chrysocarpa)</i>
Hemlock	<i>(Tsuga canadensis)</i>
Ironwood	<i>(Carpinus caroliniana)</i>
Larch	<i>(Larix laricina)</i>
Large-toothed aspen	<i>(Populus grandidentata)</i>
Long-beaked willow	<i>(Salix bebbiana)</i>
Northern white cedar	<i>(Thuja occidentalis)</i>
Red cedar	<i>(Juniperus Virginiana)</i>
Red maple	<i>(Acer rubrum)</i>
Red oak	<i>(Quercus rubra)</i>
Red osier	<i>(Cornus stolonifera)</i>
Red raspberry	<i>(Rubus idaeus)</i>
Scotch pine	<i>(Pinus sylvestris)</i>
Shadbush	<i>(Amelanchier laevis)</i>
Staghorn sumac	<i>(Rhus typhina)</i>
Sugar maple	<i>(Acer saccharum)</i>
Sweet vibernum	<i>(Viburnum lentago)</i>
Sweetbriar	<i>(Rosa eglanteria)</i>
Sycamore	<i>(Platanus occidentalis)</i>
Trembling aspen	<i>(Populus tremuloides)</i>
White ash	<i>(Fraxinus americana)</i>
White birch	<i>(Betula papyrifeia)</i>
White pine	<i>(Pinus strobes)</i>
White spruce	<i>(Picea glauca)</i>
Witch hazel	<i>(Hamamelis virginiana)</i>
Witherod	<i>(Viburnum cassinoides)</i>
Yellow birch	<i>(Betula lutea)</i>

2.1.1.9 Agriculture

Agriculture is a human activity and a type of land use that is closely tied to soils and natural resources. The Villages of Cato and Meridian evolved as central service areas that support surrounding agricultural land uses. The pursuit of agriculture is also an important component of the local economy and a major factor in the economic health and sustainability of the community. This is evident by the extensive area of the community that is located within an Agricultural Taxing District.



Photo 2-6 - Farmland along NYS Route 34

There are 43,373 acres of land in agricultural taxing districts in the combined Towns. Approximately 96 percent of the total land area of the two towns is within Agricultural Taxing District #4 and farmland soils within the Agricultural Taxing District are very prevalent. Soils are an important natural resource as an indicator of the agricultural potential of the land. Of the total land area of the Town there are 26,877 acres of important farm soils in the Towns of Ira and Cato. Important soils for the purposes of this report include Statewide Agricultural soils classification of Classes 1, 2 and 3 (Prime farmland soils, soils of Statewide Importance, and Unique farmland soils) that are not required to be drained to allow for active farming (see Figure 2-9).

The Following is a breakdown of farmland soils that are considered important to the New York State Department of Agriculture and Markets:

- Estimated total area of Ira and Cato - Approximately 50,504 acres.
- Estimated acreage in Agricultural Taxing District - Approximately 43,585 acres.
- Estimated acreage of Farmland Soils in District - 45,373.
- Prime Farmland Soils - 17,089 ac. are considered Prime Farmland.
- Soils of Statewide Importance - 5,613 ac. include Farmland of Statewide importance.
- Prime Farmland Soils if Drained - 4175 ac. are Prime if drained for agricultural use.

Soils are the basis for estimating the economic viability of farmland and provide the basis for agricultural operations. Maintaining soils that are suitable for viable agricultural production is an important part of the planning process. By maintaining these important soils and keeping them tillable, the business of agriculture in the Town can continue without undue hardships that may be brought about by suburban development and population growth.

2.2 Natural Resources Trends

Natural Resource considerations in the context of land use planning can be complex because our environment does not respond to municipal borders of a township. Many areas of the State, including Cayuga County, focus on local natural resource issues on a regional scale rather than as a municipal element of the planning process. Streams, rivers, vegetation, wildlife, wetlands, and even cultural influences cross jurisdictional boundaries and surrounding natural features should be considered when making important land use decisions. For example, impacts to water quality within the Town of Ira may have a direct influence on streams and rivers that are downstream from the community. Therefore, watersheds are important when considering land uses that may impact water quality and quantity on a regional scale. Due to the fact that natural

resources do not necessarily coincide with municipal boundaries, issues with respect to natural resource trends may be applicable to regional as well as local planning initiatives.

2.2.1 Sustainable Development

The term sustainable development can be used in different forums to represent different concepts within the planning process. For the purpose of Comprehensive/Land Use Planning, sustainable development refers to the impacts associated with land use decisions and their affect on the local environment. Essentially, sustainable development refers to careful planning methods that consider the natural environment in all aspects of planning (transportation, infrastructure, etc.) to make informed decisions about the future growth and quality of a local community. While “smart growth” and “quality communities” include the concepts of fiscal responsibility, sustainable economics, and growth management, all of these terms ultimately are derived from the concept of sustainable development.

The term sustainable development refers to the carrying capacity of local natural resources within the context of a community. This is used as the basis for determining the most appropriate type and density of development and how it effects the natural and physical environment. The concept of sustainability involves the appropriate placement of buildings and infrastructure and the integration of natural process into the physical development of a site, location, or community.

Cluster development is one of the many methods of employing a sustainable approach to land use. Essentially, buildings are clustered in a manner that allows for the protection of open space, farmland, and sensitive areas while concentrating development in the most suitable areas of the site. These concentrated areas may be more appropriate due to available water or sewer infrastructure or easily accessible to collector roads. Concentrated areas of development would be located away from wetlands, soils with low bearing strength, prime farmland soils, steep slopes, or areas that are culturally important to the community.

In a commercial area, sustainable development may include creative stormwater management. Runoff from roads and buildings may be directed to a naturalized pond or

manmade wetlands that not only enhance the scenic quality of the site but also remove pollutants from stormwater before it discharges into a stream or river or infiltrates back into the groundwater. Stormwater detention or retention ponds may also provide the secondary benefit as habitat for local wildlife.

As the result of changing concepts in sustainable development, New York State developed a Task Force to undertake a multifaceted and interdisciplinary study of issues that impact the creation of visions for the future of communities throughout the State in the late 1990s. The following is an excerpt from the New York State Quality Communities Task-Force that describes the State's intent with respect to sustainable development, smart growth, and quality communities:

“The Task Force was asked to inventory local, State and federal programs which affect community development, preservation and revitalization goals of urban, suburban and rural municipalities; to obtain broad public comment; to consider balanced growth and the need for economic development; to consider housing and other community service needs; and to develop recommendations to strengthen local capacity for change. These tasks were to be undertaken in light of general principles which included the revitalization of downtown areas, historic districts and Brownfield's and the preservation of community character and open space resources. Governor Pataki recognized that the State and local governments “require creative strategies to combine growth and environmental protection in order to enhance economic vitality and quality of life.”

The Task Force worked diligently to meet the Governor's goals and expectations. An Advisory Committee was convened, composed of a broad representation of interests. The Committee held ten roundtables throughout the State to hear from government leaders, environmental advocates and members of the business community about the particular qualities which are important to communities in their regions and how these qualities can be attained.

The Task Force formed the following five subcommittees to consider issues identified at the Roundtables and matters within the particular expertise of the members:

- Revitalizing Central Cities, Main Streets and Small Towns – Chair, Secretary of State Alexander Treadwell;

- Agriculture and Farmland Protection – Chair, former Commissioner Nathan Rudgers, Department of Agriculture and Markets;
- Preservation of Open Spaces and Other Critical Environmental Resources – Chair, Commissioner John Cahill, Department of Environmental Conservation;
- Transportation and More Livable Neighborhoods – Chair, Commissioner Joseph Boardman, Department of Transportation; and
- Sustainable Economic Development – Chair, Budget Director Carole Stone.

“Our urban problems are a very intricate web of issues, and you can’t just tug on one strand; you really have to look at how that woven fabric comes together and how we patch it, how we intervene, and how we revitalize it.”

2.2.2 Wetland Protection and Regulation

The Freshwater Wetlands Act adopted during the 1970s established a regulatory control over development and impacts in wetlands at the national level. The functional value of wetlands began gaining importance for wildlife habitat, flood storage, stormwater attenuation, nutrient uptake, and groundwater recharge. Ducks Unlimited was an important force in establishing a national approach to conserving wetland areas. In the 1960s, 70s and 80s, duck hunters began to notice a decline in duck and waterfowl populations and linked the decline to the loss of habitat for ducks and their food sources. As groups began to lobby federal officials, a “no net loss” of wetlands policy was established by the federal government. Over time, States began exercising States rights and implemented their own wetland policies.

As the result, New York State Department of Environmental Conservation adopted a policy that regulates all wetlands 12.4 acres and larger. Wetlands less than 12.4 acres are regulated by the U.S. Army Corps of Engineers.

Change in regulation of wetlands has become a constant battle. For example, the federal government recently determined that federally regulated wetlands (< 12.4 acres) must be hydrologically connected to surface water bodies in order to be regulated. While

many individuals identify the need to protect wetlands due to their ability to protect surface and groundwater quality, others see wetland regulation as an impediment to land development and agricultural operations. Essentially, wetland issues have led to a conflict between the scientific community and political pressure to deregulate wetlands. This trend will likely continue into the future as the debate over the importance of wetlands and their functional value continues.

2.2.3 Flood Plain Protection and Regulation

Proper planning is necessary to ensure that development does not alter or inhibit flood plain areas. This is due to the resulting loss of life and property that can occur during flood events and the downstream damage that can occur due to debris being carried down stream. Regulation activities within the 100 year flood plain of creeks and rivers is an important aspect of environmental and community planning. Increased development pressure and clearing of stream bank vegetation and the addition of stormwater outfalls can combine over time to increase the flood potential of local streams and downstream locations. Development within creek and stream corridors can have a marked impact on downstream flooding.

2.2.4 Watershed Management

One major trend in land use planning is the use of watershed management as a framework for local and regional planning. Watershed management is the analysis, protection, development, operation or maintenance of the land, vegetation and water resources of a drainage basin for the conservation of all its resources for the benefit of its residents. Comprehensive Plans frequently address the land use of a community within the context of a regional watershed (see previous Figure 2-2). It is an important practice to ensure that water quality and quantity within each watershed is protected for future generations. This is particularly important for communities that rely on groundwater as their primary source of drinking water.

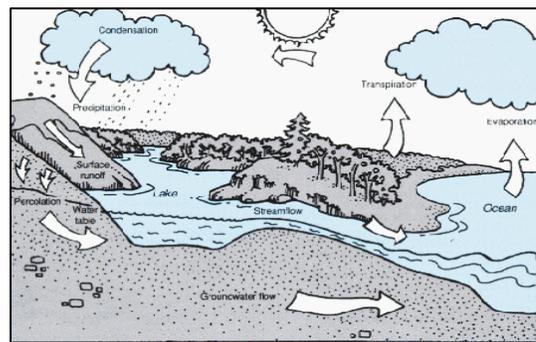
A watershed is simply the land that water flows across or through on its way to a common stream, river, or lake. A watershed can be very large (e.g., draining thousands of square miles to a major river or lake or the ocean), or very small, such as a 20-acre

watershed that drains to a pond. A small watershed that nests inside of a larger watershed is sometimes referred to as a subwatershed.

Everyone, from the upland farmer to the lakeside landowner, lives in a watershed. Thus, everyone's actions affect the quality and quantity of the water resource. The adverse effects of human activities can be minimized within the watershed, but only with resolve to meet clearly-defined watershed goals. Conditions within the natural system are in a state of perpetual change, and man has only a limited ability to alter them. Therefore, comprehensive planning and local land use policy is an important tool in ensuring the health of regional water resources.

2.2.5 Groundwater Protection

Protection of groundwater is a major concern both state-wide and nationally. Many of the human activities in the landscape ranging from septic systems and farming to stormwater runoff and solid waste disposal can have a detrimental impact on local groundwater. Groundwater is prone to pollution that may not be detected until it appears in local wells and water supplies. Once groundwater is contaminated, it is nearly impossible to clean up. While the Department of Environmental Conservation regulates many large scale activities that can pollute groundwater (i.e., solid waste, oil and gas operations, mining and hazardous material storage), safe drinking water is regulated by the New York State and Cayuga County Health Department. In recent history, concerns regarding non-point source pollution of groundwater from construction sites, agricultural runoff and septic systems have become a concern to local health officials. Proper planning to protect groundwater has become an important aspect of protecting human health and safety.



Graphic 2-4 - The Hydrological Cycle

Groundwater is a precious resource that is valuable to most local communities (see previous Figure 2-5). Due to the limitations of water supply with the Towns, groundwater is critically important to the residents of the Towns. All residents in the two Towns as well as the Villages of Cato and Meridian utilize groundwater and rely on on-site septic systems.

2.2.6 Stream and River Corridor Planning

Waterfront programs are encouraged by Federal and State agencies in order to improve areas near urban and suburban populations. Some programs recognize corridors that have yet to experience development pressure. In simple terms, this approach to corridor planning is known as Greenway Planning. These corridors and greenways are important to protect surface water quality and wildlife habitat and become the most attractive areas for future development. Greenways and stream corridors also present economic potential to the area for local residents and visitors. An integrated approach to planning in greenways is an effective method of establishing a quality community for current and future residents and visitors to the area.

The Seneca River, Cross Lake, and the many streams, ponds and wetlands in the area, for example, provide opportunities for conservation education and recreation in the form of trails, fishing access sites, canoe launches and interpretive programs. Cross Lake and the Seneca River provide opportunities for waterfront planning, revitalization, and a corridor that may provide a linear system to connect parks, open space, neighborhoods, and commercial areas. As part of the New York State Canal system there is a great deal of opportunity to make greenway improvements that will improve public access to this important recreational opportunity. This ability to participate in a major state-wide greenway planning effort provides a major opportunity to improve understanding of our natural environment combined with recreational opportunities and cultural education opportunities that can improve the quality of life for local residents. Through utilization of corridor planning concepts, a community may increase the value and quality of the community for the local population.

2.3 Surface Water Quality Protection (Non-Point Source Pollution)

Trends in water quality management include a focus on regional watershed management rather than management within municipal jurisdictions. It is more effective to identify watersheds and manage surface water quality in a cooperative manner, on a regional basis. In many ways this has improved water quality in the Seneca, Oswego, and Lake Ontario watersheds. However non-point source pollution is a major concern as suburban development increases the impervious surfaces throughout the community. Agriculture, suburban development, and urban areas contribute pollutants, both natural and man-made, such as oils, metals, salts, fertilizer, pesticides and excessive nutrients, and nitrogen into local rivers, creeks, and ponds. An example of the impact of non-point source pollution was evident in Fulton, New York during the spring of 2004. On Lake Neatawanta, just one mile from the Oswego Canal in Fulton, a natural lake was overcome with a toxic form of algae due to large amounts of runoff entering the pond from the surrounding land area. The level of nutrients became great enough for algae growth to become potentially toxic to animals and humans. This event had an impact on local business and tourism related activity. Many of the factors contributing to surface water contamination are not always readily apparent. Failing septic systems can also contribute excessive nutrients (nitrates and nitrites) into local creeks, rivers, and ponds and the runoff of soils and silt from construction sites can have a detrimental effect on local surface water quality.

The community is fortunate in that there are a number of organizations available to assist in community and regional water quality protection efforts. These organizations include the Department of Environmental Conservation, the local Soil and Water Conservation Service, the Cayuga County Department of Planning and Community and the Central New York Regional Planning Board.

2.3.1 *Exotic Species*

The proliferation of the Zebra Mussel throughout the waterways of Central New York is perhaps the most widely known example of exotic species introduced in recent years and their impact on local communities. However, many other exotic plant and animal species are becoming a nuisance to the local environment. Purple Loosestrife and Phragmite are plants that overwhelm wetlands and “choke out” native vegetation, habitat, and food sources for wildlife. In many locations, exotic species of plants, animals, and

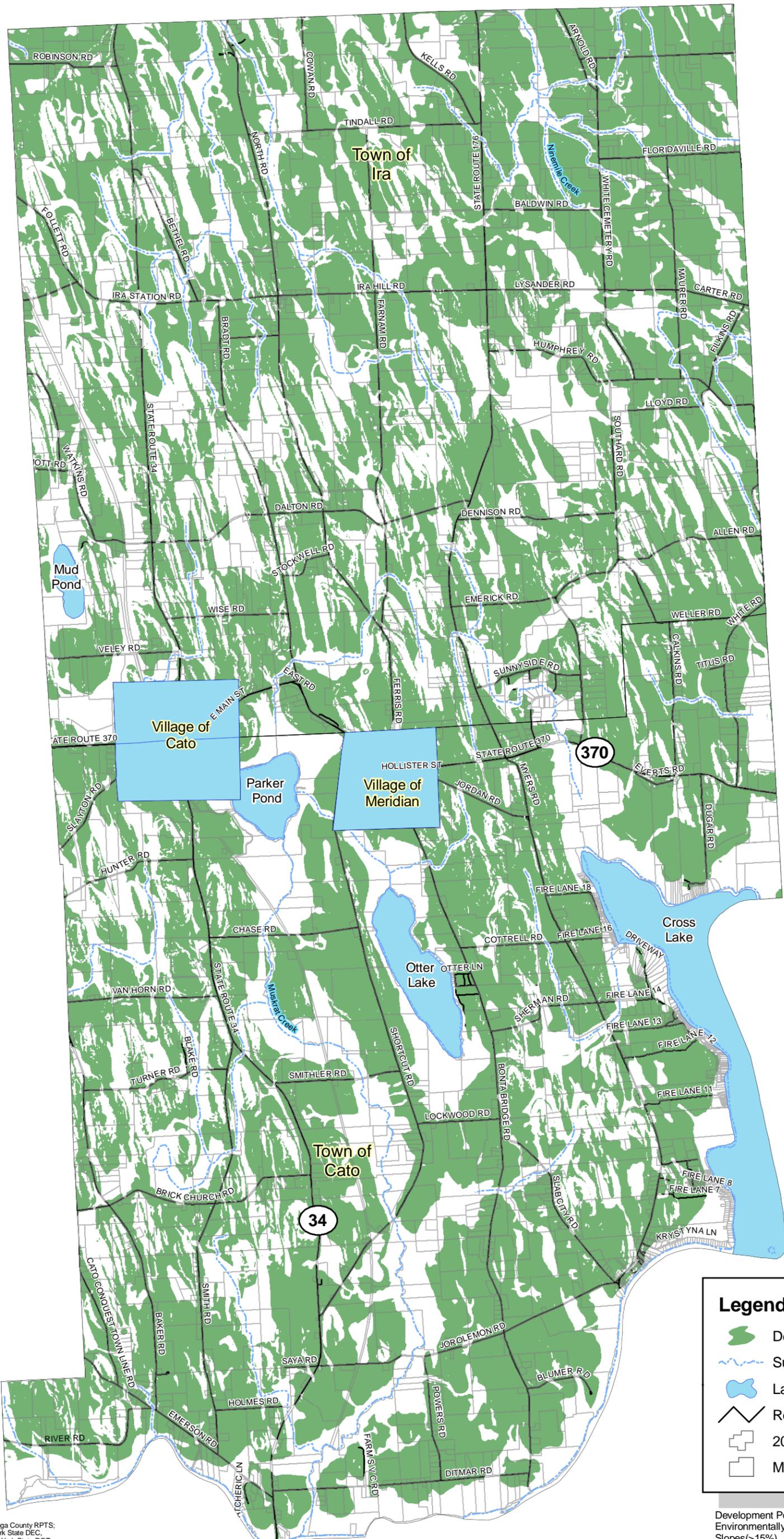
fish have affected our land and water resources. Many of these species thrive in areas where excessive nutrients or pollutants enter local waterways. For example, Eurasian Water Milfoil is an aquatic plant from Asia that thrives in areas where failing septic systems or siltation from construction sites introduces excessive nutrients into streams or ponds. Addressing these concerns has become a nationwide trend and is clearly of concern to residents who benefit from local streams and creeks. Milfoil and water chestnut have become a major nuisance on the Seneca River New York State Canal Corridor, the Oswego River, and Oneida Lake and is spreading to water bodies throughout Central New York.

2.3.2 Summary

This section has provided an overview of many of the current trends in Natural Resource Planning. While this list is not all inclusive, these trends are relevant to the Towns of Ira and Cato, as well as the Central New York region. Based upon the environmental constraints of the two townships, it is evident that many land areas require modifications to allow for suitable and sustainable development practices (see Figures 2-10, 2-11 and 2-12). Soils are the single most limiting factor in reviewing future development proposals within each Town. This reveals an extensive land area that will require human modification in order to overcome environmental constraints of the two communities. Consideration of these trends is important for establishing Town Goals and Objectives with respect to Natural, Historic and Cultural elements of the Town and associated municipalities.

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Legend

- Development Potential*
- ~ Surface Water
- Lakes / Ponds
- Road Centerline
- 2007 Tax Parcel Boundary
- Municipal Boundary

Development Potential Denotes Areas That are not Environmentally Constrained By: Wetlands, Steep Slopes (>15%), 100 year flood zones, 100' buffer of all surface waters and hydric soils

Date Sources:
 2005 Tax parcels - Cayuga County RPTS;
 Surface Water - New York State DEC;
 Road Centerlines - New York State DOT;
 Municipal Boundary - U.S. Census



**TOWN OF IRA - TOWN OF CATO
 JOINT COMPREHENSIVE PLAN**

COMMUNITY INVENTORY

Town of Ira Town of Cato

**Areas With Development Potential
 of Ira and Cato**

Cayuga County New York

2/6/07



FIGURE
 2-12

Project No.
 1069.001

2.4 Historic Resources and Cultural Resources

2.4.1 *Historic Buildings*

Although there are several buildings and properties within the Towns of Ira and Cato (including the Villages), there is only one building listed on the National Register of Historic Places (see Photo 2-7). The William Smith Ingham House (1835) is a distinguished, Greek Revival style building in the Village of Meridian. The house was built by one of the village's earliest and most influential settlers and most generous benefactors.



Photo 2-7 - William Smith Ingham House
National Register of Historic Places

In the 1940s, the Ingham House was acquired by the parents of the current owner, David Dudley. For a few years, they ran the house as an inn, but for most of the century, it has remained a private dwelling for the Dudley family.



Photo 2-8 - The Ingham House

The Ingham house is the finest and remains Meridian’s oldest, most prominent local landmark. Once the community’s premier historic landmark, the dwelling fell into disrepair during the late twentieth century. When the current owner applied for Community Development funding in 2003 through the Cayuga County Department of Planning, the building was determined eligible for listing in the National Register in consultation with the State Historic Preservation Office (SHPO). Representatives of SHPO and the local Community Development Fund administrators were able to work closely with the owner to undertake a highly successful, \$100,000.00 renovation of the building. The restoration was completed in accordance with the Secretary of the Interior’s Standards for Rehabilitation. The property was listed in the National Register of Historic Places on April 6, 2005.

2.4.2 Places with Historic Potential

Several buildings with historic significance are concentrated in the Villages of Cato and Meridian, however, there are two hamlets within the Towns that have potential as historic districts. In the 1800s, the hamlet of Ira had a hotel, stores, at least two churches, blacksmith and carriage shops, a cheese factory, post office, and doctor and lawyer offices. Many of the buildings still exist today as they were in the 1800s, except for those consumed by fire.

Another hamlet within the town is Bethel. This was once a thriving area midway between the villages of Hannibal in Oswego County to the north and Cato on the south edge of the Town of Ira. One of the best known buildings in the hamlet was the Methodist Church, started circa 1824 and closed in the 1990s. This building was

demolished due to poor repair and structural conditions. Today, the hamlet of Bethel is a small bedroom community and remains a reminder of the Town's historic past.

2.4.3 *The "North Trail"*

An important area shared by the two Towns with historic significance includes the abandoned railroad bed or "North Trail." This abandoned railroad bed runs the length of the Town of Cato and Ira and passes through the Village of Cato.



Photo 2-9 - North Trail Trailhead

This railroad played a significant role in local history and is inherently tied to the farm to market nature of Ira and Cato. At one time this route provided a vital link between Lake Ontario to the north and Pennsylvania to the south. This abandoned railroad is part of the Cayuga County Recreation Trail system and is a corridor route to points north on the New York State Snowmobile Trail system.

2.4.4 *The New York State Erie Canal*

One of the most important historic aspects of the community is the Seneca River Canal and its connection with Cross Lake. This historic trade route was responsible for the economic growth of the nation during the industrial revolution and continues to provide an important waterfront greenway for boating and recreation. The New York State Canal System on the Seneca River/Cross Lake is rich in cultural significance and history. Many immigrants worked long and hard on "Clinton's Ditch" to create this magnificent waterway. Folklore, songs and speech lingo emerged from those individuals working along the Canal. As the population grew and the Canal prospered, it became not only a transportation waterway, but also a vacation area for the well-to-do.

At one time, more than 50,000 people depended on the New York State/Erie Canal for their livelihood. From its inception, the Canal facilitated growth of new culture revolving around canal life. For many, canal boats became floating houses and important

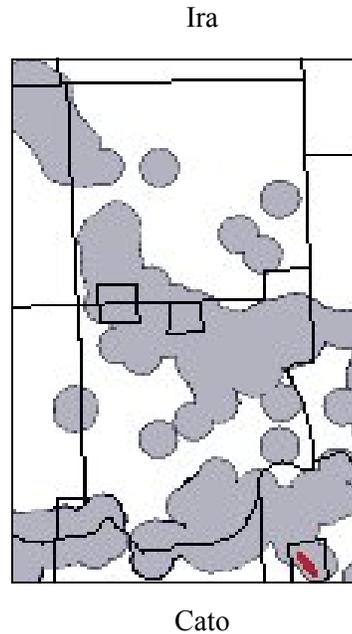
trading vessels that traversed the region. As the railroad grew in significance, communities along the canal system became important points of trade where goods from surrounding farmland could be collected and shipped to markets throughout the eastern half of the United States. The father would serve as captain, while the mother cooked for the family and crew, and the children, if old enough, would serve as “hoggees” and would walk alongside the mules to lead them along at a steady pace.

For those who traveled along the Canal in packet boats or passenger vessels, the Canal was an exciting place. Gambling and entertainment were frequent pastimes on the Canal and families would often meet each year at the same locations to share stories and adventures.

Today, the Canal has returned to its former glory and is filled with pleasure boats, fishermen, and cyclists riding the former towpaths where mules once trod. The excitement of the past is evident throughout the canal corridor but two striking examples of the historic canal era include Bonta Bridge and Jordan Bridge in the Town of Cato. These historic truss bridges have substantial heritage and scenic value and are strong symbols of canal era heritage. Designated as the nation’s 23rd National Heritage Corridor, the New York State Canal System joins the ranks of America’s most treasured historical resources. Established on December 21, 2000, the Erie Canalway National Heritage Corridor incorporates all four of New York’s navigable Canals, sections of the original Erie Canal, and over 200 municipalities along the Canal Corridor.

2.4.4.1 Archeological Resources

The presence of archeological resources along the Iroquois trail and the Seneca River is extensive. Prior to the arrival of European settlers, the Seneca River Valley was considered by the local Haudenosaunee (Iroquois) as the central corridor between the “east door and the west door” of the Iroquois confederacy. Much of the land within the Towns of Ira and Cato were utilized for hunting, fishing, and trapping along the Seneca River and Cross Lake. The ponds, streams, and wetlands of the area also provided a bounty of food for the Cayugas who lived in summer fishing and hunting camps along the rivers and streams.



Graphic 2-5 - Land Areas with Archeological Potential

The New York State Office of Parks, Recreation and Historic Preservation has identified areas with potential archeological resources in the State. These locations are indicated on an Archeological Sensitivity Map that is filed with OPRHP Offices in Albany (see above). Due to the sensitivity of these locations and the information indicated on the maps, they are not reproduced and GIS data is unavailable. By reviewing the map it is evident that most of the archeologically sensitive areas are concentrated along the Seneca River, around Cross Lake, and around Parker Pond and Otter Lake. It is assumed that the Iroquois utilized much of the area as hunting grounds for plentiful herds of deer and waterfowl that are indigenous to the forests of northern Cayuga County.

2.5 Historic and Cultural Resource Trends

2.5.1 *Historic Preservation Legislation*

Historic Preservation became national policy through the passage of the Antiquities Act of 1906, the Historic Sites Act of 1935, and the National Historic Preservation Act of 1966 (National Register Bulletin 15, i). The Historic Sites Act authorized the Secretary of the Interior to identify properties of national significance.

The National Historic Preservation Act was designed to expand historic preservation programs on the Federal, State, and local levels. It authorizes the Department of Interior to recognize not only properties of national significance but also those of local and State significance worthy of preservation. The National Historic Preservation Act also established State Historic Preservation Officer responsibilities, Grants-in-Aid program, Certified Local Government Program, Advisory Council on Historic Preservation, and Federal Agency responsibilities. The National Park Service sets program direction and assures consistency for preservation activities nationwide. As defined by the Department of the Interior, the goal of the national preservation program is to establish standards for historic preservation, to identify and document significant historic resources in the United States, to provide assistance to public and private agencies and organizations and to educate the general public concerning historic preservation (U.S. Department of the Interior, the National Register of Historic Places). Places that are important to the history of the community provide useful information about how an area was settled, developed, or declined. It helps to identify and understand the economic, geographic, environmental, social, and cultural forces that shaped its development (Stokes and Watson, 38).

During the 1980s, many incentive programs suffered because of changes in political and public support. Changes with the Federal Tax Reform Act of 1986 curtailed the attractiveness of tax credits by imposing restrictive passive-loss rules on the use of the credit and by denying its availability to wealthier taxpayers (Schwartz, 12). Previously, taxpayers could use all the credit available to them in the year the project was finished. Many state and local governments have tried to compensate for these changes however, in light of current fiscal constraints it is unlikely that preservation tax credits will be restored to the levels of the 1970s.

2.5.1.1 Neighborhood Preservation

Over the years, attention has shifted from individual buildings to larger areas, neighborhoods, hamlets, villages, and rural landscapes. Historic preservation trends focus on restoring the character and vitality of downtowns and neighborhoods, converting structures for new economic activities, and restoring outdated transportation routes for interpretation and recreation. Removing fake facades from store fronts is one step in restoring the historic

character of downtowns and converting historical buildings to multiple-use is popular. For example, use of street level space for commercial activities, second level for office activities, and the third level for residential is a popular trend in downtown revitalization. Gaps in historic neighborhoods are being filled with buildings of similar style to reflect the original character of the area. With the decline in manufacturing, empty factories, warehouses, and mills are being converted for commercial space and housing. Churches and schoolhouses have been converted to residential uses like apartments or condominiums.



Photo 2-10 - Main Street Cato ca. 1908

2.5.1.2 Historic Agricultural Buildings

Rural farms and agricultural buildings represent a strong image of community spirit and history. Many communities view old barns as a link to history and their agricultural heritage. Old barns are often considered community landmarks that embody farming tradition, local customs, and a way of life for many local residents. They view local farms as a symbol of stability, freedom and strong ties to the landscape, and farming evokes a sense of rural character within the community.



Photo 2-11 - Silos in the Ira Landscape

In 1997, the New York State Barn Coalition was formed and has successfully established an awareness of the importance of farm structures throughout New York State. The coalition was formed to increase public awareness of historic barns and agriculture. Their objectives include promoting

the appreciation, rehabilitation, and reuse of older historic barns. Since their formation, a number of communities throughout Central New York have received historic preservation grants from the New York State Environmental Protection Fund to restore and rehabilitate old barns and farm structures.

2.5.1.3 Comprehensive Planning

Historic preservation has become an important component of comprehensive plans and the community design process since the late 1980s. Communities are now recognizing the aesthetic design and economic values of preservation. Increasingly, municipalities include a historic preservation element in their comprehensive plans or at least use preservation techniques in other elements of the plan such as housing, economic development, or community design. Preservation is an effective tool in converting historically relevant buildings and places to accommodate new uses, populations and economic trends.

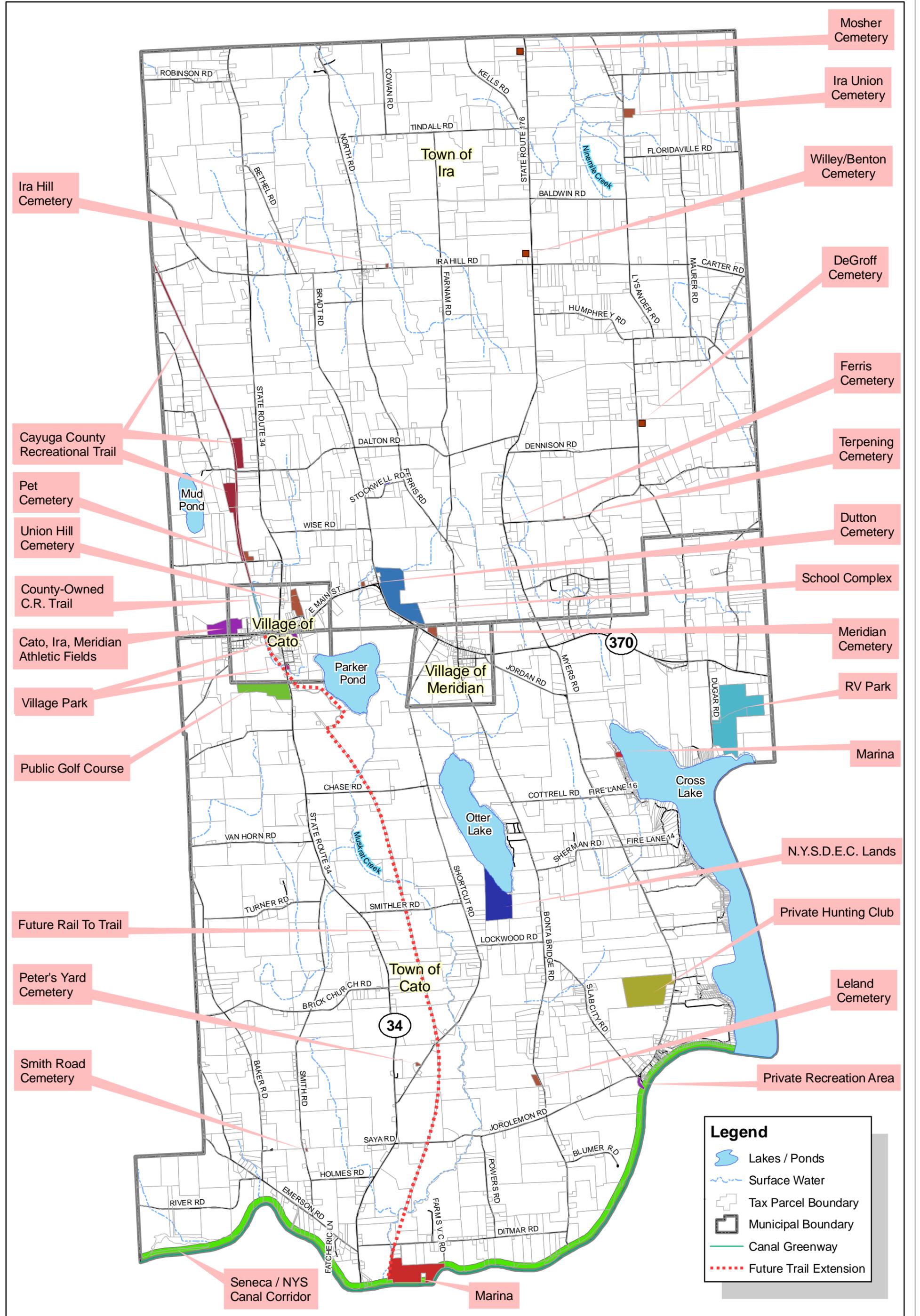
2.6 Parks and Recreational Resources (Figure 2-13)

2.6.1 *State Recreational Facilities*

Important recreational resources in the Town of Cato are Cross Lake, the Seneca River, and the New York State Canal System. This system is used by residents within all of the communities in the area and provides a number of opportunities for recreational improvements. The 2000 Erie Canalway Heritage Act was adopted by the U.S. Congress and applies to all 234 municipalities adjoining the 524 mile navigable waterway of the New York State Canal System. The legislation acknowledges the instrumental role that the canals played in the growth and development of the United States. As the result of the act, a national interest in the preservation and interpretation of the corridor's important historic and cultural resources are highlighted. Many communities along the Barge Canal and the Old Erie Canal, including Cayuga County, have been participants in the revitalization and rehabilitation of the system. Funding is available from several sources to improve waterfront recreation, public access, and greenway amenities within the Seneca River Corridor.

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Ira Hill Cemetery

Cayuga County Recreational Trail

Pet Cemetery

Union Hill Cemetery

County-Owned C.R. Trail

Cato, Ira, Meridian Athletic Fields

Village Park

Public Golf Course

Future Rail To Trail

Peter's Yard Cemetery

Smith Road Cemetery

Seneca / NYS Canal Corridor

Marina

Mosher Cemetery

Ira Union Cemetery

Willey/Benton Cemetery

DeGross Cemetery

Ferris Cemetery

Terpening Cemetery

Dutton Cemetery

School Complex

Meridian Cemetery

RV Park

Marina

N.Y.S.D.E.C. Lands

Private Hunting Club

Leland Cemetery

Private Recreation Area

Legend

- Lakes / Ponds
- Surface Water
- Tax Parcel Boundary
- Municipal Boundary
- Canal Greenway
- Future Trail Extension

2.6.1.1 The Seneca River/Barge Canal System

The Cayuga-Seneca Canal is part of the Seneca River, a large river that drains approximately 3459 square miles of land in Central New York to the Oswego River, and subsequently Lake Ontario. Approximately 15 linear miles of shoreline associated with the Seneca River and Cross Lake lie within the Town of Cato that flows east toward the Village of Baldwinsville. The Seneca River combines with the Oneida River at the Three Rivers junction to form the Oswego River, which enters Lake Ontario in Oswego. Recreational boating and canoeing on the Seneca River provide a relatively quiet, peaceful experience during the spring and fall. However, the river is frequented by motorized boats traveling to and from any one of the number of Finger Lakes that drain into the Seneca and this segment of the New York State Canal receives a great deal of recreational boater traffic during the summer season.

2.6.1.2 Cross Lake

Cross Lake is connected to the Seneca River and NYS Canal system and is surrounded by the wetlands and drumlins that characterize Ira and Cato. For this reason, the northern end of the lake contains valuable wetland habitat. The lake supports a wide variety of freshwater fish and, although it is within the Town of Cato, it is an important recreational asset to both communities. At its southern end, the Seneca River flows east-west through Cross Lake, mixing river and lake waters together. Two (2) islands, Big Island (46 acres) and Little Island (7 acres) are located at this southern end of the lake at the confluence of the Seneca River. Cross Lake has an 11.4-mile shoreline, 3.1-square mile surface area, and an average depth of 18 feet. Fishing, boating, and swimming are popular recreational activities on Cross Lake. Cross Lake is a “Class C” water body with respect to water quality. The “best usage” for a Class C water body, according to the New York State Department of Environmental Conservation (DEC), is for recreational fishing, but it is also suitable for primary (swimming) and secondary (boating/canoe/kayak) recreation.



Photo 2-12 - Sailboats on Cross Lake

2.6.1.3 New York State Department of Environmental Conservation

The New York State Department of Environmental Conservation holds a land area of approximately 78 acres at the south end of Otter Lake. Although there is some question as to whether the land is owned by NYSDEC or Cayuga County. However, discussions with NYSDEC officials reveal that the property is in State ownership and may provide the opportunity to improve public access to Otter Lake at some point in the future. The land is dominated by a portion of Class 2 wetland that is approximately 415 acres in size and likely harbors important wetland plants and animals. This wetland is the result of exposure of the lake bottom when the lake was drained earlier in the 20th century. NYSDEC officials have future interest in improving public access to Otter Lake and are open to discussions with local landowners to improve recreational opportunity for local residents.

2.6.2 Local Parks and Recreation Facilities

2.6.2.1 Parker Pond

Parker Pond is surrounded by an abundance of forested wetland mostly located on private property. The County owns a small parcel of land on the western edge of the pond which connects into the Cayuga County Trail System. The pond is teeming with a wide variety of fish and wildlife, including northern

pike, large- and small-mouth bass, bullhead, beaver, turtles, and Canadian geese. The pond is frequented by local recreation enthusiasts as well as visitors to the Cato area. The Parker Pond Gun Shop maintains a small boat launch that allows for quasi public access to this important community water body. The Pond has a surface area of 0.288 square miles, a 2.27-mile shoreline and an average depth of 6.6 feet. Parker Pond is also a “Class C” water body with respect to water quality. The outlet is Muskrat Creek which flows south approximately 7 miles and terminates at the Seneca River.

Just to the east on Parker’s Pond, skeet shooting, duck hunting, and fishing are available. According to the Central New York Chapter of the Nature Conservancy and the Audubon Society, Ira and Cato lie within the migration path of Canada geese, ducks, and songbirds and the pond is a gathering place for thousands of birds as they head north for the summer. Since the pond has an organic bottom and is in a flood zone, there can be no development along its shores. This provides an excellent opportunity for nature education and environmental studies, particularly for local youth education. The lack of free public access to the lake has been raised as an issue by Town residents in the past.

2.6.2.2 Otter Lake (Semi-Public Access)

Otter Lake has a surface area of 0.43 square miles (approx. 281 acres), a 3.45-mile shoreline and an average depth of 8 feet. Otter Lake is also classified as a Class C water body and is suitable for fishing, swimming and boating. The Lake drains into Parker Pond through extensive wetlands to the North. It is almost completely surrounded by wooded wetlands.

Leisure Acres, a local Trailer Park, offers public access to Otter Lake and maintains a boat launch on this small water body in the rural Town of Cato. The NYSDEC continues to stock Otter Lake (and has for several decades) with Walleye fry. In the year 2000, the DEC stocked the Lake with 1,300,000 Walleye Fry. Free public access is also desired by local residents, particularly for kayaking, canoeing, and fishing.

2.6.2.3 Cross Lake (Semi-Public Access)

Two privately-owned launches along Cross Lake allow semi-public access to this water body for a small fee. Cross Lake Park & Campgrounds and Cross Lake Marina both offer lake access and parking for boaters, kayaks, and canoes. Cross Lake Park & Campground, located in the Town of Cato, also offers parking and non-motorized and motorized access to Cross Lake for a fee. Beach access, stocked fishing pond, playground, horseshoes, swimming, and other amenities are also available. In addition, Cross Lake Marina, in the Town of Cato, offers parking as well as non-motorized and motorized access to Cross Lake for a fee.

2.6.2.4 The North Trail - Cato to Fair Haven Trail - Cayuga County Recreation Trail

Running from Cato to Fair Haven, the multi-use rail-to-trail traverses woodlands, farmlands, streams, and wetlands. The trail connects the Town of Cato and the Village of Fair Haven along approximately 18 miles of the abandoned Lehigh Valley Railroad bed. Cato Station provides an important reminder of the history of the former railroad and is situated at the head of the trail in the Village of Cato. The trail is an important link in the New York State Snowmobile Trails system and links the Village of Weedsport with the Hojack Trail, an active Cayuga County recreation trail and abandoned railroad right of way that links to active trails in Wayne and Oswego Counties.

Cayuga County maintains the trail which runs from Cato to Fair Haven. The 18-mile stretch is used for hiking, biking and is a corridor trail in the New York State Snowmobile Trail system. Cayuga County plans to work with local officials to extend and improve the trail to link to Weedsport and connect with the Erie Canal Trail (the Camillus to Port Byron segment of the state-wide Canalway Trail system). To complement the transportation history associated with the canal and rail transportation, members of the community have expressed interest in converting an old feed mill than stands along the original rail

alignment as a point of interest that will complement the trail system (e.g., museum or gallery).

2.6.2.5 Mott Park

Mott Park is a Village-owned recreational facility south of the Village of Cato. Two (2) outdoor basketball courts have been installed and the park provides public parking, picnic facilities, an outdoor pavilion, and a children’s playground.

2.6.2.6 CIMARF Field

CIMARF Field on the west side of the village supports four baseball diamonds and is used extensively for youth soccer. The field was built and run entirely by volunteers and there is interest in developing a local partnership with the group to expand athletic opportunities within the community.



Photo 2-13 -CIMARF Athletic Park

The facility is used at full capacity from May to September by youth and adult leagues, and is the site of many softball tournaments. Soccer games are normally directed to this facility including some school sponsored soccer events.

2.6.2.7 Cato Golf Club

On the south end of Cato is a challenging nine-hole golf course open to individuals as well as leagues. The course overlooks Parker Pond and, according to Village of Cato officials, “the view from the seventh tee is magnificent.” It is a daily fee golf course, open to the public and is believed to be the oldest family owned golf course in the northeast. The club and greens are still maintained by the family who built and developed the golf course.

2.6.2.8 Cato-Meridian School District

The Cato-Meridian School District is located at 2851 Route 370 mid-way between the villages of Cato and Meridian. The school system has active athletic fields that provide for soccer, football, baseball, and a wide range of interscholastic sports. Outdoor facilities can accommodate night games and the school system administers an active athletic program. The school system has expressed interest in expanded access to athletic fields due to growth in the popularity of youth soccer in the area.

According to the school district, current facilities can support the following scholastic recreational uses (including indoor and outdoor facilities):

- Indoor recreation center
- Swimming pool
- Workout/weight room
- Gymnasium
- Basketball
- Volleyball
- Outdoor athletic fields (baseball, softball, field hockey, track, soccer, stadium seating)

The Cato Meridian School District provides programs for children ranging from grades K-12 and participates in a number of boys and girls interscholastic sports programs.

2.6.2.9 Other Recreational Opportunities

Attached to the elementary school is a brand new recreation center with a gym, walking track, Olympic-size pool, and a state-of-the-art physical fitness room. The center is open to the public and works very closely with the local doctor in helping to meet the physical therapy needs of patients.

There are also several popular recreation spots within easy driving distance. Little Sodus Bay in Fair Haven has a marina and entry to Lake Ontario, the other Great Lakes, and the St. Lawrence Seaway. Fair Haven Beach State Park boasts a beautiful beach for swimming, as well as large picnic and camping areas. Cross Lake, with its marina, gives access to the Seneca River and several of the Finger Lakes. Beaver Lake Nature Center is a great place for family outings and hiking.

2.6.3 Current Trends in Parks and Recreation

In 2003, the New York State Office of Parks Recreation and Historic Preservation updated the Statewide Comprehensive Outdoor Recreation Plan (SCORP). This document is very useful to municipalities in planning for the development and continued management of recreational facilities and programs. SCORP provides a great deal of useful information and is utilized as a reference for the Parks and Recreation portion of the Ira-Cato Community Comprehensive Plan in planning for recreational opportunity to local residents.

Based upon a statewide survey, SCORP identifies many of the trends that are applicable in the vicinity of northern Cayuga County. Most of the data in the plan is collected at the county level and can be extracted from the report to make fairly accurate assumptions as to the planning direction the Town should take with respect to Parks and Recreation.

In 1998, the greatest number of individuals surveyed in SCORP participated in passive park activity or “relaxing in a park.” The relative number of individuals participating in this passive activity reflects the broad age group that can participate. This passive activity spans all age groups and provides opportunity to children, adults and senior citizens on an even basis. SCORP suggests that there will be a 5.26 percent growth in demand for passive activity by the year 2020.

In combination with the rating of other activities, this provides an important indication of the potential type of park facilities that should be planned over the next 20

years. Of the activities that were undertaken by the most participants in 1998 the top five recreational activities include:

- a. relaxing in a park
- b. swimming
- c. bicycling
- d. golfing
- e. walking

These top five activities are available to local residents within the community as reflected in the inventory listed above. However, as the community grows, it will be important to consider the types of recreational facilities that may be in demand in the future. If the Town plans to attract additional residents to the area, demand for quality recreational facilities will increase and the community should work with local school officials to ensure that there is an adequate blend of public recreational facilities that do not interfere with school athletic programs.

In addition, the exceptional natural and scenic characteristics of the area provide a quality setting for future improvements to recreational opportunities for a growing local population. Additional activities indicated in the Statewide Comprehensive Outdoor Recreation Plan are identified for the Cayuga County area and listed and the level of participants is shown in the chart below.

Table 2.22 - Activity Participants 1998 and 2020

	1998 Partic.	% Pop. 1998	2020 Partic.	% Pop. 2020	Growth	% Growth
Relaxing in Park	10,901,801	73.53%	11,475,496	77.40%	573,695	5.26%
Swimming	7,687,154	51.85%	8,033,555	54.18%	346,400	4.51%
Biking	5,242,681	35.36%	5,411,849	36.50%	169,168	3.23%
Golfing	2,378,038	16.04%	2,524,301	17.02%	146,263	6.15%
Walking	9,173,807	61.87%	9,692,892	65.37%	519,086	5.66%
Tennis	2,444,658	16.49%	2,543,334	17.15%	98,676	4.04%
Basketball	2,742,192	18.49%	2,757,299	18.60%	15,107	0.55%
Field Sports	3,086,063	20.81%	3,141,449	21.19%	55,386	1.79%
Historic Sites	3,682,223	24.83%	3,917,109	26.42%	234,886	6.38%
Camping	1,915,988	12.92%	2,016,290	13.60%	100,303	5.24%
Hunting	1,874,539	12.64%	1,985,486	13.39%	110,947	5.92%
Hiking	3,150,310	21.25%	3,303,820	22.28%	153,510	4.87%
Boating	3,564,820	24.04%	3,757,673	25.34%	192,854	5.41%
Fishing	3,462,233	23.35%	3,659,717	24.68%	197,485	5.70%
ATV	673,578	4.54%	706,253	4.51%	32,765	4.85%
Horseback Riding	1,362,542	9.10%	1,428,302	9.20%	65,760	4.83%
Ice Skating	2,224,410	15.00%	2,314,360	15.61%	89,950	4.04%
X-Country Skiing	779,626	5.26%	821,864	5.54%	42,238	5.42%
Downhill Skiing	1,626,855	10.97%	1,678,672	11.32%	51,818	3.19%
Snowmobiling	758,989	5.12%	790,897	5.33%	31,907	4.20%

2003 SCORP Activity Participant Projection

This chart is useful in determining the type and level of facilities that will be addressed in the Parks and Recreation component of the planning process. However, there are a few more generalized recreational trends that can compliment other planning components of the Comprehensive Plan. Some of these trends are applicable to the rural communities in Cayuga County and are particularly applicable to communities that are anticipating residential growth in the future.

2.6.3.1 Environmental Education and Interpretation

More and more people are becoming interested in the study of nature and our heritage through viewing wildlife in its natural habitat and naturalist recreation vacations. Environmental education programs can range from elementary school or high school level field study to guided nature tours, walks

hiking or climbing in order to develop an appreciation for the environment, wildlife, and the study of ecology. Programs sponsored by local conservation groups, colleges, and State and local agencies are very successful in educating people of all ages about our environment and current environmental issues.

Environmental, historical, and cultural interpretation is a popular and effective method of educating residents and visitors to a local community. Interpretive programs are successfully implemented in greenways, along highways, at recreational facilities, and in many locations throughout New York State. Interpretive signs and sites can be developed that help educate visitors who travel through the area about the local environment, history, cultural heritage and local goods and services. Interpretive information can be placed at rest areas, in public parks, scenic overlooks, fishing and boat launching access sites, local businesses, and historical sites.

2.6.3.2 Wildlife Conservation

Over the past 25 years an increasing awareness of our impact upon the environment has evolved. Efforts to save endangered species are common knowledge from the comeback story of the Bald Eagle to controversy over the introduction of exotic species like the zebra mussel or Eurasian milfoil into local waterways. For example, advocacy groups consisting of conservationists and local business owners have expressed concern regarding the invasion of milfoil and water chestnut on local tourism due to the harmful effects on boating, recreational fishing, and swimming areas. This is significant in that diverse groups are recognizing that open space for nature and habitat must be conserved in order to provide for the future popular recreational activities like hunting, fishing, boating, trapping, and viewing wildlife. Many private organizations like the Boy Scouts and Girls Scouts of America, local sportsman associations, and public agencies like the Natural Resource Conservation Service (NRCS) and Cornell Cooperative Extension (CCE) are helping encourage cooperation between public agencies and private landowners to deal with local natural resource and recreational issues and concerns. These groups open avenues of communication for concerns ranging from providing adequate open space for

hunting and trapping to providing information to the public regarding conservation of the local fishery.

2.6.3.3 Greenways

Greenways are an important trend nationally and locally, particularly along the Seneca River and Canal. Greenway planning is taking place from the Harlem waterfront in New York City to the New York State Canal System along the Seneca River in the Town of Cato. Many communities throughout New York State are revitalizing waterfront lakes, rivers, and streams through greenway planning programs. As part of a wider movement to protect linear features in the landscape, greenways are created around canals, waterfronts, rivers, and shorelines. Greenways protect the natural areas and open spaces along key resources including lake shores, rivers, and coastal zones.

The greenway concept is to keep the corridor green with natural vegetation and create a way or integrated vehicular and trail system that connects points of interest along the corridor. Greenways have direct or indirect human benefit and use providing for hiking, wildlife observation, environmental interpretation, historical interest, fishing access, and stream bank or shoreline protection. They may also provide the setting for scenic by-ways, roads, and bridges. In summary, they create a quality lifestyle for local residents.

The greenway approach is a response to the recognition that these environments are complex and sensitive to development while demand for property along waterfronts, streams, and ponds is steadily increasing. As water elements in more populated areas become congested, we can expect an increase in the number of people who will want to move to less populated streams, valleys and scenic areas. Due to the fact that these types of resources are sensitive to unplanned human impacts, the need for open space planning is important if we are to conserve the resources that play a key role in attracting thousands of fishermen, conservationists, and residents to enjoy the benefits of rural and scenic landscapes.

2.6.3.4 Multi-Modal Trails and Routes

Much of the interest in pedestrian connectivity, trails, and recreation corridors was catapulted by the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). In this federal legislation, rail trail conversion was listed among the 10 specific enhancement recommendations. Approximately 17 percent of ISTEA funds have been granted to rail trail projects. Recreation trails take the form of linear parks that connect park, recreation, and open spaces providing an alternative to driving as a means to access recreational facilities. These trails and pedestrian routes can be planned to be integrated with streets, sidewalks, and parking facilities and connect those facilities to commercial and residential areas. Today the incorporation of multi-modal (meaning facilities for pedestrians, bicyclists, and other transportation options) is an integral component of transportation programs like TEA-21 funding through the New York State Department of Transportation and the Environmental Protection Program through the New York State Office of Parks, Recreation and Historic Preservation. The current focus of multi-modal projects is for pedestrian safe routes and connections, particularly along community streets and thoroughfares and between residential areas and commercial centers.

Recent State and Federal legislation offers broad opportunities and funding for creative projects that integrate transportation into our communities and environment. The legislation is designed to promote 12 activities meant to improve non-motorized transportation, enhance the public's traveling experience, revitalize communities, and improve the quality of life. These programs encourage and facilitate non-traditional highway projects or roadway improvements. They are for activities that go above and beyond common transportation practice.

2.6.3.5 Historic Tourism

Local historians see history and local heritage as a special component of the recreational potential of the area. Museums and agri-tourism are growing in popularity both nationally and locally, providing an important framework for

education, interpretation, and investigation of local resources. Madison County, for example, is planning for the rehabilitation of historic barns to increase the tourism potential of local farms and agricultural businesses.

Large farms, equestrian stables, and more recently, farms converted to vineyards and wineries provide the opportunity for understanding local agricultural history and provide a vehicle for learning and agri-tourism which is growing on farms, orchards and during seasonal festivals.

2.6.3.6 Corporate Green-Space and Recreational Areas

Another important trend is the willingness of companies to allow conservation and recreation easements. According to “The Conservationist,” corporations own a large percentage of land in North America comprising perhaps 1/4 of the land base in the United States (Vol. 48, #5 and 6). Companies normally keep spare land as buffers for security or safety reasons and as space for future expansion. The planning initiatives at the Turning Stone Casino in the Town of Verona, serve as an excellent example of how Ira and Cato might incorporate open space and recreational activities in the Town. In Verona’s case, the development of a proposed 18-hole PGA level golf course in the northern portion of the Town provides insight into the type of recreational activities that may be associated with business enterprise.

Today companies realize that protecting the environment is a genuine concern of the majority of Americans. Many of the most successful companies recognize that conservation is a sound business strategy and beneficial to “greening” their corporate image.

2.6.3.7 Scenic Byways

Transportation corridors provide recreational opportunities that complement greenways. Many of the parkways that Robert Moses developed earlier in the century remain quality scenic routes that link parks, waterfronts, scenic landscapes and population centers. Northern Cayuga County, State Routes 370 and 34, and the many rural roads within the Towns provide scenic

multi-modal routes that link to many parks and greenways like the State Canal System, the Cayuga County Trail, and population centers in the Villages of Cato, Meridian, and even Baldwinsville and Weedsport. It also provides connectivity to locations state-wide that can be accessed by vehicle or bicycle. For example, connections to the Canalway Trail can provide access to Camillus, Port Byron, and all points between Albany and Buffalo (via State Bike Route 5)

Access to the State Highway system via Routes 370 and 34 also provides opportunity for scenic rural routes within the community. According to the President's Commission on American Outdoors, nearly 80 percent of Americans enjoy driving for pleasure and sightseeing. If these areas are planned and developed properly and integrated with trails and greenways they can provide a wide range of opportunity. However, without formal recognition of their value and action to protect the attractiveness of the routes, scenic assets may be lost through lack of protection for visual quality and future infrastructure pressure from development that the community may want to attract.

The current location of parks, recreation, and open space resources is indicated in Figure 2-13. At this time, Cayuga County is working to extend the County Recreation Trail from the Village of Cato to Weedsport. Ultimately, the extended trail will connect the NYS Canalway Trail in Weedsport to the Hojak Trail in Sterling and the Seaway Trail along Lake Ontario.

Additionally, New York State Department of Conservation is working to improve public access to Otter Lake and Cross Lake. Once these strategic plans are accomplished, Figure 2-14 will be updated to reflect these achievements.

The trends reflected in this inventory should be considered, as recreational opportunities in Ira and Cato are improved over the next 5 to 20 years.

The presence of the Seneca River and Canal, and the many routes in the Town provide access to the exceptional scenic quality of the area and provide the context for evaluating these trends as future planning strategies are developed.

3.0 Inventory of Water and Wastewater Infrastructure (Figure 3-1)

3.1 Inventory of Water Supply

Early in the planning process, it became evident that the need for expanded water service within Ira and Cato would become a key component of the Comprehensive Plan. The issue was raised as a concern at every public meeting and workshop. Before plans for improving the public water supply, it is important to identify existing municipal water sources because it is likely that short-term improvements will rely upon the existing water sources.

3.1.1 *The Public Water Supply*

Two public groundwater supplies service the Villages of Cato and Meridian. The Village of Cato owns and operates one well off of Route 34 just south of the Village boundary (see Figure 3-1).

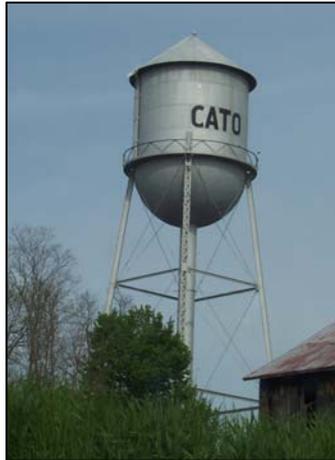


Photo 3-1 - The Village Water Tank

The second well is owned and operated by Dudley Water Supply Company and serves residents in the Village of Meridian. Dudley Water Supply Company is a New York State Certified Bulk Water Facility located just south of the Village of Meridian. This water supply is privately owned but is used to supplement the municipal service to Meridian and private wells in the area through sale to local consumers. Both water sources are approved by the Cayuga County Health Department and are chlorinated by injection before being pumped into the distribution system or being transported to other consumers in the area.

(Page Reserved for Figure 3-1)

3.1.1.1 The Village of Cato

The Cato municipal water supply is supplemented with a 150,000 gallon storage tank located on Mechanic Street on the east side of the Village. The current municipal system serves 601 people through 265 local service connections. There are several hydrant locations throughout the Village, however, the system is at least 50 years old and expansion of service to the Town is limited by the age and restricted capacity of the distribution system.

The Village of Cato Comprehensive Plan and a 1997 Wellhead Protection Plan undertaken by Cayuga County makes recommendations to provide protective land buffers around the existing wellhead locations in an effort to preserve groundwater quality of the underlying aquifer. In addition, the Village of Cato Comprehensive Plan recommends that an alternate water source (either CCWA or groundwater source) should be evaluated for future use due to the age and limitations of the existing system. A secondary recommendation of that plan is that a new water district should be created to help finance the system and that funding sources be sought to aid in implementing future improvements and expansion of the system.

3.1.1.2 Dudley Water Supply (Meridian)

The Dudley water supply system serves customers in the Village of Meridian. According to Paul Dudley, it is likely that the largest service line is three inches in diameter. The availability of service is restricted by the limitations of the system (in size and capacity) and there is no existing water storage facility. Currently, Dudley Water Supply can supply up to 300,000 gallons of water per day (gpd). However, it is estimated that the installation of a new well in the general vicinity of the Village could yield another 200,000 gpd or more. A water storage facility could improve the system to provide adequate water quantity and quality to improve firefighting capability in Meridian and adjoining portions of the Town.

3.1.1.3 Individual Water Sources

There are two other sources of water available for public consumption in the Town of Cato. Both of these systems are limited in size, each serving 22 units. Additionally, neither system is metered, so the specific yield of their wells are undetermined.

The first is the Lake Breeze water system on Fire Lane 12 of Cross Lake. This small system provides potable groundwater to approximately 20 seasonal homes on the west shore of Cross Lake. Recently the Lake Breeze water supply has raised some concern due to a recent trend in converting some of these units to year round use. It is assumed that this system will remain limited to the residences in close proximity to Fire Lane 12 and is not feasible to allow for future expansion to a large number of units.

The second is a groundwater source utilized at the trailer park located on Otter Lake. The park known as Leisure Acres Trailer Park has an approved groundwater source that serves the trailer park and is limited to the facility. According to the Cayuga county Health Department this system is sufficient for its intended purpose and in good repair.

Programming for future residential and commercial growth may be affected by any expansion plans to the water system associated with the existing municipal and private water supplies. The water source for individual wells includes all of the available ponds, rivers, streams, and the aquifers that are recharged by surface water that enters the groundwater system. Groundwater recharge is facilitated by the type of soil and surficial geology of the area and recharge areas are frequently associated with wetlands or sandy and gravelly soils. The quality of individual groundwater water supply is highly dependent upon the overlying type and intensity of land use in the vicinity of each individual well.

3.1.1.4 Agricultural and Farmland Runoff Considerations

In many communities, agricultural runoff may be perceived as a problem associated with water quality of surface and groundwater. Farmers who practice sound nutrient management may be considered a source of pollution as agricultural areas develop. However, experts are finding that suburban development is a more likely source of the problem if land use is not compatible with the surrounding landscape. This is due to an increase in the rate and quantity of runoff caused by suburban development. According to the New York State Department of Agriculture and Markets, the encroachment of suburban development into primary agricultural areas increases the rate of runoff that carries many non-source pollutants that enter surface and groundwater. This trend in single-family suburban growth exacerbates runoff and agricultural pollution. The disruption of natural vegetation and organic soils and the increase in impervious surfaces can have a profound effect on surface and groundwater supplies. This increases the intrusion of contaminants that would ordinarily be filtered out of the hydrological cycle under natural conditions.

In developing goals and objectives to improve water supplies, sound land use planning should be considered to mitigate some of the effects that suburban development may have on agricultural areas and groundwater supplies in the future. In this respect, planning is important when considering future changes in land use and density within the two Towns since the majority of the land area is not likely to receive municipal water or sewer systems within the planning horizon.

3.1.2 *Trends in Water Supply*

The pressures of expanding water supply needs and increasingly stringent water quality and environmental regulations present complex challenges for private and public water suppliers. Human health can be affected by freshwater problems ranging from contamination of municipal water supply sources to pollution of water bodies used for fishing or recreation. Pathogens that cause acute illness and disease or chemicals (including some that may can be carcinogenic in high concentrations) can affect drinking

water supplies. The potential for pollutants and the impacts of increasing residential development in areas that rely on groundwater represent a significant challenge for individuals, governments, and businesses in coming decades.

Current trends in water supply needs for rural communities is an important consideration in Ira and Cato. The pressure to expand the water supply to meet the needs of a growing community (especially residential growth) coupled with increasingly stringent drinking water regulations will be critical to the planning process. As rural communities struggle with these issues, New York State and County Health Departments are constantly assessing the water quality problems of greatest significance. According to the State of New York, many of the trends facing many rural communities include:

1. Numerous groundwater protection programs, initiatives and extensive efforts are being undertaken by the State of New York and County Health Departments and various environmental agencies to pursue groundwater protection.
2. Industrial and municipal point sources have become a relatively minor source of surface and groundwater impairment due to recent regulation of industrial activities.
3. The State Pollution Discharge Elimination System (SPDES) has been instrumental in eliminating contaminants to surface and groundwater supplies over the past 30 years and has expanded to address non-point sources and runoff in urban and suburban communities.
4. Non-point sources have become the most significant contributor to water quality impacts in New York State. As a result, many communities are working toward a wellhead protection plan, watershed management plans, and groundwater protection plans to secure safe water supplies for the future.

According to the New York State Department of Health, non-point sources account for:

- 90% of the major sources contributing to water quality impacts of rivers and streams;
- 92% for lakes and reservoirs;
- 87% for estuary waters, and;
- 100% for the Great Lakes shoreline.

Note: Approximately 1,400 river miles, 251,000 lake acres, 1,450 square miles of estuary waters and nearly 500 miles of Great Lakes shoreline are significantly affected by toxic pollutants. Within the Great Lakes and Lake Ontario watersheds, priority organics (PCBs), pesticides and heavy metals in bottom sediments, and atmospheric deposition are responsible for virtually all of these impacts. Although dredging projects across the state are either in the planning process or have been undertaken to remove contaminated sediments, atmospheric deposition issues remain a national issue and concern that will require federal involvement for resolution, as much of the source of this problem originates outside of New York State.

5. Approximately one-third of the state’s population relies on groundwater as their source of residential drinking water.
6. As the result of expanding residential growth in rural areas, communities are constantly balancing water quality protection with human need due to the finite nature of water resources (in quantity and quality).
7. Often the manufacture, use or disposal of products in demand by society presents risk of contamination to the groundwater that is critical to many of New York State’s rural residents.
8. Residential growth, pesticides, and lawn chemicals are contributing to the proliferation of excessive weed growth, the spread of invasive species, and algae growth due to poor management and application practices of homeowners.
9. Agricultural sources can contribute excess nutrients and silt to water bodies without proper land management. Poor farmland management

and nutrients carried in runoff can cause excessive weed and algae growth which can impair recreational uses of the waters.

10. The farming community is making great strides in increasing farmland efficiency and environmental protection through BMP (best management practices). These practices are being promoted through the New York State Department of Agriculture and Markets, local Soil and Water Conservation Services, efforts of Cornell Cooperative Extension, and local planning agencies.
11. Without buffer requirements for lakes, streams, rivers and ponds, silt and sediment loads result in excessive turbidity that impairs recreation, aquatic life use support and water supply uses.
12. Streambank erosion, hard stabilization and poor development practices along waterways are the most frequently cited source of water quality impact and impairment in rivers lakes and ponds.
13. Unstable streambanks contribute excessive sediment loads to the stream which can affect aquatic life, fish survival, and spawning. Although it appears as a significant contributing source for nearly half the impacted/impaired rivers, streambank erosion is more likely to result in stresses than impairments to water uses.

These trends will undoubtedly impact the course of the Ira-Cato Community over the next 10 to 20 years and is important to the community in light of population growth reflected in Census data during the 1990s. While it is not possible to predict a continued rate of growth in the community, the area's proximity to Syracuse, Auburn and Rochester is likely to attract more single family homes. Many of the physical characteristics of the community combined with the visual/open space quality of the area is likely to contribute to continued growth over time and increasing demand for a water supply (or supplies) to meet the needs of the community.

3.2 Inventory of Wastewater Facilities (Figure 3-2)

Municipal wastewater treatment is not available in the Towns of Ira and Cato and there is no municipal wastewater treatment system in the Village of Cato or Meridian. However, discussions as to the need to provide wastewater treatment in the area have been ongoing since the 1960s. Currently, some residents who have attended Comprehensive Plan workshops and visioning sessions have identified contamination issues and the need for improved residential wastewater treatment systems due to the poor suitability of local soils (Figure 3-2). This has been raised as a particular concern in the Villages due to the higher density of development and their close proximity to existing well heads. At times, the need has been identified, but there have been no serious discussions regarding the planning or construction of sewer infrastructure in the area. Cost has always been the most prohibitive factor in looking toward future community sewer infrastructure.

3.2.1 Evaluating the Need for Wastewater Facilities

Making decisions about public sewage facilities for small towns and rural communities can be expensive and confusing. It is especially difficult for community leaders to make informed decisions. It is important for local officials to have a complete understanding of what the community needs or what potential impacts may be offset by a financial commitment to initiate and implement a “first” wastewater treatment system.

Because the community does not have a municipal wastewater system, the local population can provide the most important information for planning sewage facilities. While the residents may not know a great deal about the operation of their present home sewage system, they can supply information on home size and age, family size and income, water use, and their attitudes toward improving public wastewater treatment in the community. Some residents can also supply information on their current home sewage system type, age, location, and performance and can indicate any problems with well water contamination that may relate to non-point sources generated by septic systems and leach fields. This can serve to augment information readily available from County and State Health Department Officials.

(Page Reserved for Figure 3-2)

Many rural communities considering wastewater utilities for the first time or who plan to improve or expand wastewater infrastructure must rely on the use of public meetings, referenda, mail questionnaires, telephone surveys, and face-to-face interviews to collect survey information in small communities.

Although there are no existing municipal wastewater facilities in the area, it is evident that some contamination problems exist in areas of the Town(s) where the population density exceeds the lot size necessary to adequately treat wastewater from an on-site wastewater treatment system. This is particularly true in the Villages of Cato and Meridian.



Graphic 3-1 - Typical On-Site Wastewater (Septic) System

3.2.2 On-Site Wastewater Facilities

There are many examples of environmental pollution from sub-standard conventional septic systems all over the country. The potential pollution problems from inadequate on-site systems in New York State are important to Ira and Cato, particularly since a large area of the each town relies on individual wells and groundwater.

In Massachusetts, for example, the state Department of Environmental Protection (DEP) estimates that of the approximately 650,000 on-site wastewater systems in use, approximately half are substandard conventional septic systems or cesspools. Statewide, approximately two-thirds of the surface waters surveyed in a 1992 water quality study were found to be inadequate to support fishing or swimming, and in providing habitats

for aquatic life due to water pollution. One of the leading causes of such a pollution problem is discharges from substandard or failing septic systems.

Even on-site systems that function properly (no effluent “ponding” on the ground surface or backup into home) can result in environmental contamination and pose public and/or environmental health risks. This is of particular concern in densely developed areas, where prevailing soil type, water table, and/or other site conditions can cause inadequately treated wastewater to enter groundwater and travel long distances. In order to adequately protect public and environmental health from on-site systems, selection of “appropriate” treatment and disposal systems for given soil and site conditions as well as permanent management of these systems are the most important issues.

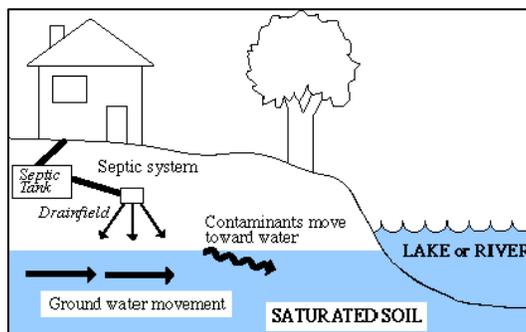
According to the 2000 Census there were 867 housing units in the Town of Ira and 1293 residential units in the Town of Cato. These figures include the residential units in the Town and Villages. Preliminary data on the number of new homes constructed since 2000 suggests that the number of new units being constructed annually is declining. For example, only 56 new units have been constructed in the Town of Ira since 2000 and only 3 new units were constructed in 2005. There may be a slowing trend in residential demand that is typical from time to time. However, to rely on the 2000 Census Data indicates that there are a minimum of 2,160 residential units with individual wastewater treatment systems. While most of those units are on large lots within the Town, many exist on lots with inadequate area for efficient treatment within the Villages and are within proximity on what appears to be the Town’s largest source of groundwater. In addition, many of these smaller lots are located adjacent to Cross Lake and contribute non-point sources to the Seneca River and Lake Ontario.

In addition, of the 2,160 residential units indicated in the Census, approximately 54 percent of the residential units in both Towns and Villages were constructed prior to 1960 and it is unknown how many systems have been replaced or upgraded in the past 25 years. While it appears that current lot size requirements in both Towns is adequate to address on-site systems, it is clear that the septic suitability limitations of the soils are a major constraint for high density residential development. Coupled with a large percentage of units with outdated or antiquated systems, the potential for groundwater contamination in the Town should be a concern when considering new areas with a

higher density of development. This concern should be highlighted when reviewing projects adjacent to the Villages, local water bodies, and along State and County highway locations. This will also be a limiting factor of future growth in small commercial enterprises throughout the community.

3.3 Non-Point Source Pollution

From a Town prospective, the current lot size requirements seem to be adequate to address the current situation. However, with the desire to expand water infrastructure in the area, it is likely that the need for improved wastewater treatment strategies will be explored in the future. With the expansion of water supply lines in rural areas, the resulting increase in water use can contribute to or exacerbate groundwater contamination problems. Because a large number of residents will rely on groundwater supplies throughout a 20 year planning horizon, it will be important to clearly anticipate both the amount of water supply expansion that can be accomplished and the need to provide a reasoned approach to protecting groundwater supplies in the future.



Graphic 3-2 - On-Site Treatment along Lakes, Streams and Wetlands

Two major factors to consider, if the Town welcomes residential growth on large-lots include:

1. Increasing suburbanization in agricultural areas is exacerbating agricultural non-point source pollution by increasing peak discharges and runoff from the land surface. While agricultural activity is a frequently cited non-point source impairment and threat to New York State rivers, lakes, and reservoirs, suburban sprawl into rural areas is increasing the risk of contamination.

2. Suburban growth into land areas that require on-site wastewater treatment (e.g., septic systems) is contributing significantly to groundwater impairment due to excessive water use and the increase in impervious surfaces that result from residential growth.

As the community looks to the future, marginal soil and site conditions (such as high water tables, shallow bedrock, or close proximity to surface water) do not allow for conventional septic tank effluent disposal, the effluent can be further treated by using one of many advanced (alternative) treatment systems. The objective of advanced treatment is to reduce the waste strength of the septic effluent (measured in terms of biological oxygen demand, suspended solids, nutrient, and fecal coliform bacteria count) so that the effluent can be disposed of without adverse impact on the environment. Selection of advanced treatment systems is site-specific and is normally governed by state regulations. Maintenance and monitoring requirements for alternative systems are more intense compared to the conventional septic systems.

In order to evaluate field performance and public acceptance of alternative on-site systems, a National On-Site Demonstration Program is currently undertaken by the National Small Flows Clearinghouse. Gloucester, MA is one of several communities in the country investing the use of alternative on-site systems as an option to central sewers for abating water pollution problems. The city has implemented seven pilot projects over the last two years. Since 1994, there have been five different treatment systems and four different disposal systems in operation and under monitoring. The treatment systems include: recirculating sand filter, intermittent sand filter, Bioclere, Orenco trickling filter, and Waterloo Bio-Filter. The disposal systems include: infiltration chambers, pressure dosed trench, shallow trench, and sand-lined trench. Monitoring of these systems include monthly sample collection from septic tank, treatment devices, and groundwater monitoring wells; recording water usage; and collecting homeowners' input about operational problems with the systems. While an extensive review of these systems is beyond the scope of a Community Comprehensive Plan, it will be important to consider these evolving technologies as the community moves into the future.

As on-site systems and technology become more complex, the operation and maintenance requirements will increase and so will the cost of offering such services. On-site inspection frequency may increase to four times per year. Also, there will be a need for attending

emergency situations. Most of the alternative treatment systems incorporate a mechanical component (a pump, a blower, or something equivalent) to move air through the system and/or to move the wastewater through the system. Such a component can fail anytime and will need immediate repair or replacement. At present, the alternative system relies on an audio-visual alarm system to indicate a “problem” with the mechanical component. The homeowner is responsible for calling the service entity when the system is in alarm conditions. This type of arrangement is not always efficient in identifying and reporting a “problem” with the system. Use of remote monitoring of alternative systems is a preferred option in growing areas, however, this is occurring in more populous communities that are reacting to problems rather than addressing them through pro-active planning. Gloucester, for example, is currently exploring use of a remote monitoring systems for its alternative sewage collection system as well as for alternative on-site systems.

Long-term, permanent management of on-site systems is becoming more important as new alternative treatment and disposal systems are installed to overcome soil and site constraints. It is important to recognize that even a conventional septic system needs permanent management in order for it to function adequately. A community thinking seriously about implementing a permanent management program for the on-site systems should consider developing a database in cooperation with their County Health Department for all the systems that are operating in the area. A database could list type of system is in use and what is the minimum maintenance requirement for the system. Normally, a town or county should take the lead in determining the cost of such a management program. Septic tank pumping as recommended is a minimal and cost effective approach for maintenance of on-site systems and this task should be done in conjunction with a regular inspection program.

3.4 Trends

In the 1960s and 1970s, the goal of sanitary wastewater engineers was to provide sewage treatment to densely populated areas. Wastewater treatment is now widespread and different challenges face wastewater operators and designers. Cutting-edge technology is allowing these challenges to be addressed with an emphasis on quality treatment and cost-effective management.

Today, some sewerage providers, especially in densely settled or rapidly developing areas, are capping the amount of additional wastewater they will accept and adding to the list of

restricted contaminants because of a lack of funds and space constraints on capital upgrades. In some states, the regulatory climate points to a trend away from large treatment plant expansions. As a consequence, utilities do not want more or cannot accept more wastewater or wastewater with higher treatment needs.



Photo 3-3 - Community Septic System

Also, as growth is reaching its limits in some urban and suburban areas, development is occurring in rural locations without sewage infrastructure. In these locations the drinking water source is usually limited to groundwater, small lakes, and streams. To protect the quality and quantity of the groundwater supply, state regulators may restrict its use to drinking water and effluent discharge forcing developers to seek ways to conserve and reuse the water.

These challenges create new demands that innovative technology and management techniques can address. With a need for tertiary treatment and indirect water reuse, small community wastewater treatment systems, such as those that employ membrane technology, are becoming workable solutions to a growth-limiting problem. In addition to advances in treatment technology – based on new guidelines for constructed wetlands – bio-uptake of wastewater is an environment-friendly alternative to traditional treatment methods.

Other technological advancements in disinfection, such as ultraviolet treatment, are allowing municipalities to meet stricter regulations in a safe and effective manner. Improved technologies can treat biosolids efficiently to meet land-spreading regulations that restrict the amount of contaminants that may remain in the biomass. Energy conservation has increasingly

taken on a creative application by using gas produced by biological activity (for example digester gas and methane) to create energy and partially to power plants.

3.4.1 *Small Community Systems*

Residential, commercial, and even industrial development is moving beyond the suburbs, but the infrastructure for water or wastewater treatment is not keeping pace. Well water is used for potable water in isolated developments, but for multifamily complexes and shopping centers, septic systems are not acceptable for wastewater treatment. Small community systems with tertiary treatment are becoming popular in such locations. As an added benefit, they return treated water to the aquifer.

New treatment technologies for low-flow include fixed-film package treatment systems, geo-textile filtration, and membrane filtration. Other methods include drip irrigation, evapo-transpiration systems, and mound systems. These systems are now being fine-tuned for unique problems encountered with small-scale flows.

The major benefit of these new systems is that the higher quality effluent can be discharged to groundwater for indirect reuse. Because of low flows, the size of these systems is small; they are generally easy to operate and are inexpensive. Beyond small community developments, they can also be used as temporary infrastructure at military camps, large construction sites, disaster relief operations, concerts, festivals, and seasonal camps.

3.4.2 *Membranes*

Chemical and biological processes can eliminate most pollutants and pathogens in municipal wastewater. Physical processes, such as separation and rejection, are imperative for removing small particulate contaminants including *Cryptosporidium*, *Giardia lamblia*, viruses, pesticides, metal ions, and other dissolved solids. Membranes can perform this physical removal. Membrane filter systems vary by pore size (the smallest particle that can pass through).

Category	Pore Size	Description
Microfiltration	0.1-10 μ	Removes particulate matter and is the most common method of municipal filtration
Ultrafiltration	0.01 μ	Generally remove pathogens and separate biomass from treated effluent (more commonly used in drinking water systems)
Nanofiltration	0.001 μ	Remove pesticides and herbicides (from, say, CSO and other source of infiltration)
Reverse osmosis*	0.0001 μ	For water reuse applications, frequently used to remove ionic species and salt from solution and all dissolved constituents

*Highest level of treatment.

Because of the level of secondary treatment currently required, membrane filtration has become an increasingly popular solution for small systems and small municipalities. Membrane microfiltration is replacing secondary clarification because it gives wastewater plants the ability to operate with poor settling sludge, smaller space requirements, higher efficiency, and ease of operation. These benefits exist because the method requires no process adjustments or controls as are needed with clarifiers. Moreover, it is cost-effective to use filtration over traditional treatment on small-scale applications.

In many cases, separate developments such as assisted-living complexes and residential complexes are turning to a potent and economical combination of biological treatment and microfiltration for their wastewater needs. These combined systems are gaining increased popularity and acceptance from regulators because of their treatment capabilities and from private developers for their reduced capital and O&M costs.

3.4.3 Reuse

Tertiary treatment, such as membrane filtration, is not only valuable for protecting human health, but it also provides a new opportunity for industry to limit water use and wastewater production. The catalysts for these reuse projects include the scarcity of groundwater and the generation of high-salt and high-BOD wastewater that local utilities may not accept.

New reverse-osmosis filtration systems, sequencing batch reactors, and cloth filter systems, clarifier-continuous backwash systems, and DAF-filter systems (dissolved

air filtration) are solutions for water recycling in industrial plants. Because of the outstanding performance of these new technologies, water use in some of plants has decreased by as much as 90 percent and wastewater generation has been eliminated.

3.4.4 Wetlands

In the past, constructed wetlands were only used for tertiary treatment of small volumes of water. With publication of the USEPA manual, “Constructed Wetlands Treatment of Municipal Wastewaters” (Fall 2000), small communities’ use of wetlands as their basic wastewater treatment has been made acceptable. With sufficient land area, wetlands can provide adequate passive treatment. Aerobic and anaerobic conditions of these systems with microorganisms and with vegetation and gravel filters provide the majority of treatment.

3.4.4.1 Wetland Treatment: Pros and Cons

Pro	Con
-Requires minimal skilled labor -Natural appearance and ecological benefits -Little energy required.	-Requires minimal skilled labor -Natural appearance and ecological benefits -Little energy required.

3.4.5 UV Treatment

Final disinfection is a constant hurdle among operators and designers because of the need to balance costs and treatment effectiveness. Chlorine is the traditional form of disinfection because of its relative low costs and competence. However, it is also a “super biotoxin” and creates problems with chemical handling, storage, and organic interactions forming chlorine-produced oxidants. It is well known that when chlorine and organic matter have significant time for interaction, chloroform, bromodichloromethane, and other trihalomethane compounds can form.

UV technology disinfects by radiating microorganisms to prevent their replicating and requires only a short contact time. Chlorine and other chemical disinfectants, on the other hand, cause chemical reactions within microorganisms and require a contact time of up to 180 times that of UV light. Pulsed UV light systems are

on the forefront of wastewater technology because they destroy pathogens more effectively and at a higher rate than traditional disinfection and standard UV light.

Since the early 1940s, guidelines for UV disinfection have been available. The high cost of UV treatment and the lack of a residual following application had made it unpopular for potable water disinfection; however, these concerns are not as relevant in wastewater treatment.

UV treatment is becoming an economical alternative because it can diminish costs for power, labor, parts, chemicals, and overall O&M. Moreover, advances in lamp and ballast design, cleaning mechanisms, and power modulation have led to a decrease in costs over the past few years.

3.4.6 Biosolids

Engineers have few options for disposal of biosolids. Land-spreading and incineration have been the standard methods of disposal, but new restrictions on reuse of biosolids reuse are making land-spreading less desirable. To address these restrictions, biosolids require more thorough treatment to decrease the levels of nitrates, fecal coliform, and pathogenic bacteria.

Temperature-phased anaerobic digestion (TPAD) is a new technology that can improve the quality of biosolids by combining thermophilic and mesophilic anaerobic digestion. TPAD consumes biosolids more rapidly than other methods, produces more methane (which can become usable energy), creates less biosolids mass, and destroys most coliform and pathogenic bacteria usually found in municipal biosolids. A municipal treatment plant in Independence, Iowa uses TPAD to produce Class A biosolids that have a low pathogenic organism content. The product can be applied on land in public access areas.

3.4.7 Control Systems

Energy is the largest and most variable cost for a wastewater treatment plant. Instrumentation and controls can address energy scarcity. Control systems, such as

programmable Logic Controllers (PLCs) and SCADA systems, can help to conserve energy with variable-frequency drives, energy-efficient motors, heating, cooling and ventilation improvements, lighting modifications, and fuel cells. Load management strategies, demand strategies, and cogeneration are also feasible energy conservation techniques.

3.4.8 Asset Management Systems

Over the past 50 years, spending on infrastructure in the U.S. has focused on construction with little regard for the cost of necessary O&M. Today, sewage infrastructure and wastewater treatment plants are aging and deteriorating without a ready source of funding for improvement.

Regulations and standards of practice are now being implemented for infrastructure management, accounting, and financing to prevent this problem from escalating. In 2000, the Governmental Accounting Standards Board introduced Statement 34 (GASB 34), a governmental accounting process that requires municipalities to account for their fixed (infrastructure) assets. Unlike accounting practices in the past, municipalities must either depreciate their wastewater infrastructure assets or use an asset management program to support maintenance and preservation of their capital.

For GASB 34 to be effective, an asset management program is necessary to plan for and fund O&M and capital improvements. Such a program is needed to budget for maintenance, determine asset reliability, and develop a capital replacement schedule. By focusing on the critical assets of a municipality, a team of engineers, operators, and accountants can integrate their knowledge to increase a wastewater facility's life.

Engineers will be able to provide the expertise to determine the current value and condition of infrastructure as well as the best schedule for maintaining these assets. By using broad system planning, engineering models can be developed to determine tradeoffs for maintenance, rehabilitation, and replacement for aging infrastructure. This important management technique will allow better planning for O&M rather than rebuilding infrastructure.

3.4.9 Revenue Generation

Revenue generating practices are becoming popular for treatment plants with excess capacity. An appropriate time to determine excess capacity is when a municipality is analyzing methods to extend the life of a treatment plant through asset management.

Because the incremental cost of treating additional sewage is small, treatment plants can sell their excess capacity to small communities and industry either to treat primary influent and/or dispose of biosolids. Another method of revenue generation, credit trading for effluent that is currently under discussion and will be designed after the successful air emissions trading program. This incentive program will give well-performing wastewater treatment plants an opportunity to benefit financially from their quality effluent. Such an arrangement, though not yet near implementation, can motivate municipal managers to maintain and improve their treatment abilities.

3.4.10 SSOs and CMOM

Throughout the nation and especially in the urban northeast, sanitary sewer overflow (SSO) and combined sewer overflow (CSO) lead to unregulated discharges. The Wet Weather Water Quality Act of 2000 addressed these problems through the Capacity, Management, Operations and Maintenance Program (CMOM). CMOM aims to help local sewage authorities develop a site-specific plan of capital improvements and maintenance for their collection systems. It encourages the development of a management plan to outline steps to mitigate SSOs and CSOs.

A variety of grants and potential aid are available to help institute a CMOM program. The money can be used to intercept, transport, control, or treat municipal CSOs and SSOs. The Urban Wet Weather Priorities Act is a federal grant program to fund urban wet weather initiatives including overflows. The goals of the CMOM initiative fall within these two grant categories.

Municipal wastewater treatment technology and management continue to evolve and have a variety of advances in both areas. As regulations and approaches to

wastewater change, new methods for dealing with water quality must be promoted. New technology in the areas of small community treatment, membrane filtration, UV radiation, constructed wetlands, and control systems will enhance the ability of water quality professionals to address their treatment issues. Reuse, asset management, final bio-solid treatment, revenue generation and CMOM will allow wastewater treatment plant operators to address new regulations and increase their efficiency. (Source: Interdonato and McCarthy, (c) 2001.)

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4.0 Transportation and Community Infrastructure

In an effort to determine future transportation needs and safety requirements, an understanding of the existing highway system is necessary. Characteristics of a highway system include jurisdiction, traffic volume, street and right of way widths, shoulder conditions, accident frequency, and long term improvements proposed by State and local highway officials (see Figure 4-1). The safety, capacity, operation, and accessibility of the local highway system will require improvement to maintain and stimulate economic growth into the future. The characteristics of these elements of transportation planning are a result of the inter-relationship of land use and the functionality of the existing highway network.

Overall, the transportation network within the Towns of Ira and Cato accommodates thru-traffic from adjoining municipalities and connects neighborhoods within the Towns. It also provides corridors for utilities and has influenced the development of land areas within the two Towns.

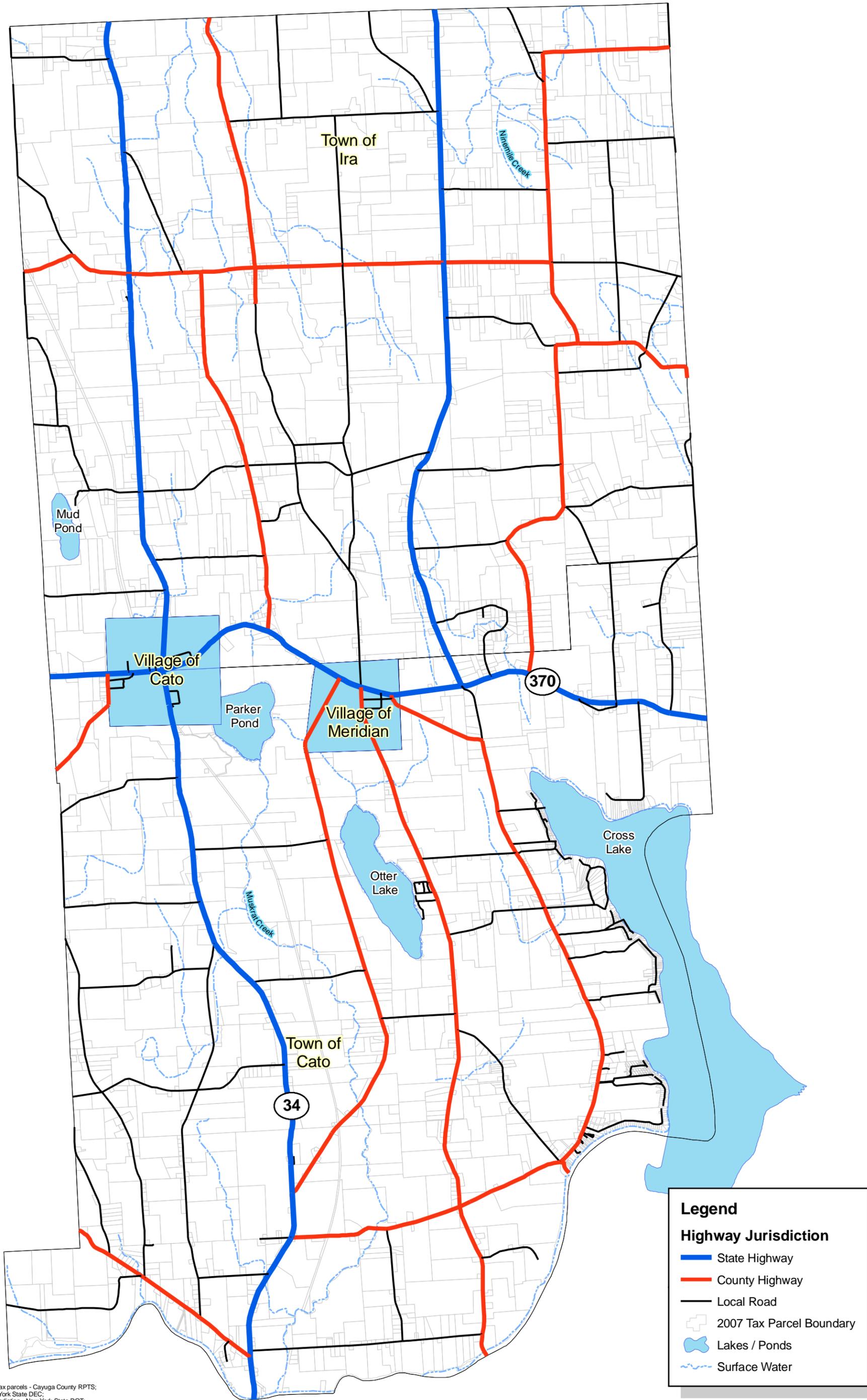
4.1 Highway Functionality and Classification System

Highway function is broken down into a classification system according to capacity in relation to their use as principal arterials, minor arterials, collectors, and local roads (see Figure 4-2). The primary function of principal arterials is mobility. They serve longer trips of statewide or interstate nature with little land access. There are no principal arterials within the Towns of Ira and Cato; however, the New York State Thruway (I-90), just south of the Town of Cato is an important transportation corridor that serves as a principal arterial to the region.

Mobility is still the primary function of minor arterials but they also can provide accessibility to adjacent land. Typically, these roads facilitate travel between towns, villages, and other major attractions. State Route 370 is a minor arterial that serves an important transportation function to the Towns of Ira and Cato.

Collector roads provide a balance between land access and mobility. Collectors are typically designed to provide linkages between arterials and major land uses such as residential, commercial, and industrial uses. Collector roads in the Towns of Ira and Cato include both State and local roads. State Route collectors include 34 and 176. The balance of the highway network

(Page Reserved for Figure 4-1)



Legend

Highway Jurisdiction

- State Highway
- County Highway
- Local Road
- 2007 Tax Parcel Boundary
- Lakes / Ponds
- - - Surface Water

Data Sources: 2005 Tax parcels - Cayuga County RPTS;
 Surface Water - New York State DEC;
 Road Centerlines/Jurisdiction - New York State DOT;
 Municipal Boundary - U.S. Census

**TOWN OF IRA - TOWN OF CATO
 JOINT COMPREHENSIVE PLAN**

COMMUNITY INVENTORY

Town of Ira Town of Cato

Highway Jurisdiction

Cayuga County New York

2/7/07

FIGURE
 4-1

Project No.
 1069.001

can be classified as local roads, where the primary function is to provide access to adjacent properties.

Table 4-1	
Highway	Function
Private Drives	- Provide Access to Abutting Property - Should not Carry Through Traffic
Local Roads	- Provide Access to Abutting Property - Provide Intra-Neighborhood Traffic; Should not Carry Through Traffic - Moving Traffic is a Secondary Function
Collector Roads	- Collects Traffic from Local Streets and Conducts it to Arterials - Provides Intra-Neighborhood Traffic - Land Access is a Secondary Function
Minor Arterial	- Moves Larger Volumes of Traffic - Land Access is a Secondary Function
Primary Arterial	- Carrying Traffic is the Primary Function - No Land Access Should be Permitted

4.1.1 *Functionality of Local Roads*



Photo 4-1 - Local Road

- Access to abutting property.
- Intra-neighborhood traffic.
- Travel within a neighborhood.
- Pedestrian friendly.
- Moving traffic is a secondary function.
- Should not carry through traffic.

4.1.2 *Functionality of Collector Roads*



Photo 4-2 - Collector Road

- Collects traffic from local streets.
- Conducts local traffic to arterials.
- Provides inter-neighborhood traffic.
- Provides bicycle and pedestrian links.
- Designated crossings.
- Access to adjacent land is a secondary function.

4.1.3 *Functionality of Minor Arterials*



Photo 4-3- Minor Arterial

- Primary function is moving traffic.
- Moves higher volumes of traffic at moderate speeds.
- Provides inter-community traffic.
- Access to adjacent land should be minimized.
- Access to adjacent land is a secondary

4.1.4 *Functionality of Major Arterials*



Photo 4-4- Major Arterial

- Efficient mobility is primary function.
- Land access is not permitted.
- Pedestrian corridors are separated
- Increased design speeds

4.2 Existing System Characteristics

The functional classification of highways and streets in the Towns of Ira and Cato are illustrated on Figure 4-2. The existing transportation system is similar to many rural towns in upstate New York; the state highways are the primary collector routes which carry commuters to destination points and neighboring municipalities; other State or County collector roads carry traffic from the local network system to State highways; and town or local roads are typically limited as residential streets or rural linkages.

The hierarchy of roads in Ira and Cato are an extension of a regional transportation network within Cayuga County. There are currently no freeways or limited access highways in the two Towns. However, the New York State Thruway (I-90), just south of the Town of Cato, is an important transportation corridor that serves as a primary arterial to the region.

There are the three (3) State Routes that are a part of the larger Cayuga County transportation network within the two Towns. They are Routes 370, 34, and 176, which serve as the primary traffic movers for commuters, inter-town travelers and commercial truck traffic (Figure 4-1). State Route 370 bisects the Towns of Ira and Cato, running in an east-west direction linking the two Towns and the Villages of Cato and Meridian with adjacent towns such as Lysander, Victory, and Conquest. These roads range in function from rural roads primarily serving the residents living along them to major commuting highways. The majority of the local road network serves as rural connections linking together the larger transportation network (Figure 4-3).

4.3 Municipal Transportation Profiles

Travel demand, or the attractiveness of various destinations to commuters and shoppers, is a key element in understanding how the local highway system works. The destinations of drivers determine which roads receive the most usage, where congestion problems may arise, and where logical infrastructure investments should be focused. Key destinations for highway users are typically work locations, shopping/service areas, recreation sites, schools, hospitals, and government buildings. Residential neighborhoods are also key destinations and points of origin for highway trips.

(Page Reserved for Figure 4-2)

Common destinations affect the timing of a trip and the cumulative impact of trips on the local road network. Work trips generally peak in the morning and evening rush hours. Shopping trips peak in the evening and on weekends and recreation trips may peak at a variety of times depending on the activity and the attractiveness of the event and the seasons of the year. For example, any events on Cross Lake can be a major travel demand generator while a baseball game at the High School is a much smaller event that attracts small volumes over a short period of time.

Local trips within the Towns of Ira and Cato generally constitute travel to work, entertainment, and recreational trips. The ability of the street network within the two Towns to effectively and efficiently conduct the flow of local and County through traffic from one destination to another depends on future land use development and the preservation of corridor functionality. Local streets connect almost every place within a community, but the quality of the connections varies depending on the transportation network design and adjacent land uses. This influences the accessibility of potential destinations and affects travel choices, emergency access, and quality of life. The following tables outline the population distribution traveling to and from Cayuga County for work purposes which are typically during peak travel hours on weekdays. Ira and Cato's proximity to major employment centers, such as the cities of Auburn, Syracuse, Rochester, and Oswego, are an indication of travel movements within and adjacent to the Towns and Cayuga County.

Table 4-1 - County to County Work Travel Flow				
Residence	Workplace	2000 Workers	1990 Workers	% Change
Cayuga Co.	Cayuga Co.	23,323	23,224	0.40%
	Onondaga Co.	7,751	6,801	14.00%
	Tompkins Co.	1,814	1,372	32.20%
	Oswego Co.	831	865	-3.90%
	Cortland Co.	736	857	-14.10%
	Wayne Co.	721	495	45.70%
	Seneca Co.	541	589	-8.10%
	Ontario Co.	246	113	117.70%
	Monroe Co.	207	210	-1.40%

Source: New York State Department of Transportation 2003

Table 4-2 - County to County Work Travel Flow				
Workplace	Residence	2000 Workers	1990 Workers	% Change
Cayuga Co.	Cayuga Co.	23,323	23,224	0.40%
	Onondaga Co.	2,061	1,512	36.00%
	Seneca Co.	552	306	80.40%
	Oswego Co.	348	151	130.50%
	Wayne Co.	315	268	17.50%
	Tompkins Co.	297	275	8.00%
	Cortland Co.	159	102	55.90%
	Ontario Co.	152	118	28.80%
	Monroe Co.	64	47	36.20%

Source: New York State Department of Transportation 2003

4.4. Existing Volumes

Evaluating traffic counts, level of service, accident summaries, and information obtained from the NYS Geographic Information System database helps determine which roads within the local highway network receive the most use, where congestion may occur, and where the need for future infrastructure investments and improvements are. Traffic congestion is the result of specific work trip destinations, shopping and recreational trips, and special events that occur at regular intervals on road systems with inadequate capacity to efficiently distribute travelers. The table below illustrates traffic concentrations within Ira and Cato's State Route transportation network.

Table 4-3 - Local Highway Traffic Volumes				
Road	Section Length	Description	Municipality	Latest Est. AADT**
State Rt. 176	6.39 Miles	Route 370 to Oswego County Line	Town of Ira	1350 (2004)
State Rt. 370	5.4 Miles	Rt. 38 in (T) Victory to Rt. 34 in (V) Cato	Village of Cato	2700 (2004)
	1.21 Miles	Rt. 34 in (V) Cato to Bradt Road	Town of Ira	5300 (2004)
	.70 Miles	Bradt Road to Short Cut Road	Town of Ira & Cato	5050 (2004)
	.25 Miles	Short Cut Road to Bonta Bridge Road	Village of Meridian	6050 (2004)
	.30 Miles	Bonta Bridge Road to Jordon Rd.	Village of Meridian	5400 (2004)
	.70 Miles	Jordon Rd. to State Rt. 176	Town of Cato	5550 (2004)
	2.35 Miles	State. Rt. 176 to County Line	Town of Cato	5300 (2004)
State Rt. 34	.50 Miles	I-90 to State Rt. 370	Town of Cato	2750 (2004)
	6.03 Miles	State Rt. 370 to Oswego County Line	Town of Ira	2300 (2004)

Source: New York State Department of Transportation, 2004
 ** Average Annual Daily Traffic

The table above indicates travel patterns as local commuters utilize these minor arterials and collectors to access the New York State Thruway and travel to the cities of Syracuse, Oswego, and Auburn.

4.5 Regional Transportation Considerations

The New York State Department of Transportation’s long range vision for local and regional transportation systems recognizes the broad public interest and investment in their priorities for the future. Of particular importance is the Department’s commitment to protect and enhance the overall environment, economy, and quality of life for local citizens as our transportation systems evolve.

While multimodal corridor management and planning will aid to serve this objective, the State DOT also acknowledges the importance of overcoming adverse impacts as a result of inadequate comprehensive planning, a lack of consensus building to prioritize major transportation infrastructure investments at the local level, fragmentation of connectivity between major destinations, and other operational issues that prevent a cohesive and efficient transportation plan within local communities such as Ira and Cato.

Currently, the Department is developing a Plan that establishes statewide priorities for transportation initiatives through the year 2030. This Plan, New York’s Transportation Plan for 2030, builds upon the historical leadership that began with the construction of the Erie Canal. The Plan strongly emphasizes the following priority areas:

- Mobility and Reliability
- Safety
- Environmental Conditions
- Economic Sustainability
- Security

The Plan outlines strategies to achieve desired outcomes within the priority areas mentioned above. Ultimately, the highest priorities of the NYSDOT will be largely determined by examining the needs of designated corridors, such as State Routes 370 and 34, and their

secondary component facilities. Success of the Department's Plan will be defined by the State's ability to "measurably" achieve the improvements outlined above. As such, the Town of Ira and Cato's Comprehensive Plans must consider feasible alternatives in light of their own local needs and constraints, as well as taking into account the State's regional perspective on building cohesive networks into the future.

Additionally, the proximity of local, regional, and international airport facilities must be considered within the context of the Towns of Ira and Cato. Hancock International Airport is located about 33 miles to the east in the Town of Salina just outside of Syracuse. Other regional airport facilities within proximity to the area include Ithaca Tompkins Regional (approx. 40 miles southeasterly), Elmira/Corning Regional (approx. 60 miles south), Skaneateles Aero Drome, Finger Lakes Regional, and Whitford Airport.

Whitford Airport, located in the Town of Cato on Ditmar Road, was founded by Mr. Joe Whitford in 1950 for his personal and other local private aircraft. Today, this small local airport continues to offer flight instruction services and provides hanger space for private aircraft. Whitford also includes regional fly-in events that attract many people from outside the area. The preservation, operation, and maintenance of this small but important regional transportation resource is key for future aviation demands.

4.6. Existing and Planned Transportation Improvement Projects

Reconstruction and improvements to New York State Route 370 will be completed in the spring of 2007. At this time, New York State Department of Transportation does not have any future plans for upgrades to State highways within the Towns of Cato and Ira. However, Region 3 officials have applauded Town efforts and will consider elements of the final plan including multi-modal funding during future Transportation Improvement Plans (TIPs).

4.7. Trends in Transportation Planning and Land Development

Throughout history, transportation planning and land development have been closely related. As older cities began to overpopulate and first tier suburbs started to attract those who could afford to move, more sophisticated models of transportation planning and design were necessary to accommodate the new use of rail and trolley as an alternative high speed mode of

travel (12 mph) to that of walking and horse-drawn vehicles. Convenience retail and service uses began to relocate in response to the change in land use patterns and residential densities. Eventually, the automobile offered even higher travel speeds as well as greater convenience and flexibility.

As U.S. economies expanded and income levels increased in the mid-1950s, more people were able to obtain vehicles which greatly expanded opportunities as to where people chose to reside. At that time, the desires of people and their need for goods and services initiated the increased demand for safe and efficient transportation systems. The need for mobility became independent from sound land use planning and older communities suffered as a result.

Land Use Planners and Transportation Engineers have typically developed land use plans and transportation plans separately, without consideration of the other. This type of practice has since been acknowledged as incongruent to sound land use planning and transportation design. Decisions regarding land use and transportation must be made within the opportunities and constraints of the other, rather than being made independently.

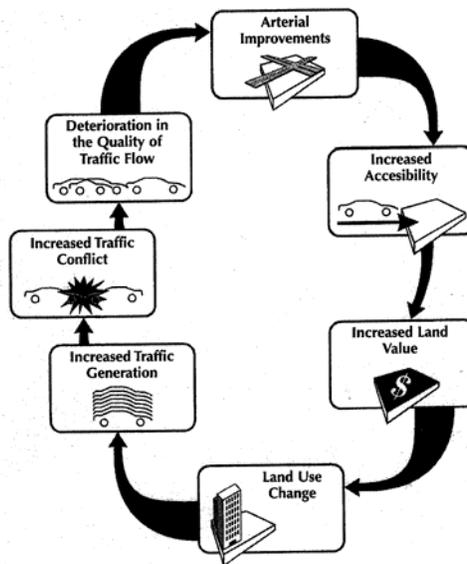
4.7.1 Land Use -Transportation Cycle

Approaches linking land use and transportation encompass a holistic view of development. From a transportation perspective, “smart growth” includes planning efforts that strategically coordinate land use and transportation; accommodate pedestrian and bike safety and mobility; provide and enhance public transportation service; improve the connectivity of road networks; and apply a multi-modal approach to transportation with supportive land use development patterns to create a variety of transportation options.

Construction of new streets or improvements to existing arterials within the Towns of Ira and Cato can modify the accessibility of the area and lead to greater opportunities for development and subsequently increase traffic demand. Without strategic planning and design, this can lead to strip development along, say, Route 370, with inadequate spacing and design of access drives, creating multiple points of conflict and safety issues for the local traveler. Ultimately, this type of scenario results in reduced highway capacity, delays in travel time, increased stress and discomfort for

motorists, higher accident rates, and a negotiated quality of service for residents in the Towns of Ira and Cato and for those passing through. As seen in many communities across Central New York and the United States, increasing investments for arterial improvements are required at the State and local levels to accommodate the increased traffic demand as a result of poor land use and transportation planning along primary corridors.

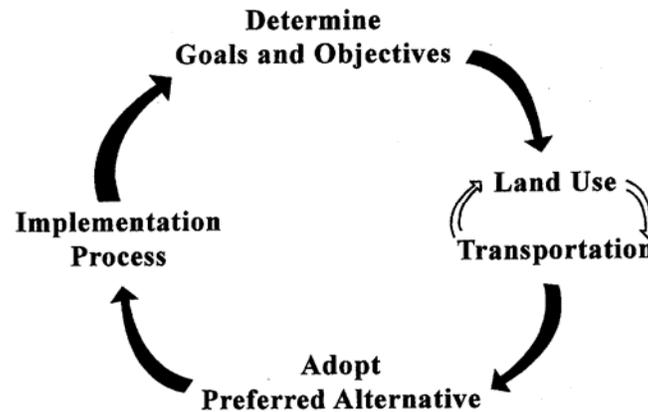
Costly road reconstruction projects to increase capacity typically provide only temporary relief without careful planning and management. This new improved service can stimulate the local economy which is typically followed with increased traffic, ultimately resulting in a decreased level of service. Additionally, shallow lot depths, inadequate setbacks, and mismanagement of land use controls and uses, can make appropriate redesign and circulation improvements costly and difficult – the worst case scenario being roadway relocation. In this case, the process can start all over again in a new location and the local municipality is typically stuck with a cyclical transportation and land use problem, as illustrated in the graphic below (Graphic 4-1).



Graphic 4-1 - Transportation – Land Use Cycle

Instead of the reactive approach shown above, the Towns of Ira and Cato must focus on being proactive by adopting realistic and achievable goals and objectives concerning future development patterns, as outlined in Volume II of this Comprehensive

Plan document. Graphic 4-2 illustrates a more strategic approach that is consistent with the appropriate planning process that is followed throughout the development of this Comprehensive Plan.



Graphic 4-2 - Proactive Approach to Land Use & Transportation Planning

The land use-transportation relationship should be analyzed as an aggressive and proactive form of transportation demand management. Poor planning which disenfranchise land use and transportation policy decisions such as those mentioned must be avoided as the Towns of Ira and Cato plan for the future of the local transportation network.

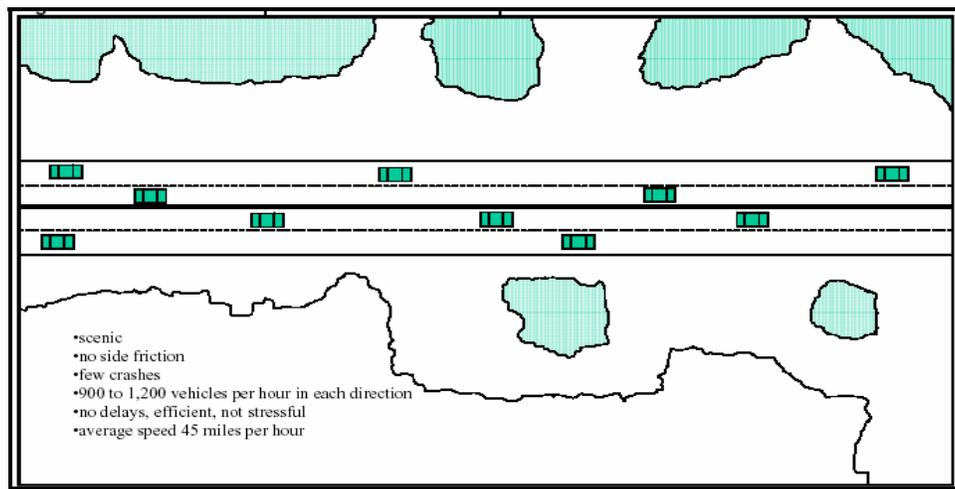
4.7.2 Corridor Management

Corridor management is a concept that utilizes the coordinated application of various measures to obtain control of, or otherwise protect, the right-of-way for a planned land use and/or transportation facility. Some of the objectives of corridor management include: preservation of highway function, coordination of strategies for land use development along transportation corridors, prevention of inconsistent development, reduction of costly infrastructure expansion and access management controls that ensure neighborhoods have safe and easy access for pedestrians, transit, bicyclists, trucks, and cars. By identifying issues, opportunities, and strategies to improve access and mobility along the existing street network, the Towns of Ira and Cato can accommodate the growth expected in the future without compromising quality of life issues or the function of the existing highway system.

4.7.3 Access Management

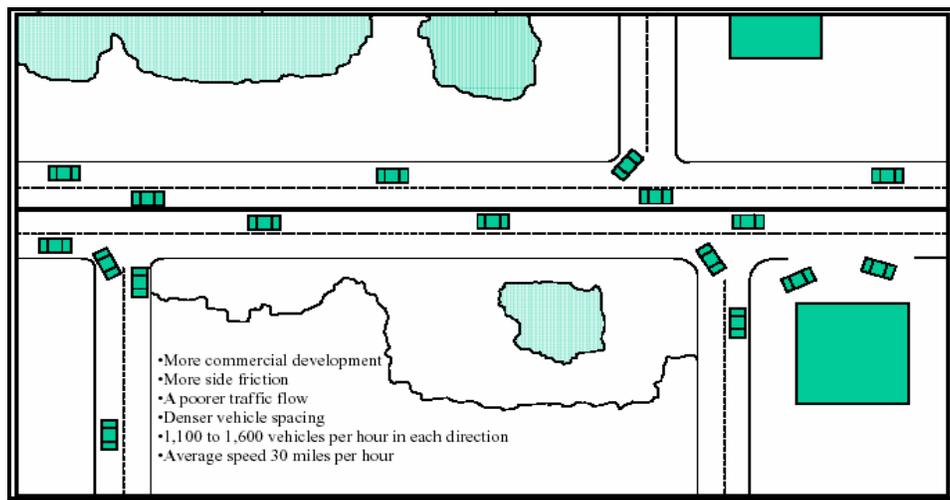
Access management is the process by which access to land development is provided while simultaneously preserving the flow of traffic on the surrounding road system in terms of safety, capacity, and speed (NYSDOT). Strategic access management practices can help coordinate the location, number, spacing, and design of access points to minimize site access conflicts and maximize the traffic capacity of a roadway. Because transportation agencies at the county and state level have no authority to control land use adjacent to highways, it is important for the Towns of Ira and Cato to become partners in access management. Uncoordinated growth along some of the Towns major travel corridors can result in strip development and a proliferation of access points. In most instances, each individual development along the Towns' corridors has its own access driveway. Due to the fact that DOT's review process only looks at minimum standards with respect to driveway design and spacing, it is important for the Town to make an effort to preserve highway function by adopting design standards and appropriate zoning controls in town ordinances. Numerous access points along a corridor create conflicts between turning and through traffic which increases delay and accidents.

This type of strip development occurs so slowly that it is seldom viewed as a crisis until traffic problems become severe. Development, therefore, is often allowed to continue in a haphazard manner until the problems become unbearable.



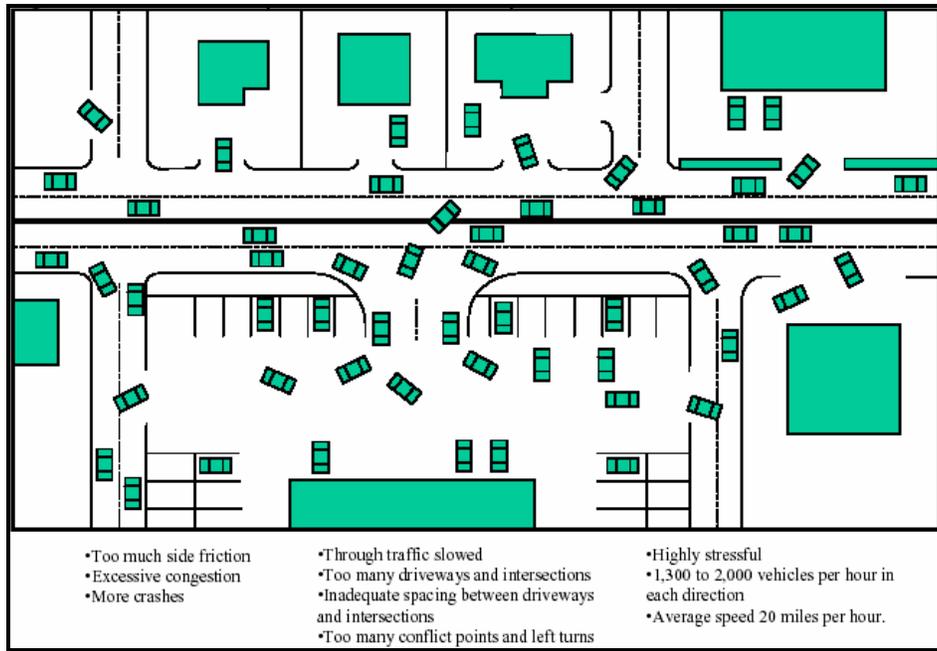
Graphic 4-3 - Rural roadway characteristics prior to development.

Corridors such as State Route 370 that carry higher volumes of traffic are attractive locations for strip development. Residential and commercial developments locate along the arterial or collectors over time until strip development becomes the predominant land use pattern. The ability of the corridor to move traffic then becomes seriously compromised, resulting in increased traffic congestion and reduced safety. Ironically, the small and medium-scale businesses like convenience stores, restaurants and chain stores cumulatively create the worst problems.



Graphic 4-4 - Travel Patterns after the inception of development

Inefficient zoning and street layout forces a business to connect driveway access to the corridor. If an internal circulation system with auxiliary roads is developed, driveway access can be rerouted to these streets so that traffic can enter major collectors and arterials at single access points.



Graphic 4-5 - Inadequate access management

Historically, transportation and access management concentrated primarily on the movement of vehicles. Current planning efforts focus on all modes of transportation including vehicles, public transit, bicycles, and pedestrians. Guidelines should consider all of these modes of transportation and discuss the net reduction of access drives to arterials and collectors, maintaining or reducing existing intersections, combination of access to arterials and collectors, where appropriate, and the incorporation of access management principles into the subdivision of land.

In addition to conserving capacity, access management techniques can be coordinated with design guidelines to significantly enhance the aesthetics of a roadway corridor. A common vision that includes guidelines for access in addition to a unified design for signage, landscaping, and pedestrian facilities can drastically improve the function and aesthetics of a roadway corridor.

Numerous benefits are derived from the process of access management that has an impact on motorists, land uses along a roadway, and overall community character. The benefits include:

- Improving overall roadway safety;
- Reducing the total number of vehicle trips;
- Decreasing interruptions in traffic flow;
- Minimizing traffic delays and congestion;
- Maintaining roadway capacity;
- Avoiding costly highway projects;
- Improving air quality;
- Encouraging compact development patterns;
- Improving access to adjacent land uses; and
- Enhancing pedestrian and bicycle facilities.

While individual landowners may see regulations as restricting access to their property, a well-managed transportation system will improve access to properties and maintain travel efficiency, thereby enhancing economic prosperity for local businesses. Strong access management practices also have the benefit of closely coordinating land use and transportation decisions to improve the overall quality service in the Towns of Ira and Cato.

4.7.4 Improving Multi-Modal Transportation

Until the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991, the direction of federal transportation legislation had been to build-out a national interstate highway system to meet our transportation and national defense needs. The emphasis was on new construction in support of the efficient movement of the automobile. As the construction of the interstate system neared completion, visionaries such as Senator Patrick Moynihan of New York and Paul Wellstone of Minnesota introduced transportation legislation which provided federal funding for the design and construction of multi-modal transportation facilities and the integration of these new systems into the fabric of our communities and the natural environment. Included within the ISTEA legislation were funds for the national Scenic Byways system, the ISTEA Enhancement Program, and mandated public involvement and enfranchisement. The ISTEA, and its successor TEA-21 legislation gave rise to the

Smart Growth, Context Sensitive Solutions, and Environmental Initiatives at the State level.

ISTEA/TEA-21 programs provided federal aid funding for the establishment of a Pedestrian/Bicycle Coordinator position at the State level, established the creation of bicycle and pedestrian facilities as a priority, promoted public education programs, and the development of design standards and safety guidelines and requirements. Today, communities across New York State have recognized the benefits of recreational and multimodal transportation networks resulting in thousands of miles of rail trails, greenways, byways, recreational trails, streetscape enhancements, and sidewalk improvements.

The development of the Town of Ira and Cato's Comprehensive Plans is a by-product of this national movement and the foresight and initiative of the Ira and Cato communities.

The benefits of alternative modes of transportation have been documented through various local and Federal agency studies, surveys, and grass roots initiatives. Results from a Harris Poll in 1990 estimated that 73 percent of adults walked regularly for exercise and over 130 million people walk or bike regularly for transportation purposes. In 1994, the Federal Highway Administration, recognizing the need for multimodal transportation accommodations, released The National Bicycling and Walking Study, aiming to double the percentage of bicycling and pedestrian trips while reducing the number of bicyclists and pedestrians killed each year. Multimodal transportation alternatives, increasingly preferred yet not fully realized, have not been used more due to the lack of safe, efficient alternative transportation facilities.

The Towns of Ira and Cato and the larger Cayuga County community will benefit from developing a Comprehensive Plan that seeks to guide future transportation decisions and connect its natural, cultural, and recreational resources. An efficient, safe, and multimodal transportation system will improve the overall sense of community, quality of life, civic pride, and local economy. Key functional, social, economic, and environmental and recreational benefits of implementing a multimodal transportation and recreation network are identified below.

4.7.4.1 Operational and Safety Benefits

In terms of operational benefits, on and off road multimodal transportation facility improvements alleviate conflicts between vehicles and alternative transportation modes. Multimodal transportation systems and facilities improve safety and reduce congestion for motorists and non-motorists through the design of separate facilities, the implementation of traffic calming strategies, improved signage, access management controls, and user awareness and education.



Photo 4-6 - Rails to Trails

A functional transportation network accommodates all users safely and conveniently, providing access to important destinations within the community. The system will need to operate physically and visually with ease, linking origins with destinations, informing and educating with signage, and encourage facilities that will create success. The system should also be able to transfer users easily and safely from one mode to another, such as from the High School by car to the Hojak Trail.

Improvements to the existing transportation infrastructure, whether as a separate shared-use path, new sidewalk, or roadway re-design, will enhance travel safety and efficiency within the community. The accommodation of multimodal travel options will significantly decrease the frequency and severity of motor vehicle accidents and pedestrian/bicycle conflicts. Statewide, research illustrates that approximately 30 percent of all reported motor vehicle accidents involving bicycles or pedestrians results in fatalities; however, the result may be significantly underestimated due to flaws in accident report requirements. It is estimated that less than two-thirds of all serious bike/pedestrian accidents are reported or included within NYS Department of Motor Vehicle databases.

A study conducted by the Federal Highway Administration (FHWA) determined that the addition of a four-foot wide shoulder along two-lane roadways reduces motor vehicle accidents by 29 percent, and a shoulder of eight feet reduces accidents by 49 percent. While design improvements increase motor vehicle operator awareness and better accommodate bicycles and pedestrians, the primary factor in all motor vehicle crashes is high speed. Reducing speed limits or implementing traffic calming measures encourage and promote pedestrian activity, increasing motor vehicle safety and driver awareness.

In general, a truly safe and efficient multimodal transportation system enhances the “livability” of the community it services and connects. The Towns of Ira and Cato Comprehensive Plans will provide guidance and strategies to improve the operational and safety elements of the existing transportation network.

4.7.4.2 Environmental Benefits

The environmental benefits of a multimodal transportation system have been well documented. In 1991, the FHWA determined that bicycling and walking trips resulted in significant reductions of air emission pollutants and saved millions of gallons of gasoline. Non-motorized modes of transportation do not contribute to direct, ground level pollution that result in negative health effects and contaminated water systems. The American Lung Association estimates that ground level urban air pollution is the direct cause of 50,000 cases of respiratory illnesses nationwide. Increased use of multimodal transportation systems also reduce ozone depletion and carbon monoxide levels, particularly in larger urban areas, meeting or exceeding the air quality standards required under the 1990 Clean Air Act. Decreasing our dependency on oil further minimizes the indirect, negative impacts of drilling, refining, transporting, storing, and disposing of petroleum products.

A multimodal transportation system also provides benefits related directly to the preservation, ecology, and scenic qualities of the local landscape and environment. Trails can benefit the environment by preserving wildlife

habitat, protecting watersheds, improving water quality and stormwater management, and preserving vegetation and soil structure.

Greenways, rail trails, and open space networks provide users and visitors an increased awareness and connection to their surroundings, developing an appreciation for the natural environment, scenic landscapes, regional ecology, cultural landmarks, and historic resources. Creating a safe, multimodal facility will encourage the visitor to use, enjoy, and linger – most likely with a new appreciation for the environment and Ira and Cato communities.

4.7.4.3 Health Benefits

The benefits of regular exercise continues to be the primary reason people participate in activities such as bicycling, walking, hiking, and cross country skiing. Regular exercise contributes to an overall emotional well-being in addition to disease prevention and beneficial health management practices. Health concerns and issues such as obesity, heart disease, diabetes, and depression continue to rise in this country. According to a statewide survey in 2000, approximately 56 percent of adults over the age of 18 in New York State were overweight or obese, adding more than \$6 billion to annual health care costs.

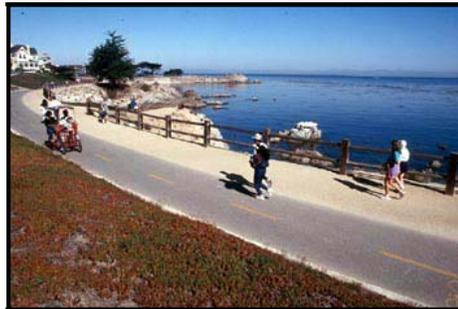
One of the most important factors in maintaining a healthy lifestyle is regular exercise. Research has shown that even low-level activity can provide significant benefits to health and physical fitness. Alternative methods of transportation are ideal for short distance trips and recreational exercise, providing better travel options, decreasing automobile pollution, and improving personal health.

Recreational and multi-modal transportation systems also create healthy, social situations. Walking, biking, hiking and other recreational activities present opportunities for users to engage in direct social and personal interaction with other users, citizens, and neighbors. Social interaction generates conversation

and communication, building a sense of civic pride and community strength, while enhancing one’s quality of life.

4.7.4.4 Economic Benefits

The provision of improved outdoor recreational opportunities and facilities and the enhancement of existing transportation systems will stimulate the local economy. Multi-modal transportation systems in the Towns of Ira and Cato have the potential to extend from the larger existing systems in portions of central and southern Cayuga County to increase revenue and support for local businesses such as restaurants, lodging, and grocers, and may generate new businesses such as rental shops and sports equipment stores that service the potential users. Elements of a multi-use trail and transportation system that can revitalize the local economy include: tourism income, trail related jobs and businesses, new service related businesses, preservation of space for future infrastructure, environmental controls, and increased property values.



Graphic 4-7 - Scenic By-ways

A National Park Service study of three major rail-trails found that trail use generated between \$1.2 and \$1.9 million annually into the economies of nearby communities. Owners of local restaurants and lodging facilities reported that their customers were visitors who specifically came to use the rail-trail. The popularity of rail-trails attracts service related businesses to take advantage of the increased demand and gives the local community a major asset to market.

As documented in previous studies within the region, tourism was identified as a likely growth industry opportunity for the nearby Finger Lakes

Region and Cayuga County. According to a visitor survey, a majority of respondents visited the Finger Lakes region for outdoor recreation and nature appreciation. As a result, visitors suggested improved recreational facilities and cultural activities. The Towns of Ira and Cato have an opportunity to link the natural environment (and the outdoor recreational activities) of the Finger Lakes Region with the tourism related economic opportunities that they promote via the incorporation of a local multimodal transportation connection to those areas.

In addition to the direct economic benefits multimodal transportation systems contribute to local communities, the local residents experience the benefit to their own budget and expenses. A trail and transportation system, properly implemented, easily accessible, and offering safe travel methods, alleviates the economic strain for local residents who either do not own vehicles, prefer to walk for shorter trips, or survive on a fixed income.

4.7.5 Signage Systems

Signs typically exist to communicate information to pedestrians and motorists. Common signage and way finding systems within a community usually revolve around airports, hospitals and medical facilities, parking facilities, tourism and scenic byways, and transit systems.

From the point of view of local governments, the regulation of signs is motivated by the need to ensure public safety and minimize the adverse impacts of signs in a community. The means by which these goals have been accomplished have been to limit the size of signs, control their type, placement, appearance, and generally, to impose measures to reduce visual clutter. It is usually not the impact of any one business or roadway sign that motivates municipalities to adopt sign regulations, but the long-term, cumulative impact of many public and private signage decisions.

The signage industry is motivated by the need to help businesses and organizations inform the public about their location. For planners and municipal building officials, signs are but one component of the complex built environment. Planning for and regulating signs is just one aspect of any community design effort. Central to more

recent community design efforts or trends and aesthetic regulations is the concept of contextualism, or context-sensitive signage design. If signs become too numerous or confusing to motorists, they can lead to the deterioration of traffic safety. In general, motorists can only address one highway conflict at a time and a confusing network of signs along highways compromises traffic safety. Therefore, it is important that the Town work with transportation officials and local business to ensure that signs do not detract from the safe and efficient flow of traffic.

4.7.6 Pavement Markings

Pavement markings help provide for general safety of the motoring public, pedestrians, and bicyclists by delineation of traveled paths. The installation and maintenance of high quality pavement markings along all arterial, collector, and local streets within Ira and Cato can improve the overall quality of the transportation network and improve pedestrian safety.

Pavement markings in Ira and Cato could include many different forms of street striping such as:

- Signal intersection markings;
- Directional markings;
- School crosswalks;
- Pedestrian crosswalks;
- ANE control symbols and special markings;
- Parking delineations;
- Bike lane systems; and
- Curb markings

Selection of the most cost effective pavement marking system in a given community often depends on three factors: retro-reflectivity, durability, and cost. Several factors are important when considering these traffic controls: type of road surface, volume of traffic, orientation with respect to traffic, quality control at the time of installation, winter sanding and snow removal practices, schedule of pavement

maintenance activity, and inconvenience experienced by the traveling public at the time of installation.

According to NYSDOT, conventional paints are generally used in areas having low traffic volumes and infrequent winter maintenance; products of higher durability are used in areas having more traffic and more instances of sanding and plowing. Therefore, the Town should focus on a markings system that maximizes motorist and pedestrian safety with the most cost effective implementation measures.

4.7.7 Traffic Signals

The coordination of traffic signals along a corridor or area can greatly increase the operational efficiency of each intersection in the transportation network system. The basic function in most arterial streets and roadways is to move traffic safely and efficiently with minimum delay. The main source of delay and congestion along most arterial streets and roadways are traffic signals. Too often motorists are required to make unnecessary stops because adjacent traffic signals bear no relationship to each other. This results in longer travel times and increased vehicle emissions and fuel consumption. Additionally, increased driver frustration related to unnecessary stops or undue delay may also result in a potential increase in accident rates.

Traffic signal coordination provides a means for alleviating these problems. It enables traffic signals to communicate with each other, therefore allowing them to work together. When traffic signals are coordinated, they provide maximum opportunity for motorists to travel through adjacent traffic signals without making unnecessary stops. Traffic signal coordination is typically needed to process traffic efficiently through a group of intersections. This is an attempt to utilize the existing roadway infrastructure by ensuring optimum travel speeds while reducing delay. Traffic signal coordination may delay or even eliminate the need for roadway widening. Since this coordination attempts to reduce the number of stops and reduce speed, there is a reduction in accident potential. In addition to traffic and safety concerns, the need for signal coordination may be justified by high levels of vehicle emissions and poor air quality.

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5.0 Utilities

5.1 Energy and Utility Availability

Natural gas is available from New York State Electric and Gas Company (NYSEG) and a major natural gas and power transmission line traverses the Town of Cato (Figure 5-1). The presence of this utility transmission corridor presents an opportunity to the community and provides a framework for future programs that could create shovel ready sites for future commercial development. According to NYSEG, future additional industrial electric demand can be accommodated within the community. At this time there is insufficient demand for residential or commercial use to justify extensive networking of natural gas lines. However, looking at the 20 year planning horizon, it is important to note that the availability and capacity of the existing infrastructure can amply support future growth. In addition, NYSEG has indicated intent to supply electricity at nationally competitive prices. Currently Rochester Gas and Electric (RG&E) is the primary electric power supplier.

5.2 Trends in Energy and Utilities

The expression that “the only constant is change” can certainly be applied to the world energy market. Market reform and technological advances have brought about dramatic changes in the world energy market. An extensive trends analysis with respect to energy, utilities and communications is beyond the scope of any Comprehensive Plan due to the fast paced rate of change both in the industry and the marketplace. However, a general discussion is warranted due to the community’s proximity to utility corridors, power generation facilities in the Rochester and Oswego area, and electrical transmission lines.

During the 1990s, the two important factors changed the relationship between the gas and electricity industries following deregulation of the power industry. This was a function of increasing demand for greater energy efficiency, energy conservation and fluctuating energy prices. The first factor includes increased use of gas for power generation driven by the increased performance (of gas turbines) combined with a steady increase in proven gas reserves. Secondly, deregulation and market reform opened both the gas and the electricity sectors to more competition.

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5.3 Agriculture and Energy

Interest in the production of bio-fuels (liquid fuels produced from biomass) in the United State is growing in the face of rising gasoline process and the drive to reduce our dependence upon foreign oil markets. Types of biofuels include ethanol, biodiesel, methanol, and reformulated gasoline. The Biomass Research and Development Act of 2000 (P.L. 106-224; Title III) defines biomass as “any organic matter that is available on a renewable or recurring basis, including agricultural crops and trees, wood and wood wastes and residues, plants (including aquatic plants), grasses, residues, fibers, and animal wastes, municipal wastes, and other waste materials.”

Biofuels are primarily used as transportation fuels for cars, trucks, buses, airplanes, and trains. As a result, their principal competitors are gasoline and diesel fuel. Unlike fossil fuels, which have a fixed resource base that declines with use, biofuels are produced from renewable feedstock. Furthermore, under most circumstances biofuels are more environmentally friendly (in terms of emissions of toxins, volatile organic compounds, and greenhouse gases) than petroleum products. Supporters of biofuels emphasize that biofuel plants generate value-added economic activity that increases demand for local feedstock, which raises commodity prices, farm incomes, and rural employment.

Since the late 1970s, U.S. policy makers at both the federal and state levels have enacted a variety of incentives, regulations, and programs to encourage the production and use of agriculture-based energy. Motivation for this policy includes energy security concerns, reduction in greenhouse gas emissions, and raising domestic demand for U.S.-produced farm products. Agri-business has responded to these government incentives and is expanding production of renewable energy, primarily in the form of biofuels and wind power, every year since 1996. The production of ethanol (the primary biofuel produced by the agricultural sector) has risen from about 175 million gallons in 1980 to 3.9 billion gallons per year in 2005. Ethanol production capacity in the United States has been expanding rapidly and current ethanol production capacity is 5.4 billion gallons per year (as of 2006), with another 6.0 billion gallons of capacity under construction and potentially online by early 2008. Biodiesel production is at a much smaller level, but has also shown growth rising from 0.5 million gallons in 1999 to an estimated 75 million gallons in 2005. Wind energy systems production capacity has also grown rapidly, rising from 1,706 megawatts in 1997 to an estimated 10,492 megawatts by October 23, 2006. Despite this

rapid growth, agriculture- and rural-based energy production accounted for only about 0.6% of total U.S. energy consumption in 2004.

It should be noted, that many farmers feel that the production of energy should continue to be a secondary purpose for agricultural production. They feel that the production of food is the most basic of human needs and should not take a back seat to our transportation issues. However, it is clear that conversion of land to support bio-fuels and energy production will continue as the country seeks diversification through alternative fuels. One important benefit that may result is that agricultural support land that is located on prime soils may be adequate to accommodate bio-fuel crops. Therefore, communities have the knowledge base to permit this type of land use on the least productive farmland soils.

One excellent example of how a cooperative energy program can result in a win-win situation within a rural community is the increasing number of waste-to-energy trends. For example, one method that was recently employed in Cayuga County is the use of centralized anaerobic digestion to provide heat and energy to the County Correctional Facility. Anaerobic digestion is a process that biologically breaks down complex organic compounds found in manure, food waste and other organic matter into more useable forms including production of the natural gas methane. This process has been used for many years to stabilize waste and for energy production in the agricultural, municipal and industrial waste treatment sectors. Anaerobic digestion converts agriculturally and environmentally important nutrients, nitrogen and phosphorus, into a more useable form that can be used more efficiently by growing plants but it does not destroy nutrients. Anaerobic digestion on individual farms will not help farms limited in size by nutrient management restraints but may allow spreading of manure limited by odor issues, allowing more flexibility in a farm's nutrient management plan.

The agricultural industry has researched anaerobic digestion extensively over the past 30 years and over 40 anaerobic digesters have been installed on farms in New York, principally as a biological process to reduce odor. In Europe, energy costs and environmental concern have caused policies to be instituted that encourage development of anaerobic digesters. These are installed for both energy and environmental reasons and driven economically by high energy cost.

Centralization allows installation of more complex systems, operated by trained operators. This allows better control of the complex biological process that occurs in an

anaerobic digester and maximizes gas production and the resulting heat and electricity generation, and in some cases, reduces pathogens. Centralized anaerobic digestion of animal manures and other organic materials allows the use of high-tech digestion designs to maximize energy production but presents additional design and logistical dilemmas including planning for biosecurity, transportation, and redistribution of digested material and associated nutrients for agronomic use.

Although this limited discussion of the role agriculture is currently playing in the current energy market is brief, it is clear that all of these newly emerging technologies present the opportunity for agriculture in the community to diversify in the future.

Since the 1990s, the increased competition emerging from deregulation of the gas and electricity industries has created a similar regulatory environment for both sectors. With the increasing competition under the market characterized by new market entrants and increased possibilities for customers to choose their suppliers, pressure has increased on electric utilities and natural gas companies to be more efficient and competitive. In such an environment, gas and electricity companies have sought various methods to adapt to the new business environment.

Efforts to adjust to this new environment include:

- Combining operations of “upstream and downstream” utilities (e.g., a more fluid system of supply and demand).
- Expanding and strengthening long-term access to a fuel supply for power plants and to long-term hedge their asset positions.
- Strengthening wholesale marketing and trading operations, diversifying products, and expanding retail markets by cross-selling electricity and natural gas e.g., mergers, alliances, and acquisitions.
- As both sectors were well established prior to deregulation, the question for companies to “make or buy” was not really an issue. In most cases, the energy company’s incentives were bolstered through mergers, strategic business alliances, and other joint ventures between the gas and electricity industries.

- With a focus on mergers and acquisitions between the gas and electricity sectors, increased use of gas for power generation, and the convergence in market design have been reflected in the energy sector.

There are many situations where gas and electricity sectors grow together and become more alike. The two main drivers are improved technology of gas turbines and the market reform in both sectors. The opening of the electricity markets favors gas-fired power plants which are better suited to more competitive markets given their short construction time, lower investment costs (rather than nuclear or other fuel sources) and economies of scale. This is favoring decentralized power generation which creates competition between the gas and electricity grids.

This leads to centers or “hubs” or marketplaces where gas and electricity is traded. Therefore, mergers and alliances in gas power generation and electric distribution leads to similar marketing strategies and availability of services.

5.4 Communications

Cayuga County has been very successful in the development of fiber optic transmission routes throughout the County and including Ira and Cato. In 1994, a County resolution created the Telecommunications Consortium. Officials began meeting to discuss telecommunications issues and in 1996 they teamed with Cornell University’s Local Government Program to prepare a strategic plan.

Over a period of several years, the collaboration resulted in funding for a full-time staff position and the creation of CayugaNet, a community network that puts local government and nonprofit information online. CayugaNet’s philosophy is not to compete with commercial providers, but to lend a supportive hand in getting businesses online by training small businesses on Web design and electronic commerce.

The top priority of the County’s telecommunications plan, was the acquisition of local dial-up access to the Internet. As a result, Cayuga County currently has local Internet access at speeds comparable to the best big cities have to offer. Planning activities influenced the regional cable company to upgrade its system and offer cable modems throughout the County. Although the nexus of this system is in proximity to the greater Auburn area, its ability to expand has

exposed the Towns of Ira and Cato to potential for high speed access in the form of fiber-optic technology. This high-speed access, along with an extensive countywide geographic information system (GIS), convinced NASA to locate a regional application center at the Cayuga County Community College.

Though cellular access and reception in the area of Ira and Cato has been lacking in the past, it is likely that changing technology will help to bring the community into the 21st century and provide new opportunities.

5.5 Trends in Telecommunications

In light of these advances during the 1990s and early 2000, it is clear that the emerging wireless technology is beginning to take hold in Central New York. This technology offers a brighter future to Ira and Cato due to the lack of major infrastructure investment to provide high speed communication services to the community. Over the past few years, the growing popularity of broadband and wireless technology has grown nationwide. The traditional form of telephone service is quickly transitioning to wireless form and it is estimated that there may be as many as 3 billion wireless subscribers worldwide by 2010. Telephone companies, in particular, are developing very clear wireless strategies that include the expansion of internet access, video conferencing, text messaging, and new methods of communication.

Today, it is clear that the price of available technology is falling and more people will choose to eliminate standard phone services. At the same time there is a move to satellite technology for television and telecommunications. As satellite technology becomes more advanced and widespread, mobile and fast paced communication methods will expand. As the 21st century broadband network grows and networks are upgraded, consumers and businesses will move into the future with systems ranging from remote management of homes (e.g., appliance, heating, electric, etc.) and wireless companies where fax machines and telephone lines become out-moded and goods and services can be provided more efficiently.

5.6 Consolidation of Communication Devices

As the result of this new move to a global wireless network, trends in communication technologies and the emergence of “always online” information appliances are changing the ways

in which we communicate. A sense of always being connected or in touch is present even when one is not directly interacting with technology itself. In the networked world, “presence” awareness can be achieved with various communication tools, including instant messaging, broadband web service, and portable “wi-fi” being most commonly used. With the increasing number of networked appliances sharing a variety of information, our communication practices are changing and being reflected in the way people conduct business and daily life. At the same time, new interesting forms of social interaction are emerging. People can cooperate locally, regionally, and globally through the use of current and emerging mobile and wireless technology.

5.7 E-commerce

The expansion of digital technology has revolutionized different types of e-commerce. E-commerce is generally defined as the buying and selling over the internet or any transaction concluded through an information network involving the transfer of ownership or rights to use goods or services. In general there are five types of e-commerce including transactions that are business-to-business; business-to-consumer; business-to-government; consumer-to-consumer; and mobile commerce.

Today, the revolution in digital technology is quickly transforming where and how efficiently goods are produced and commodities are exchanged. More precisely, it includes all business transactions that use electronic communications and digital information processing technology to create, transform, and redefine relationships for value creation between organizations, and between organizations and individuals. Essentially, this is changing the need to commute, the need to travel for shopping opportunity, and ultimately changing the way we do business as the global economy matures.

5.8 Agriculture and Communication

Like the production and exchange of commodities, agriculture is also being transformed by digital and wireless technology. New advances in communication and global positioning systems allow farmers to have more accurate information on the factors that are needed to increase crop yield. “Precision farming” or farm management using new technology will become the norm rather than the exception.

It is also safe to assume that we can expect better crops and livestock as a result of agricultural biotechnology. The term “biotechnology” broadly includes “any technique that uses living organisms, or parts of such organisms, to make or modify products, to improve plants or animals, or to develop microorganisms for specific use.”

The potential applications of modern biotechnology in agriculture are varied and promising. The end result of these technological advances may include improved yield from crops, reduced vulnerability of crops to environmental stresses, increased nutritional qualities of food crops, reduced dependence on fertilizers, pesticides and other agrochemicals, more efficient application of agrochemicals and production of novel substances in crop plants.

5.9 Information Economy

An information economy is where the productivity and competitiveness of businesses and commerce (be they firms, regions or nations) depend mainly on their capacity to generate, process, and apply efficiently knowledge-based information. It is also described as an economy where information is not only a product but a form of currency. People have relied on information exchange to do our jobs and run our lives. However, the information economy is changing the traditional economy because it can collect more relevant information at the appropriate time. As the digital revolution progresses into the 21st century, production in the information economy will advance in new directions. As digital and communications devices become more portable and more powerful, information will become more plentiful and instant. What makes the information economy different today is the instant and pervasive use of information and evolving communication technology.

5.10 Communication and the Traditional Family

Over the years, changes in family structure have become evident and have affected many aspects of life ranging from the type of home and number of cars per family that is in demand, to changing demographic patterns. Changes in family structure and family attitudes are directly parallel to changes in the economic system that began in the 1970s. In the old system of large-scale production, most men had steady jobs and solid wages, while women had fewer job opportunities. However, in the new system of continuous innovation, we see less predictable earnings and wider disparities in earnings. While this plan cannot predict the impact of digital

technology on the traditional family, it is important to recognize that fast paced change in communications will allow for types of business and housing that may not rely on commuter travel or large commercial buildings with extensive infrastructure. It will be important to recognize that there are economic and quality of life opportunities that do not necessitate a large presence of communications and utility infrastructure.

6.0. Land Use

6.1. Introduction - Optional Patterns for Rural Area Development

Traditional rural patterns in the landscape consist of concentrated population centers surrounded by agricultural lands or natural open spaces. The Villages, hamlets, and crossroad settlements emerged as trade centers to the surrounding farms or forest land. Today, homes clustered together in the Villages of Cato and Meridian serve to preserve the best land for farm or forest production and provide access to major routes that connect the community to surrounding environs. As a result, the Villages provide very basic commercial services to meet the population demands of the rural area. After the advent of the automobile, development began to spread along highways and roads. This inefficient development pattern makes it more difficult to provide public services and amenities to residents as opposed to dense village areas that were once the traditional form of growth. This more recent development practice fragments the landscape into uniform residential lots at densities that are more suburban in nature. As a result, each individual lot contains some private open area, there are no significant open spaces between developments and the demarcation between the Village and countryside begins to blur. This inefficient pattern of development has a marked impact on local farming and rural character.



Photo 6.1 – Local Drumlins

Traditional Neighborhood Development patterns (TND), clustering techniques, and more recent development trends represent basic forms of strategic planning which may be used to accommodate future growth in the Towns of Ira and Cato. To summarize, future growth may occur in the uniform residential pattern typically referred to as sprawl or, in more sustainable form, that take advantage of natural resources, infrastructure investments, and economic activity.

The Towns of Ira and Cato have ample resources that can be better utilized, enjoyed, and protected to ensure their health and availability to future generations. A sound land use plan will help the Towns to understand future development pressures and forecasts to better manage and implement the vision established throughout this comprehensive planning process.

6.2 General Demographic Trends

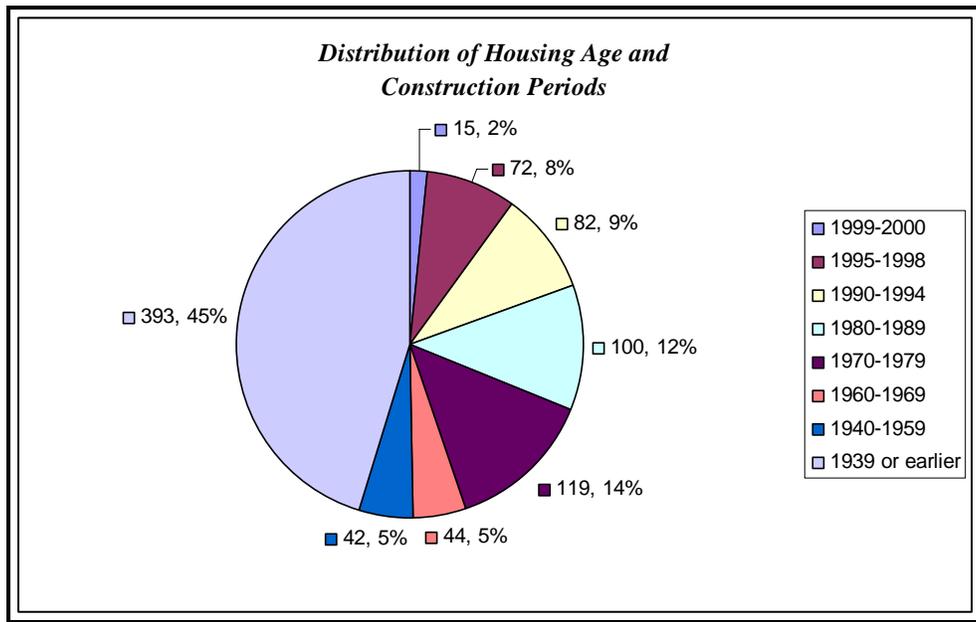
Following WWII, as the automobile became the primary mode of transportation, construction of the New York State Thruway facilitated suburban growth and agricultural areas like Ira and Cato became prone to new opportunities for cheaper development and affordable lifestyles, making it easier to travel to business centers outside of the community for work and entertainment. Although Ira and Cato have not experienced the type of rapid growth as some adjacent communities (e.g., Lysander, Salina, Cicero, and other Tier I and II suburbs), there are a number of regionally significant projects on the horizon that could make the area attractive to more people as detailed in the inventory of relevant demographic data (see section 1.5).

6.3 Housing Characteristics

Housing has become the largest consumer of land in rural communities and one of the most important factors in the lives of people. It directly affects our quality of life – our health, safety, and welfare. An inventory of housing characteristics provides pertinent information regarding the resident population and housing units in the Town. This information will be important to developing land use recommendations for the future. The following information includes residential building activity, value of owner-occupied housing units, characteristics of the housing stock, and occupational characteristics of the employed labor force.

6.3.1 *Town of Ira*

Since 1989, the Town of Ira experienced an increase of 298 housing units. The Town's housing stock consists of single and double-wide mobile homes, modular housing, wood-frame houses, and multi-family housing with anywhere between three and nine units. As of the 2000 U.S. Census, 45.3 percent of the Town's housing stock was built prior to 1939, and an additional four percent was built between 1940 and 1959. That means approximately half of the Town's housing stock may be nominated for potential National Register designation (given the quality of significance in American history, architecture, archeology, engineering, and cultural significance present in any buildings). The chart below illustrates the age variety of housing that currently exists in the Town of Ira through the year 2000 as provided by Cayuga County Office of Real Property Services.



Graphic 6-1

Per data collected from the Town of Ira, the number of new units has steadily decreased since 2001, with only three new units constructed in 2005. This suggests a slow down of the pace of population growth experienced during the 1990s. The table below summarizes the variety of Ira’s housing stock and number of units since 1989.

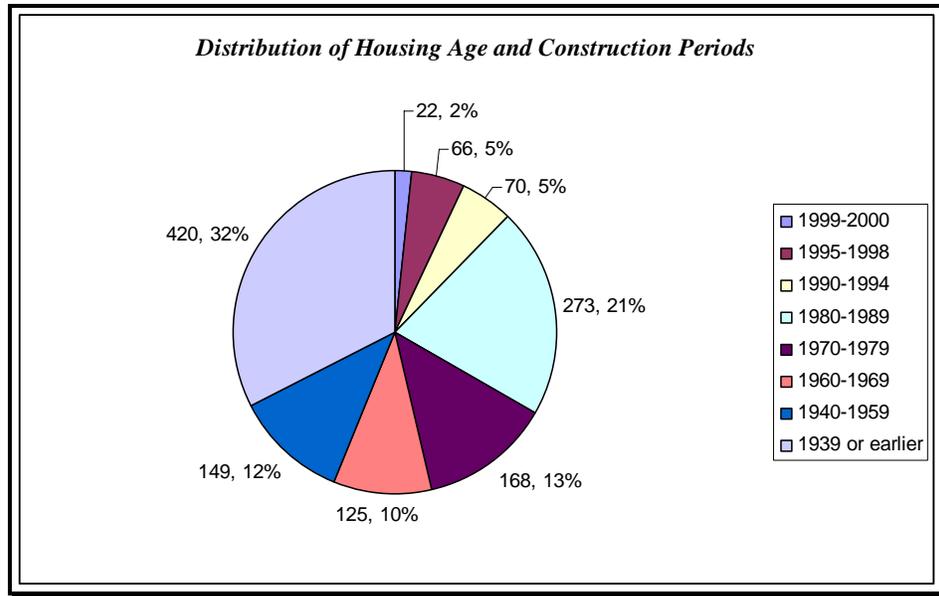
Year	Mobiles		Modular	Stick Built	Conversion 1 To 2 Family	Replacement Units	New Units
	Single Wide	Double Wide					
1989	7	4	5	14		0	30
1990	8	4	3	8		1	22
1991	6	4	4	8		2	20
1992	12	7	1	10		10	20
1993	6	5	2	9		5	17
1994	5	3	5	9		2	20
1995	4	3	2	6		3	12
1996	3	4	0	10		5	12
1997	3	2	1	6		4	8
1998	3	4	1	6	2	2	14
1999	3	4	3	6		4	12
2000	4	4	3	7		6	12
2001	1	5	1	12		2	17

Table 6-1 Town of Ira Distribution of New Housing by Type Since 1989							
Year	Mobiles		Modular	Stick Built	Conversion 1 To 2 Family	Replacement Units	New Units
	Single Wide	Double Wide					
2002	3	4	2	6	0	4	11
2003	0	2	2	6	0	2	8
2004	3	1	2	1		2	5
2005	1	1	1	1		1	3

The majority of new homes outlined above, are comprised of single family wood framed homes and double-wide mobile homes. Roughly 80 percent of the housing stock in the Town of Ira is owner-occupied, or are non-rental properties. Of these specific owner-occupied units, approximately 71 percent are valued between \$50,000 and \$99,000 with 11 percent valued less than \$50,000 and 11 percent valued between \$100,000 and \$150,000. Approximately six percent of the Town's owner-occupied housing stock has a value of \$150,000 or more. Compared to Cayuga County median home prices, the Town of Ira's housing stock is, on average, valued lower. However, property values in the Town have experienced a steady increase with most property owners receiving a rate of return at least commensurate with their investment in new property and housing.

6.3.2 *Town of Cato*

As of the 2000 Census, the Town of Cato had 994 households and 747 families residing in the Town. There were 1,293 housing units at an average density of 38.4 units per square mile. Of the 1,293 housing units in Cato, approximately 73 percent were single-family attached and detached units while approximately 17 percent were mobile homes. As of the 2000 U.S. Census, 32.5 percent of the Town's housing stock was built prior to 1939, and an additional 11.5 percent built between 1940 and 1959. That means approximately half of the Town's housing, given the quality of significance in American history, architecture, archeology, engineering, and cultural significance present in any buildings, may be nominated for potential National Register designation. The chart below illustrates the age variety of housing that currently exists in the Town of Cato through the year 2000 as provided by Cayuga County Office of Real Property Services.

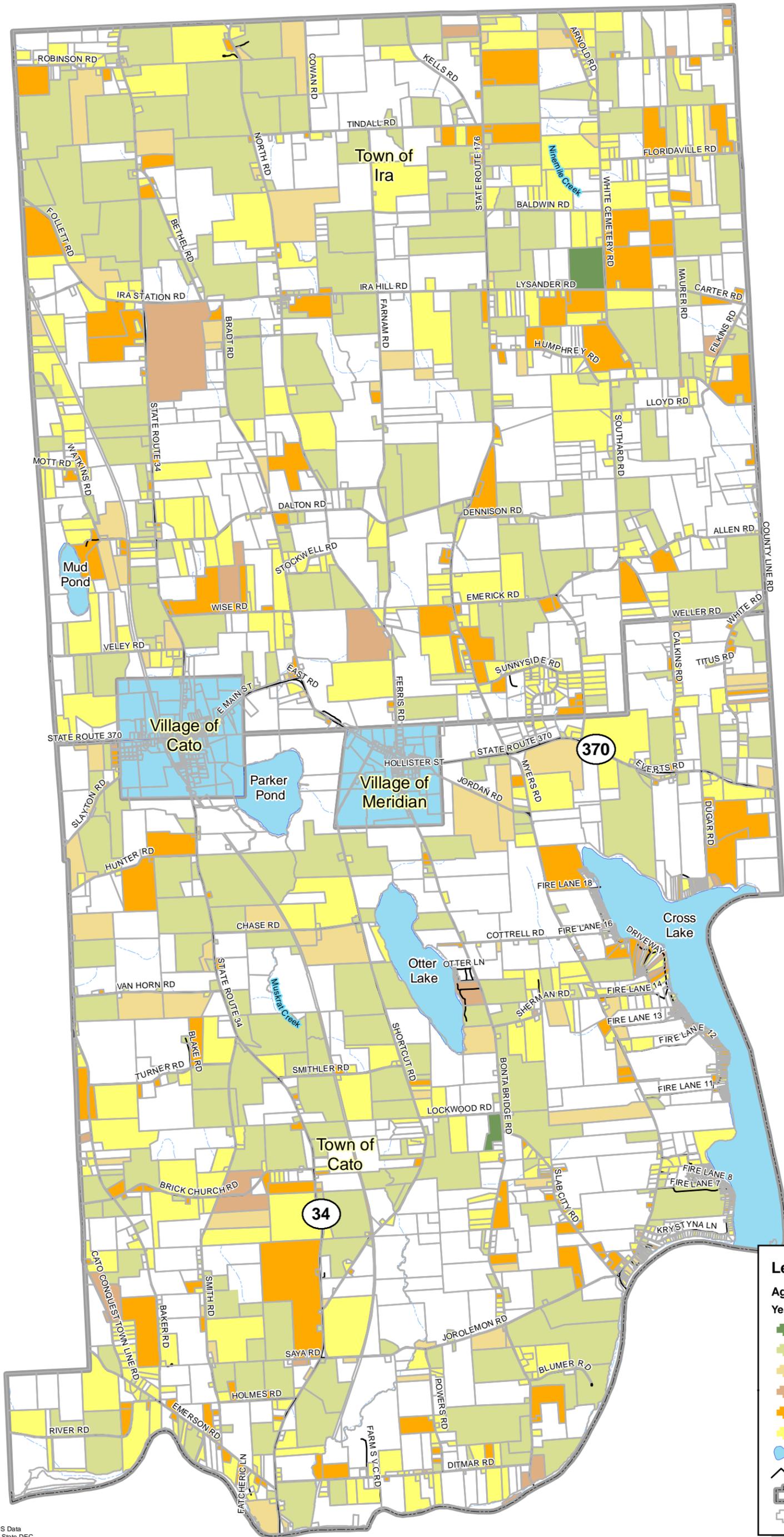


Graphic 6-2

Of all owner-occupied housing units in the Town of Cato, 63 percent are valued between \$50,000 and \$99,000 while approximately 25 percent valued higher than \$100,000 and the remainder valued lower than \$50,000. Figure 6-1 (Age of Housing Map) illustrates an overall breakdown of the age distribution of housing for both the Town of Ira and Cato.

The Towns of Ira and Cato have the opportunity to encourage the construction of new housing in a variety of styles and values that will provide a full range of housing opportunities for existing and new residents. In addition, the phased implementation of new public water and sewer facility expansion outward from the Villages of Cato and Meridian would enhance the attractiveness and marketability of the area as a quality community. Throughout the planning process, Ira and Cato have the opportunity to work with public and private entities to ensure a variety of well planned, high quality residential developments that will take advantage of the vast natural resources and geographical assets the Towns have to offer. It is important that this Comprehensive Plan address any future residential growth projections with an adequate Growth Management Strategy. This will ensure a balance, both environmentally and economically, is achieved in accordance with the Comprehensive Plans goals and objectives.

(Page Reserved for Figure 6-1)



Data Sources:
 Age of Housing - 2005 RPS Data
 Surface Water - New York State DEC,
 Road Centerlines - New York State DOT,
 Municipal Boundary - U.S. Census

Legend

Age of Housing
Year Built

- Prior to 1800
- 1800 to 1899
- 1900 to 1929
- 1930 to 1949
- 1950 to 1979
- 1980-Present
- ~ Lakes / Ponds
- Road Centerline
- Municipal Boundary
- 2007 Tax Parcel Boundary



**TOWN OF IRA - TOWN OF CATO
 JOINT COMPREHENSIVE PLAN**

COMMUNITY INVENTORY

Town of Ira Town of Cato

**Age of Housing on a Parcel Basis
 of Ira and Cato**

Cayuga County New York

2/7/07

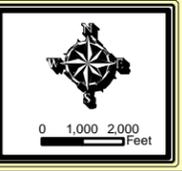


FIGURE
 6-1

Project No.
 1069.001

6.4 Existing Land Use - Ira

Current and future land use decisions are the basis for land use policy and should be a primary objective of comprehensive planning. Historically, one of the most problematic issues facing local governments is the fact that most of the lands for which plans are being developed are not in local government ownership. Planning for roads, utilities, educational institutions, and other essential public services depend largely on orderly and effective land use planning at the local level. Residents, business owners, and industries base their decisions on existing zoning and plans in place for a particular market or town. The inventory of existing land use characteristics and zoning controls currently in place for the Towns of Ira and Cato is an important consideration as trends and tools are identified for consideration as the comprehensive planning process progresses.

6.4.1 Basic Principles of the Land Use Plan Component

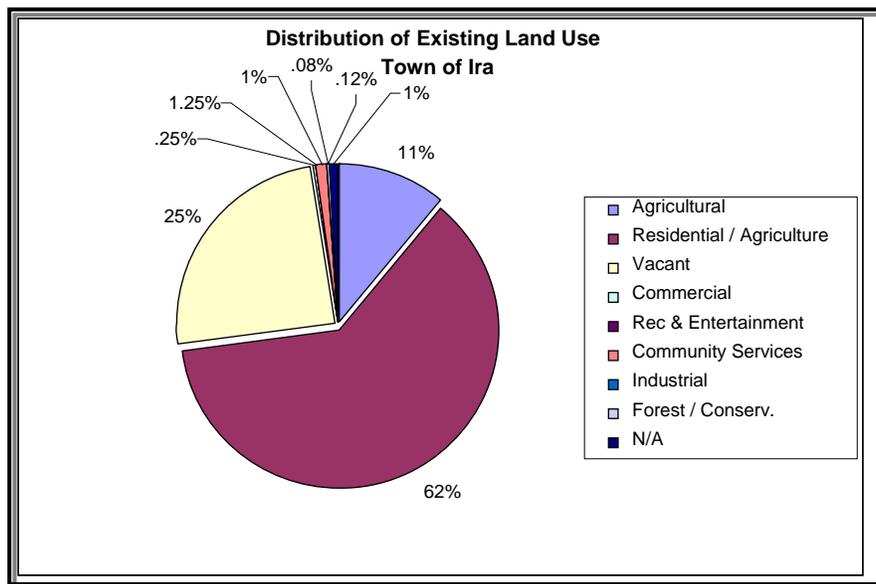
There are three basic principles to consider that may impact the primary components of a community's land use plan. The first principle is recognizing the connectivity or interrelationships between existing natural resources, land use patterns, trends and community infrastructure (e.g., context and connectivity). This inventory reflects the first principal in that it identifies some of the interrelationships that will be illustrated throughout the Comprehensive Plan that, at the surface, may not seem connected or related to one another. For example, what is the relationship between highway functionality and sound land use management? Each section of the Inventory and Comprehensive Plan contains examples and strategies that address the interrelationships between physical and social characteristics of the community as part of local land use policy.

The second principle is assuring that this Comprehensive Plan and all other local ordinances are integrated and consistent (e.g., consistency). This Plan will largely reflect Ira and Cato's community vision. However, ordinances are land use tools to achieve the goals established throughout the Comprehensive Planning process. Thus, when this Comprehensive Plan is adopted, Ira and Cato will likely analyze their land use regulations and local planning policy to ensure consistency in implementing the goals and objectives of the Plan.

The third and most important principle is sustainability. As the Comprehensive Planning process moves forward, all recommended actions and priority implementation procedures should represent incremental progress to achieve a sustainable level of growth for the future of the community as well as the region.

6.4.2 Inventory of Existing Land Use – Town of Ira

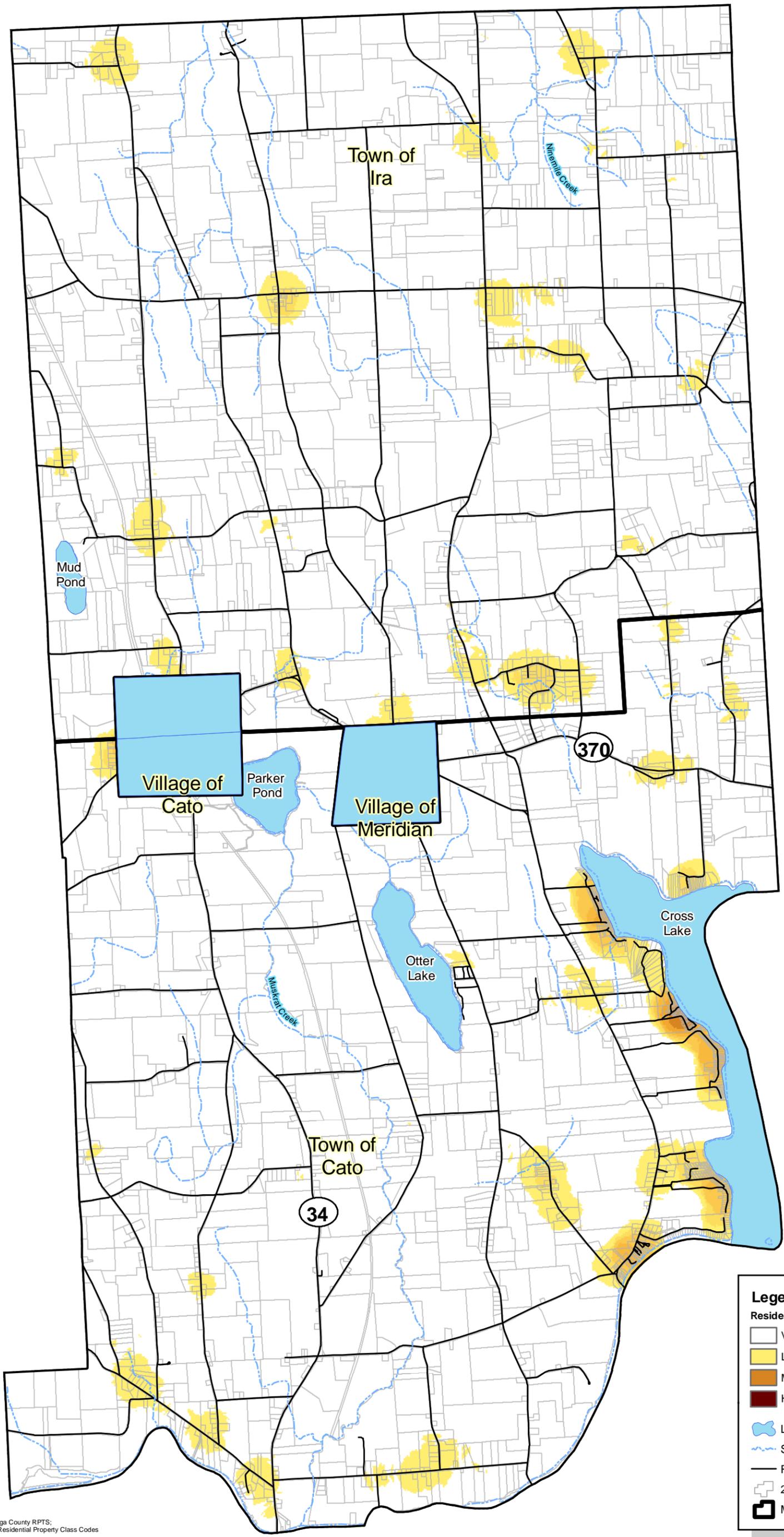
The predominant land uses in the Town of Ira are rural residential, vacant, and agricultural lands. The most intensely developed areas in the Town are along Route 370 adjacent to the Villages of Cato and Meridian, and along State Routes 176 and 34. Density of development and existing land uses are illustrated on Figures 6-2 and 6-3, respectively. The distribution of existing land use in the Town of Ira is indicated in Graphic 6-3 below.



Graphic 6-3

(Page Reserved for Figure 6-2)

(Page Reserved for Figure 6-3)



Legend

Residential Density

- Very Low
- Low
- Moderate
- High

- Lakes / Ponds
- Surface Water
- Road Centerline
- 2007 Tax Parcel Boundary
- Municipal Boundary

Data Sources: 2005 Tax parcels - Cayuga County RPTS;
 Residential Density - Derived From All Residential Property Class Codes
 Surface Water - New York State DEC,
 Road Centerlines - New York State DOT,
 Municipal Boundary - U.S. Census



**TOWN OF IRA - TOWN OF CATO
 JOINT COMPREHENSIVE PLAN**

COMMUNITY INVENTORY

Town of Ira Town of Cato

Residential Density

Cayuga County New York

2/7/07



FIGURE
6-2

Project No.
1069.001

Historically, the Route 370 corridor was the primary conduit for residential and agricultural development outside of the villages, but also commercial activity within village boundaries. The pattern of growth along the Route 370 corridor and Routes 176 and 34, has been that of strip residential development which has been largely influenced by favorable access and cheap vacant land for large lot development. Due to the lack of public water and sewer, development lots are typically larger than higher density developments in order to accommodate on-site septic systems and ensure groundwater protection.



Photo 6-2 – Route 370

Other major activities along Route 370 in the Town of Ira are the Cato-Meridian Central School campus. Established in the late 1930s with a single building, it has since expanded with the high school occupying a single building, and other schools combined. In the mid 1990s a state-of-the-art community recreation center was constructed to further expand the district campus.



Photo 6-3 – Cato-Meridian School

The Hamlet of Bethel Corners, located in the north-westerly most point of the Town inhabits approximately 70 residents. This once thriving area of the Town, approximately midway between the Villages of Hannibal in Oswego County and Cato in the Town of Ira, now primarily consists of rural residential uses and farmsteads. One of the primary structures in the hamlet was the Methodist Church, established in 1924 and closed in the mid 1990s.



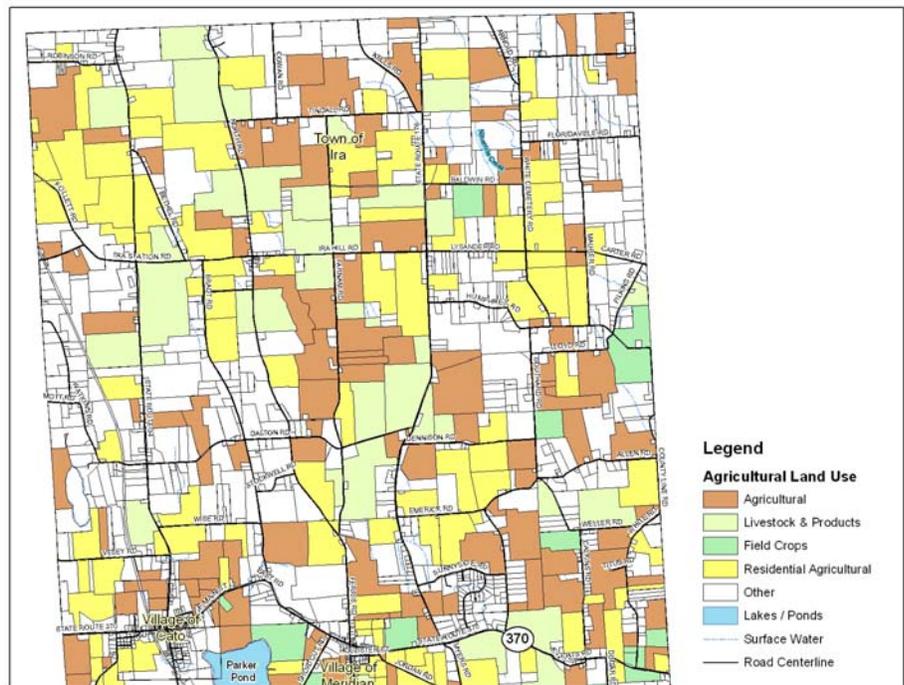
Photo 6-4 – Bethel Corners

Similarly, the Hamlet of Ira or Ira Center, located in the central area of the Town consists primarily of single-family residences and historical structures that are churches, blacksmith and carriage shops, a cheese factory, post office, doctors and lawyers offices.

6.4.2.1 Agricultural Land Use and Resources

The agricultural industry in the Town of Ira is comprised of three types:

- *Vacant Agricultural:* Land used as part of an operation that does not have living accommodations and cannot be classified in another agricultural category.
- *Livestock and Products:* Poultry, dairy, cattle, sheep, honey, horse farms.
- *Field Crops:* Potatoes, wheat, hay, corn, oats, and other field crops.



Graphic 6-4 – Ira Agricultural Land Use

Agriculture is still an important component of Ira’s landscape and economy. Although most agricultural land in the Town is vacant, much of it is used for livestock and products, and for harvesting field crops. Some of the land is used for hay and beef cattle but there are numerous other uses such as vegetable farms; a nursery; and raising of other livestock such as sheep and horses. Because of geological activity such as drumlins in the Town, agricultural lands are mostly fragmented throughout, with a large portion of contiguous agricultural lands in the center of town.



Photo 6-5 – Agricultural Land

Unlike many Upstate New York communities where residential, commercial, office and industrial uses have displaced or eliminated some of the local agricultural operations, Ira’s agricultural presence is still very much intact. However, in general, the local agricultural industry has experienced a variety of economic pressures that have had an impact on their ability to maintain operations. Since the late 1960s, smaller family-owned and operated farms in the Town have struggled to remain competitive with larger commercial farm operations (likewise throughout New York State). Additionally, recent trends have shown that children of a long line of family farmers are opting to pursue other career opportunities and professions, likely due to economic conditions. This represents a major threat to the future of farming in the community.

6.4.2.1.1 Agricultural Districts

In 1971, Article 25AA of the New York State Department of Agriculture and Markets Law authorized the creation of Agricultural Districts pursuant to landowner initiative, preliminary county review, state certification, and county adoption. In recognition that market demands are having significant effect on the loss of active agricultural operations to non-agricultural uses, the intent of these districts is to

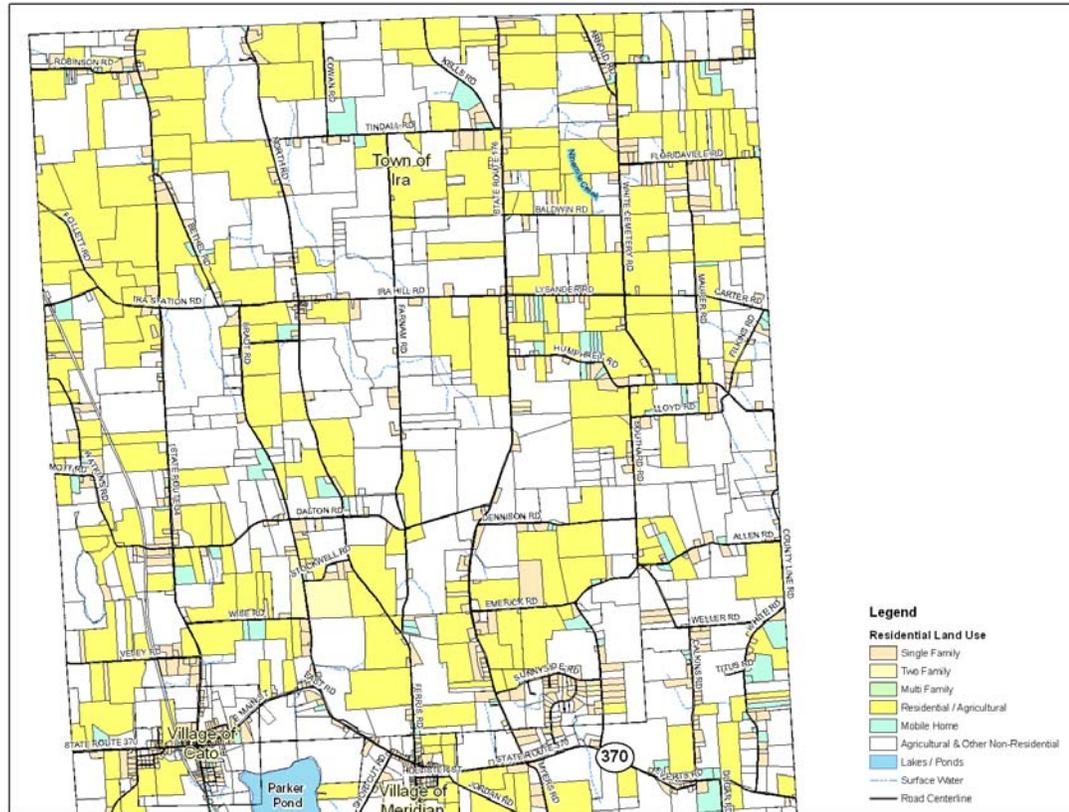
protect farmland from encroaching development pressures. In 1992, the Agricultural Protection Act amended the Ag Districts Law by enhancing the Notice of Intent requirements, right-to-farm protection, real estate transfer disclosures, and the creation of agricultural and farmland protection programs.

Agricultural Districts (“Ag Districts”) are created when an owner or owners of farmland submits a proposal to the respective county. The area proposed for Ag District formation is reviewed by a farmland protection review board based on the viability of active and non-active farmlands, the extent of non-agricultural uses and development patterns.

The Town of Ira is almost wholly contained within Agricultural Taxing District #4 (CAY04). This Agricultural District was formed in April 1978 and was recently recertified in 2003. Agricultural District #4 includes land area within the Towns of Cato, Sennett, and Brutus.

6.4.2.2 Residential Land Use

Land developed for various types of residential use represents the largest active land use in the Town of Ira – approximately 62 percent of the total land area. Residential development patterns in the Town are typical of rural agricultural communities with farmsteads, scattered large lot development, and suburban sprawl. The intensity of development is a direct result of the lack of municipal water and sewer infrastructure, and thus, requires larger land area to accommodate septic systems and groundwater protection. This is primarily a function of the presence of soils that are poorly suited for on-site septic systems. Rural residential development and farmland is generally scattered throughout, with pockets of higher density areas such as areas just adjacent to the Villages of Cato and Meridian along Route 370, the Hamlet of Bethel, and other intersections that exhibit historical migration.



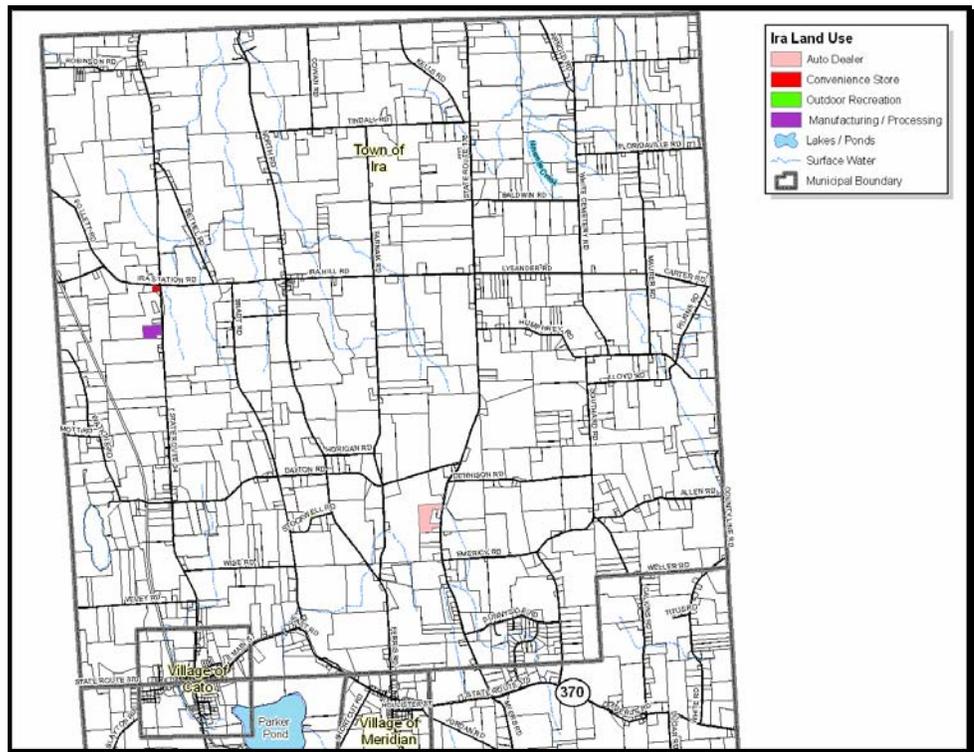
Graphic 6-6

Ira exhibits a wide range of housing opportunities, including single family, two family, multi-family, mobile homes, seasonal houses, and others. As illustrated in Graphic 6-6 above, much of the Town’s housing stock is on larger lots, categorized as Residential/Agricultural. Many of these homes are contiguous to property of same ownership which is being farmed. Comparing Graphic 6-6 and 6-7, it is clear that many of these large lot housing units are adjacent to livestock and products, or field crop farming parcels.

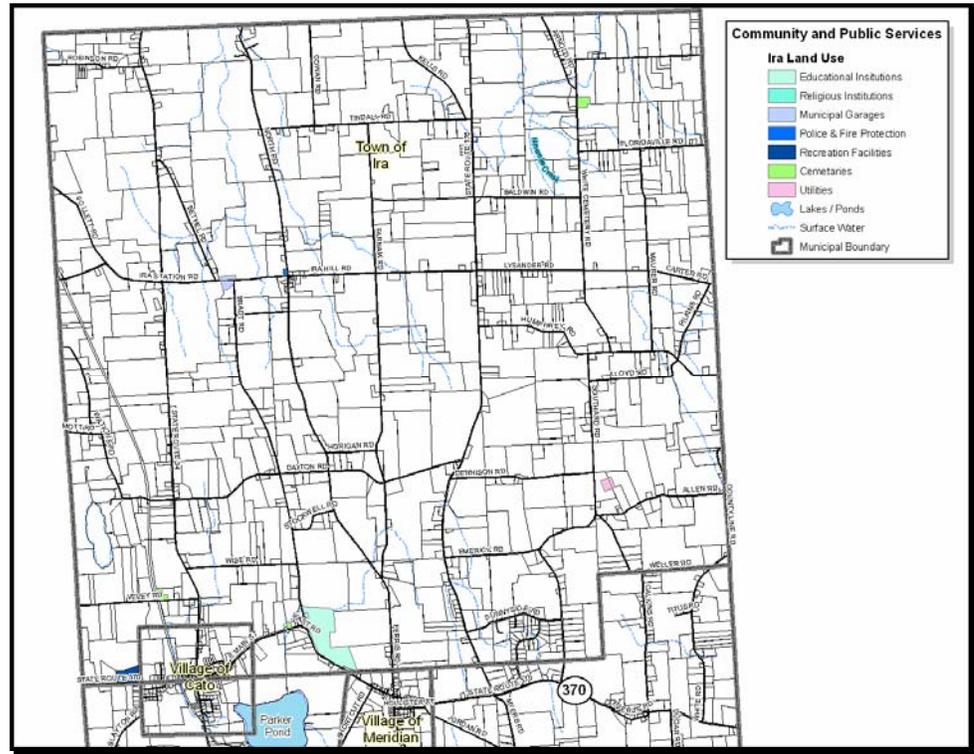
6.4.2.3 Commercial, Industrial, and Recreation/Entertainment Land Uses

Based upon the most current parcel data provided by Cayuga County, there are very few developments for commercial, industrial and recreational/entertainment in the Town of Ira. Commercial land use, along with recreation and entertainment uses, and industrial land use are by far the smallest

segments of land use in the Town of Ira. This trend is largely due to the lack of public water and sewer facilities. Without municipal water and sewer, the Town’s ability to attract investments in any significant commercial, industrial and office uses will remain constrained. The expansion of local infrastructure within strategic planning areas is a key component of economic growth within the community. Infrastructure improvements are needed to boost the local economy and allow for new growth in agricultural support businesses and service oriented enterprise.



Graphic 6-7 – Ira Commercial, Industrial and Recreation Land Use

6.4.2.4. Community and Public Service Land Uses

Graphic 6-8 Ira Community and Public Service Land Use

Public Service uses in the Town of Ira include electric and communications utilities (transmission lines, substations, cell towers, etc.) but not municipal utilities. These uses include Community Services like municipal buildings, fire and emergency services stations, police stations, schools and school district offices, and community centers.

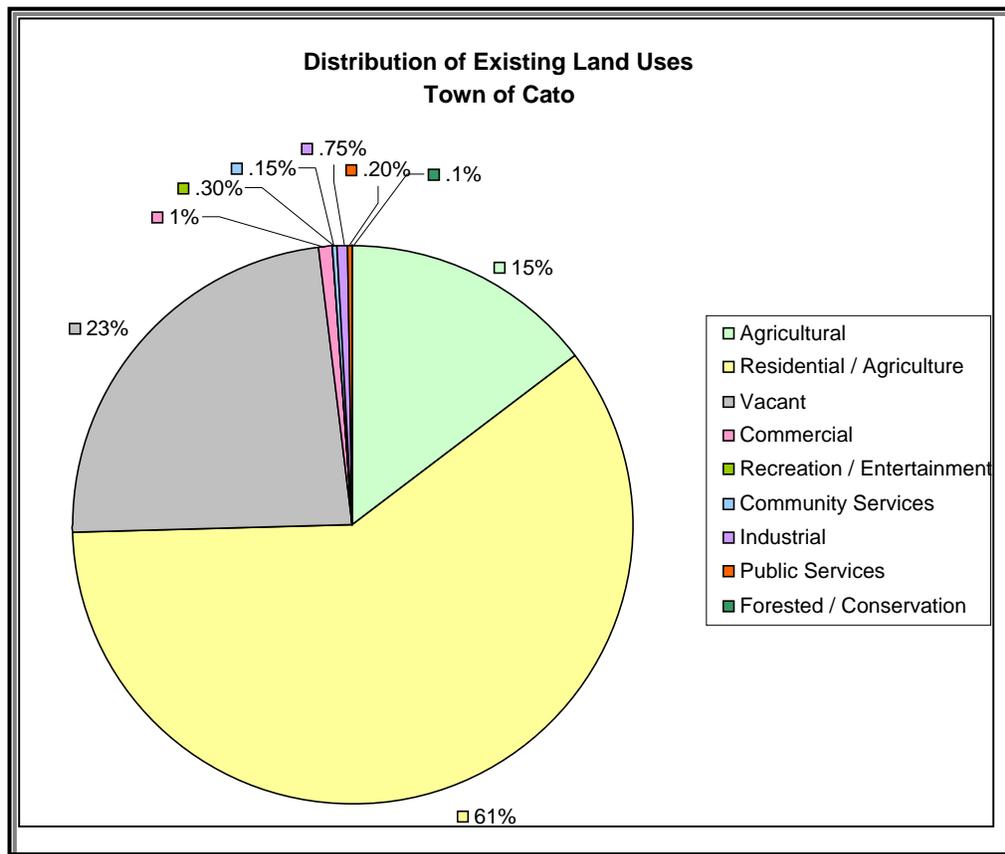
6.4.2.5 *Vacant Land and Natural Areas*

The Existing Land Use Map identifies vacant (undeveloped) lands (Figure 6-3). Vacant lands include parcels that may have significant development constraints, such as steep slopes, wetlands, critical habitat, and stream channels; as well as inactive farmland, and developable properties.

6.5 Existing Land Use - Cato

6.5.1 Inventory of Existing Land Use – Town of Cato

The predominant land uses in the Town of Cato are rural residential, vacant, and agricultural lands as classified by the Cayuga County office of Real Property Services. Much of this land includes single family units on large land areas that are agricultural in nature. The most intensely developed areas in the Town are along Route 370 adjacent to the Villages of Cato and Meridian, along Myers Road and adjacent to Cross Lake in the southeasterly portion of the Town. Density of development and existing land uses are illustrated on Figures 6-2 and 6-3, respectively. Graphic 6-9 below reveals the distribution of existing land use in the Town.



Graphic 6-9

The Seneca River and Cross Lake create the south and southeastern municipal boundaries of Cato, and also provide opportunities for waterfront access and development. Some of the Towns highest densities of development are located along or within close proximity to these areas, as shown on Figure 6-3. Similar to the Town of Ira, the Town of Cato’s predominantly rural residential development pattern has been influenced by favorable access and cheap vacant land for suitable large lot development. The discussion below outlines the Towns primary land uses with analyses to be used as the basis for recommended policy action items throughout the comprehensive planning process.

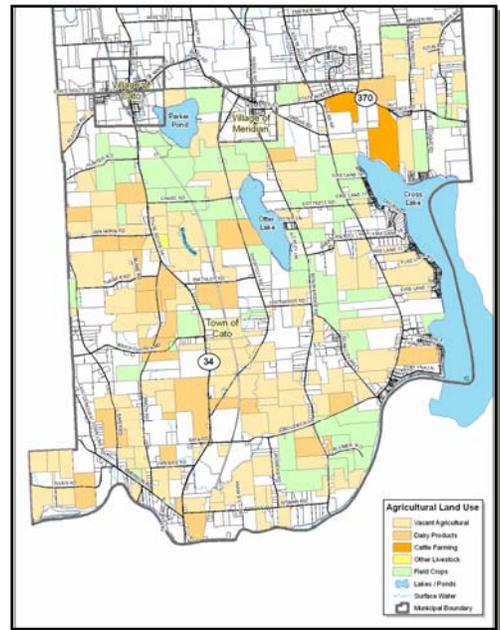


Photo 6-6 – Cross Lake

6.5.1.1 Agricultural Land Use and Resources

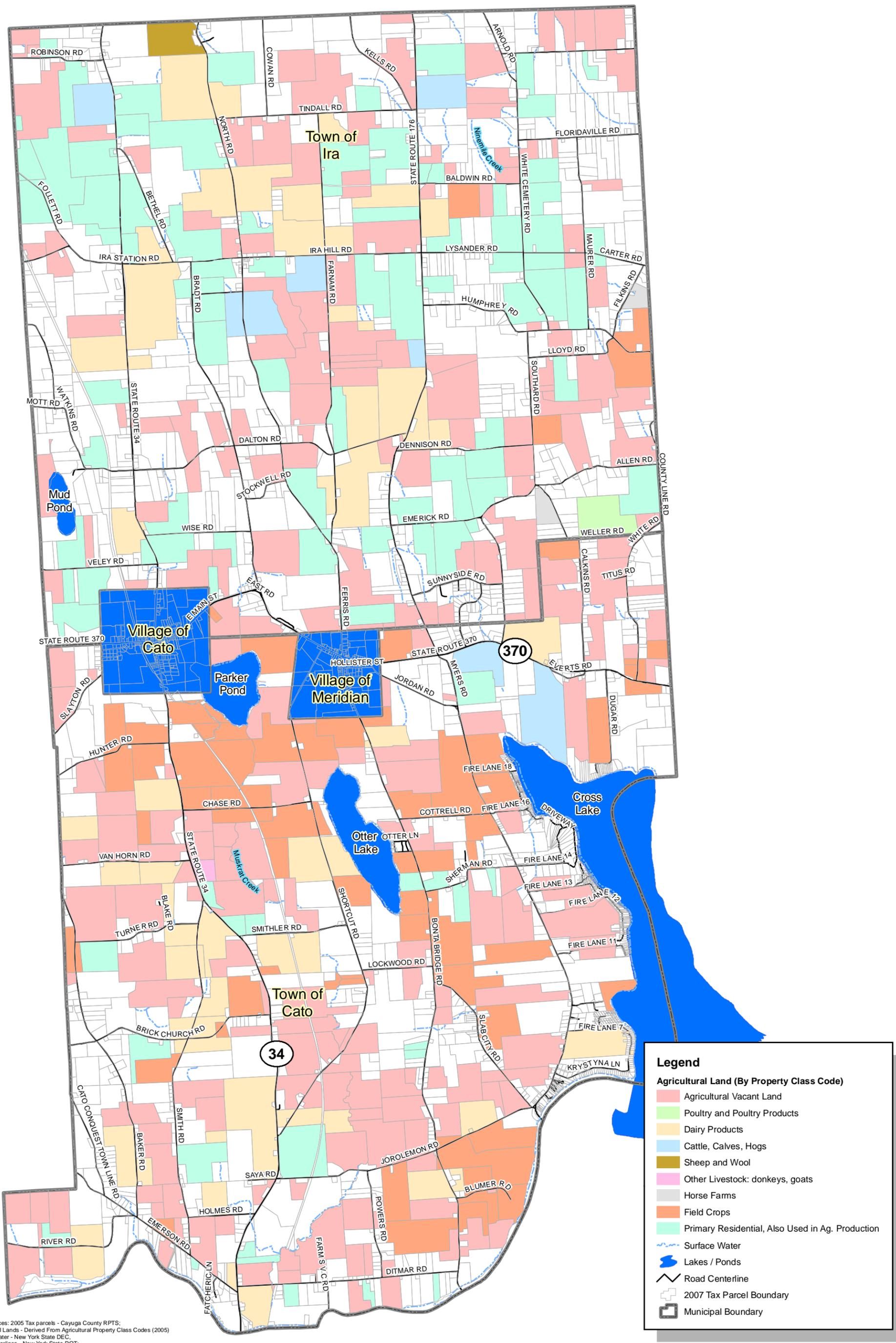
Agriculture has traditionally been the economic engine of the Town of Cato. Approximately 61 percent of the Towns land area is comprised of the following agricultural operations (Figure 6-4):

- *Dairy Farming:* Milk, butter and cheese production;
- *Livestock:* Cattle, calves, and hogs;
- *Field Crops:* Potatoes, wheat, hay, beans, corn, oats, and other field crops;



Graphic 6-10 – Cato Agricultural Land Use

(Page Reserved for Figure 6-4)



Data Sources: 2005 Tax parcels - Cayuga County RPTS;
 Agricultural Lands - Derived From Agricultural Property Class Codes (2005)
 Surface Water - New York State DEC
 Road Centerlines - New York State DOT;
 Municipal Boundary - U.S. Census

Legend

Agricultural Land (By Property Class Code)

- Agricultural Vacant Land
- Poultry and Poultry Products
- Dairy Products
- Cattle, Calves, Hogs
- Sheep and Wool
- Other Livestock: donkeys, goats
- Horse Farms
- Field Crops
- Primary Residential, Also Used in Ag. Production
- Surface Water
- Lakes / Ponds
- Road Centerline
- 2007 Tax Parcel Boundary
- Municipal Boundary



**TOWN OF IRA - TOWN OF CATO
 JOINT COMPREHENSIVE PLAN**

COMMUNITY INVENTORY

Town of Ira Town of Cato

Agricultural Lands of Ira & Cato

Cayuga County New York

2/6/07



FIGURE
6-4

Project No.
1069.001

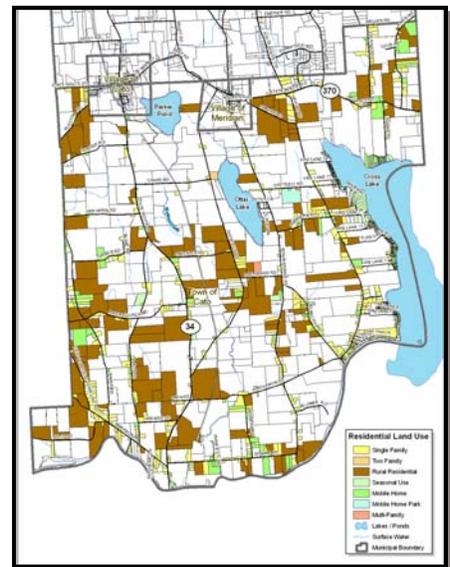
- *Vacant Farmland:* Land used as part of an operation that does not have living accommodations and cannot be classified in another agricultural category.

The Town of Cato is included in Cayuga County Agricultural District No. 4 (CAY04) created in 1978. As mentioned in Section 6.4.2.1, Agricultural Districts provide the necessary tools to enable farmers who wish to remain in farming to do so. Additionally, non-farm operations who wish to develop in Agricultural Districts must show mitigative measures so as to not adversely affect existing farms.

Throughout the comprehensive planning process, it is clear that tools and strategies will need to be identified to ensure the Town of Cato can preserve its agricultural vitality and rural climate while also encouraging consistent economic growth.

6.5.1.2 Residential Land Use

Similar to Ira, approximately 61 percent of the total land area in Cato is dedicated to various types of residential land use which exhibit patterns of typical rural agricultural communities with farmsteads, scattered large lot development, and suburban sprawl. Again, the intensity of development in general is a direct result of the lack of municipal water and sewer infrastructure outside of Villages of Cato and Meridian. As a result, larger lots are required to accommodate on-site septic systems and to ensure groundwater protection. As illustrated in Graphic 6-8 much of the Cato's housing stock in on larger lots, categorized as Rural-Residential which are located along some of the higher volume roadways such as Route 34.

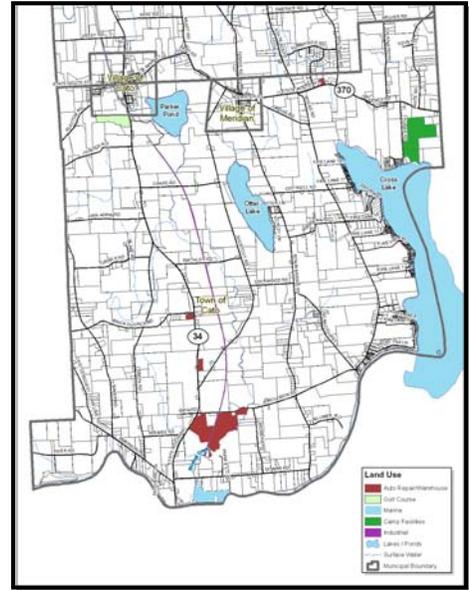


Graphic 6-11 – Cato Residential Land Use

6.5.1.3 Commercial, Industrial, and Entertainment Land Use

As discussed in prior sections, very few commercial, industrial or entertainment developments exist outside of the Villages of Cato and Meridian. These land uses are by far the smallest development sectors within the Town of Cato, which is again largely due to the lack of public infrastructure in place.

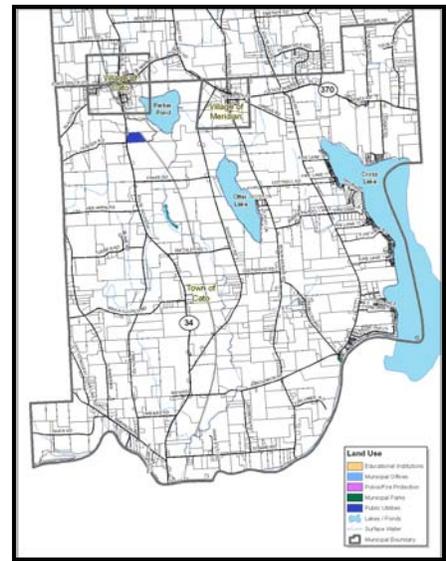
Graphic 6-9 illustrates the sparse location of these uses. Typically, any major commercial or industrial developments will require public water and sewer services. As such, a plan should be introduced that identifies a phased approach for implementation of these services in order to position the Town of Cato to be more attractive for public and private investments for future commercial and industrial development projects.



Graphic 6-12 – Cato Commercial Land Use

6.5.1.4. Community and Public Service Land Use

Public service uses in the Town of Cato include electric and communications utilities (transmission lines, substations, cell towers, etc.) but not municipal utilities such as water supply. These are considered community services and include municipal facilities such as highway garages, fire and emergency services, stations, schools, and community centers. As illustrated on Graphic 6-10,



Graphic 6-13 – Cato Public Service Land Use

most of these land uses are located adjacent to the Villages of Cato and Meridian or along the Cross Lake.

6.5.1.5 Vacant Land and Natural Areas

The Existing Land Use Map identifies all vacant (undeveloped) and significant natural or forested areas. These include parcels that may have significant development constraints such as steep slopes, wetlands, critical habitat, and stream channels; as well as inactive farmland and developable properties.

6.5.2 *Combined Analysis of Existing Land Use – Towns of Ira and Cato*

The existing land uses in the Towns of Ira and Cato provide a fairly wide variety of housing, agricultural, and recreational opportunities for residents in the Town as well as the Villages of Cato and Meridian. The Hojack Trail and Cayuga County Trail system traverses the Towns north to south and provides a local multi-modal system for recreational and transportation needs.

Locally, there are suburban and rural housing opportunities with a relatively wide range of values. Areas adjacent to the Villages of Cato and Meridian provide a more typical suburban strip environment, whereas the balance of the housing stock exhibits an aging housing stock representing a variety of styles (located mostly on large lots). Areas of more recent suburbanization are located along primary corridors such as State Routes 370 and 34, and particularly in the eastern portion of the two Towns. Residents who live here generally do so to allow themselves more land and to escape nearby urban and suburban environments and the recent growth trend in residential development is coming from the east or Syracuse suburban area. Although rural, residents can still get to regional, commercial, recreational, cultural, and employment centers quickly; there is limited availability of infrastructure to support commercial growth locally. Due to low densities and the rural living environment still present in Ira and Cato, primary transportation corridors still provide a high level of functionality and efficiency which allow residents to travel to the Cities of Auburn, Syracuse, Rochester, the Village of Weedsport and other regional destination centers with ease.

If the future brings additional growth to the area, large lot development may become problematic. As Ira and Cato strive to boost local economies, pursue municipal water and sewer infrastructure, and improve the transportation system, local officials will likely find that critical densities to help absorb associated costs are spread too thin to permit feasible and cost effective improvements. Additionally, continuing sporadic large lot development will, in time, fragment Ira and Cato’s vast natural resource and open space areas, constraining the creation of future contiguous greenway networks and conservation areas.

In summary, the cumulative effect of unchecked land use planning into the future will undoubtedly impact local government efforts for future public improvements and limit the economic boost needed in order to attract future residents, businesses and industries. Volume I of the Comprehensive Plan identifies planning objectives and strategies for land use planning and future growth management within the community.



Photo 7 – Village Housing Character

6.6 Existing Zoning Regulations

Historically, zoning has been the basic form of land use control employed by local governments in the United States. The purpose of zoning is to regulate the use and density of land, and the siting of types and forms of development. Zoning ordinances are tools to implement a community’s vision of future land use and quality of life – as prescribed by a community’s comprehensive plan.

For decades following WWII, an increasing number of urban, suburban, and even rural towns adopted zoning regulations to control growth. These regulations divided communities into districts (zones), and imposed different land use controls on each district to ensure incompatible land uses weren’t adversely



Photo 6-8 – conventional Suburban Subdivision

affecting one another. Unfortunately, the adoption of conventional suburban zoning and subdivision regulations for many communities has created a canvas of standardized, sprawling land development patterns incompatible with other equally important aspects of strategic planning: community design, environmental protection, transportation planning; and the more subjective critical aspects such as ambience, character, and vitality.

Many communities are now looking beyond the conventional single use zoning practice and are encouraging mixed-use and “cluster” developments that are served by public infrastructure and highly accessible and efficient multi-modal transportation corridors. This section outlines Ira’s current zoning regulations and subdivision practices in order to better determine how regulatory controls can accommodate the community’s vision for the future.



Photo 6-9 – Cluster Developments

6.6.1 Town of Ira Zoning Regulations

The Town of Ira is currently divided into the following Zoning Districts (Figure 6-5):

- Agricultural/Residential District (AR)
- Residential Planned Development District (R-PDD)
- Commercial Planned Development District (C-PDD)
- Industrial Planned Development District (I-PDD)

6.6.1.1 Agricultural/Residential District (AR)

As described in Article IV Section 400 of the Town of Ira Zoning Ordinance, “this district is intended for rural portions of the Town which are characterized by farms and low density residential uses.” Minimum lot size requirements within the AR district are 80,000 SF for single-family uses, 120,000 SF for two-family, and 150,000 SF for multi-family uses. Minimum lot widths of 250 and 300 feet are required for 80,000 SF and 120,00 SF, respectively,

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within the AR district. The extensive area requirements in the AR district are to ensure there is enough area for on-site septic and water facilities, to provide optimum conditions for groundwater protection, and to preserve the pattern of large, contiguous agricultural use parcels. Almost all of the land area in the Town of Ira is zoned Agricultural/Residential as shown on Figure 6-5.

6.6.1.2 Planned Development Districts (PDD)

Planned Development Districts (PDD) are typically organized as a parcel or group of parcels that is planned, developed, operated, and maintained as a unified development. In such districts, diverse uses may be brought together to achieve a compatible development plan. The use and area requirements of the zoning district in which the PDD is located are replaced by the requirements specific to the PDD development plan, or General Project Plan. The establishment of the PDD typically requires an amendment of the local zoning law. As outlined in the Town's local zoning ordinance, "the purpose of the PDD is to provide flexible land use and design regulations through the use of performance criteria and land impact consideration, so that development incorporating individual building sites, common property, singular land use, and/or mixed land uses may be planned and development as a unit".

A PDD in the Town of Ira should achieve the following objectives as outlined in Section 501.A:

- Should be self-sustaining and non-conductive to expansion outside its boundaries unless future expansion is compatible and functional with the PDD,
- Provide open space as an integral part of the Plan,
- Preserve trees and other natural site features,

- Allow for the creative use of land that allows for the transect model of development – the transition of land from rural to urban, and
- Provide a development pattern that achieves the objectives of the Town Comprehensive Plan.

Ira’s Zoning Ordinance currently contains provisions for a residential PDD, commercial PDD, and an industrial PDD, which all adhere to a similar set of density and open space requirements based on land use.

6.6.2 Town of Cato Zoning Regulations

The Town of Cato is currently divided into the following Zoning Districts (Figure 6-6):

- Residential (R)
- Agricultural (A)
- Recreational (S)
- Industrial (I)
- Disposal (D)
- Planned Development (PDD)

The predominant zoning districts in terms of total land area in the Town of Cato are Residential (R), Agricultural (A), and Recreation/Seasonal (S).

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6.6.2.1 Recreation/Seasonal (S) District

It is evident per the Town Zoning Map that the Recreation/Seasonal district encompasses all waterfront parcels, forested, and other areas with significant environmental features such as streams, wetlands, and marshes. This district generally surrounds the Town’s Residential and Agricultural districts, thereby providing ample opportunity for future greenways to link residential neighborhoods, agricultural areas, and the Town’s vast natural resources, in addition to providing buffers between agricultural and residential areas.

Residential structures are permitted in areas of private ownership and are subject to the provisions of the Residential (R) District. Additionally, public recreation facilities such as marinas, camp grounds, and picnic areas are also permitted in the Recreation/Seasonal (S) District.



Photo 6-10 – Seneca River

6.6.2.2 Residential (R) District

Like Ira, the Town of Cato’s Residential (R) District requires a minimum lot size of one (1) acre unless there are public sewer facilities. Single family units and traditional agricultural operations are permitted uses in this district. Most of the Residential districts in the Town are adjacent to major town roads to provide for adequate and efficient access. Uses such as schools, libraries, office buildings, and clubhouses are permitted with special use permit by the Town Board. Residential projects proposed for more than one lot are subject to the Town’s Subdivision Regulations which ensure adequate public infrastructure is developed to satisfy the public health, safety, and welfare of current and future residents.

6.6.2.3 Agricultural (A) District

The Towns Agricultural Districts are the most prevalent of all zoning districts in the town, primarily to accommodate the Town's historically predominant land use. The Villages of Cato and Meridian are mostly surrounded along their southern boundaries by this district. Additionally, similar to the Residential District, this district also generally is adjacent to the primary town roads which can provide easy access to regional centers and major arterials.

6.6.2.4 Industrial (I) District

The Town's only zoned industrial areas are located along the southern boundary of the Town along Short Cut and Ditmar Roads. Historically, this area contained farmland but is now beginning to transition toward highway oriented commercial development. The most likely reason for this transition is the proximity of the southern portion of the Town to the New York State Thruway and State Route 34.

6.6.2.5 Planned Development District (PDD)

The PDD District is "designed to provide flexible land use and design regulations through the use of performance criteria so as to encourage maximum efficiency in development in a manner compatible with existing land use and environmental constraints." Currently, there are no areas in the Town of Cato zoned for a Planned Development District. However, they are intended to provide controls for a mix of uses and provisions for environmental protection that would otherwise not be permitted in other Town zoning districts. Per Section 76-10.C of the Cato Code, the minimum area for the development of a PDD must be five (5) acres of contiguous lands; the intensity of which would be dependent upon existing environmental constraints. Like the Residential District, the Planned Development District is subject to provisions outlined in the Town Subdivision Regulations.

6.6.3 *Analysis of Existing Zoning Regulations – Town of Ira*

Zoning is a growth management tool that is essential for communities with diverse land uses to prevent conflicts as a result of incompatible developments adjacent to each other. Clearly, the current zoning in the Towns of Ira and Cato is the result of past planning efforts that require review and updating to accommodate current and anticipated economic conditions and needs of the Towns. The primary zoning district in the Town of Ira is Agricultural/Residential which requires a minimum of two acre lots. Historically, this development pattern has been suitable given the modest demand for development in the Town. However, as regional market trends change in proximity to the cities of Auburn, Syracuse, Oswego, and Rochester, the Town of Ira is likely to become a destination for residents who are willing to commute to employment opportunities in other communities for more space and a rural lifestyle. The result is a growing bedroom community with growing demand for single family units on larger parcels of land. As such, policy and potential infrastructure investments should be in place to ensure that the community is ready to accommodate future demand for development. Without a plan in place to address future growth, development in the Town will likely continue in the form of sprawl, which would consequently require more costly investments for future public water, sewer, and transportation infrastructure. Therefore, the Comprehensive Plan will address a critical incentive to spur a desired development pattern as identified throughout the community visioning process.

In essence, the Town's current zoning regulations, although adequate to address current development conditions, may constrain future growth and place an additional development pressure on active agriculture. The AR District places restrictions and special requirements on development and uses within the established zoning districts, and the existing Planned Development Districts will not always meet the needs of future projects which may be driven by the market place. Obviously, a major constraint on development includes the lack of available public water and sewer, accessibility to employment centers, and the desire to preserve agricultural lands and environmentally sensitive areas. As the Town moves forward with the Comprehensive Plan, policy should be incorporated to address the continued preservation of agricultural lands and rural living, while accommodating growth as these areas are the most vulnerable to conversion to non-agricultural uses (especially residential land use).

6.6.4 Analysis of Existing Zoning Regulations – Town of Cato

The Villages of Cato and Meridian are mostly surrounded on their southern boundaries by the Town’s Agricultural District. Typically, a community would want to take advantage of its population centers by encouraging future growth in an orderly and logical outward progression in order to maximize its proximity to existing public infrastructure and utilities, commerce, in an effort to keep capital costs to a minimum as infrastructure improvements or extensions are sought. With provisions for large lots and the “de-densification” the Agricultural District encourages agricultural operations as an economically viable land use. The current zoning of agricultural districts surrounding the Villages of Cato and Meridian will help to encourage agriculture while the Comprehensive Plan envisions “smart growth,” or sustainable approach to future land development in proximity to the village centers. Throughout the Comprehensive Planning process, the Town will need to identify needs and opportunities that maximize growth potential adjacent to its population centers.

6.6.5 Analysis of Open Space Opportunity

The Town of Cato is blessed with an abundance of land along the Seneca River and historic canal system, as well as Cross Lake. It is important to provide, to the extent practicable, public access to these resources. In recent decades, communities across New York State are recognizing how unique and important having waterfront access is and are reverting attention back to their waterfronts for public recreation and alternative development scenarios. Through various planning tools and techniques, these lands should be preserved for public gain rather than private development.

The residential zoning throughout the Town of Cato, if maintained, will likely promote typical suburban sprawl and not be self-sustaining, as opposed to concentrating future development in areas where public infrastructure systems are most feasible.

6.6.6 Local Subdivision Regulations

Subdivision regulations are typically implemented as added measure to help protect communities and ensure building lots provide a wholesome living environment for future residents. These regulations generally ensure adequate lot size, public access, and the availability of public services to each lot created. They also help to conserve natural, scenic, historic and recreational areas. It is necessary for future subdivision regulations to be in harmony with the recommendations of this Comprehensive Plan.

Whenever any subdivision of land is proposed in the Town of Ira and Cato, and before any structure can be built on such subdivided land, a developer or land owner must apply for preliminary and final plat approval, showing how land will be divided. The subdivision must comply with requirements pertaining to street improvements, drainage, sewerage, water supply, fire protection and similar aspects of services. Subdivision regulations also typically address issues of access and layout of streets within the Towns.

The current subdivision requirements for Ira address some of these issues, and should be encouraged to continually enforce these regulations in the future in order to preserve the function of local roads, collector streets and any arterials that may provide the safe and efficient flow of traffic throughout. Diligently enforcing the proper zoning and subdivision regulations throughout the development process will help ensure activity does not adversely affect the local transportation network and also ensure proposed uses are compatible with one another.

Similarly, Cato's Subdivision regulations should be strictly enforced throughout future development projects. Cato may want to consider incorporating and expanding upon clustering provisions, especially to minimize impacts to the vast environmental features throughout much of the Town and along its waterfront.

6.6.7 Relevant County Codes

Certain zoning and planning actions must be referred to the Cayuga County Department of Planning as required by Sections 239-1, 239-m, and 239-n of New York State General Municipal Law. Area and use variances, special use permits, site plan

reviews, subdivisions, zoning map amendments, zone text amendments are among the actions subject to this review. However, the determining factors on whether these actions must be referred to the county are whether the actions affect property lying within 500 feet of: a municipal boundary; the right-of-way of a county or state highway; the boundary of any county or state owned property on which a public building or institution is located; or the boundary of a farm operation located within an agricultural district, as defined by Article 25-AA of the Agricultural and Markets Law (excluding area variances).

The Towns of Ira and Cato must consider this when applications for development projects are submitted to the local boards for review.

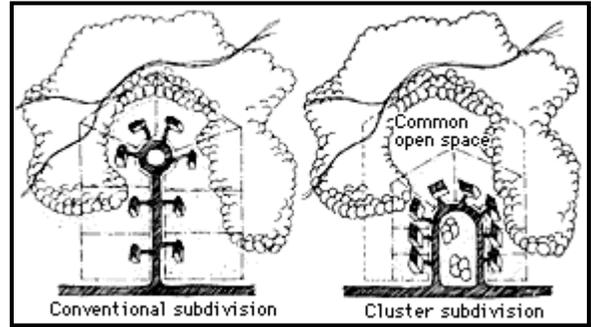
6.7 Growth Management Tools and Trends for Rural Communities

The underlying premise for the production of this joint comprehensive plan is to develop a set of guidelines for the Towns of Ira and Cato to follow so they can continue to plan for future development and to ensure it occurs in a manner that is consistent with the vision for a quality community – a place that is attractive to live and work.

Growth management is set of techniques used at the local and regional levels to ensure that as the population increases there are adequate services available to meet demands such as the protection of natural resources, sufficient and affordable housing, delivery of utilities, preservation of historical buildings and places, and the provision of areas for economic development. The most common growth management tool is the practice of zoning – an effective tool when based on a community’s comprehensive plan. However, zoning is just a fraction of the strategic growth management tools available to local municipalities. The following discussion provides a brief description of some of the growth management tools and techniques that may prove viable to the Towns of Ira and Cato based upon this Comprehensive Plan Inventory. These tools are not direct recommendations, but rather are intended to provide a basic understanding of land use planning strategies proven to be successful policy.

6.7.1 Cluster Developments

Cluster Development, or “clustering” is the consolidation or densification of a particular development’s residential units on a portion of the buildable lot, reserving a significant amount of the site as protected open or public space. Clustering is a means of permanently protecting rural character and important environmental resources in new housing developments, while still providing homeowners with quality housing and landowners the opportunity to develop their property.



Graphic 6-14 – Conventional vs. Cluster Development

Current zoning practices in the Towns of Ira and Cato establish **minimum** lot sizes, setbacks, and widths that developers must adhere to throughout the subdivision process. This typically leads to developments that maximize the number of lots based on the total acreage of a parcel. For example, if the local code requires a minimum lot size of 2 acres and the developer has a 40-acre parcel, the site could be developed with 20 residential units unless there are major site limitation such as wetlands, streams, etc.,. This can also be expressed as the developer can build 1 dwelling unit (du) per 2 acres of land – so for a 40-acre parcel, the developer is entitled to build 20 dwelling units. By utilizing this density rationale, the developer is still limited to 20 total units, but the smaller lots can be clustered on a portion of the site while the remainder remains open space for recreational trails, preservation of forested areas, streams, or scenic vistas; all while retaining the number of units permissible for that site.

6.7.2 Incentive Zoning

Incentive zoning may help advance a community vision as established in the Comprehensive Plan by requiring developers to provide specific community amenities and benefits in exchange for zoning incentives, such as increased density within a particular zoning district. Communities have successfully used incentive zoning for the protection of farmland, construction of park lands, and the provision of affordable

housing. The incentive program would generally provide a public benefit that the municipality might desire such as bicycle/pedestrian trails through a development to an adjacent public park or to link different parts of the community. Examples of other public benefits that may be specific to Ira and Cato is the provision of low to moderate income housing, the donation of public open space for a park, or the donation of public access to Cross Lake for a beach or boat launch.



Graphic 6-15 – Incentive Based Zoning

Typically, amenities included through incentive zoning practices are given to the municipality at no additional cost in exchange for the density increase. As such, the municipality would ensure the amenities received are worth the incentives provided as part of the subdivision review process.

6.7.3 *Transfer of Development Rights*

At such time demand for development raises concern over the loss of farmland, a Transfer of Development Rights (TDR) Program could be used as a tool for farmland protection, while directing growth to areas more suitable for development. The TDR is an effective method of growth management that may be useful to Ira and Cato well into the future. A traditional TDR program restricts development in areas that the community wants to preserve, and permits areas that the community wants to direct growth to develop at a higher density.

To establish such a program, the municipality would designate specific areas containing the resources they want to preserve as “sending areas,” and the locations identified as areas for future growth as “receiving areas.” Through the TDR program, development rights are sent from the sending area to the receiving area. As such, lands in the sending area will be forever protected by overlaying a conservation easement on the parcel, while lands in the receiving area will be more densely developed.

For Ira and Cato, a TDR program would require an up-front planning process as sending and receiving area would have to be carefully identified and established as part of the official zoning map. In order for the TDR to be a viable growth management tool the Towns would need to consider the development of public water and sewer facilities to accommodate the new growth over time. Areas with public water and sewer would be the logical locations where future growth would likely occur.

6.7.4 Capital Improvement Planning

Due to the lack of existing public water and sewer facilities in the Towns of Ira and Cato, Capital Improvement Planning will likely prove to be an important step in maintaining a sound fiscal climate as each community identifies long-term growth management strategies. Capital Improvement Plans (CIP) are short-term plans (typically five or six years) that identify where major, non-recurring facilities will be provided. The CIP details each capital improvement project, estimated project cost, description, and funding source; and could include such projects as improving transportation facilities, new public buildings, construction of public water and sewer facilities, and parks planning.

The overall goal of the CIP is to summarize and phase the community's fiscal expenditures while coordinating public investment with the town comprehensive plan and policies in place in order to properly manage long-term investments. Coordinating with the comprehensive plan and using local zoning and subdivision regulations as a guide, CIP's can provide the Towns of Ira and Cato with an integral tool for implementing comprehensive, strategic, and development plans. Specifically, the CIP may include the following:

- Installation, maintenance, and replacement of stormwater and sanitary sewer utilities;
- Use, maintenance, and replacement of stormwater best management practices;
- Constructing and renovating sidewalks, curbs, gutters, and streets; and
- Right-of-Way acquisitions for future public facilities such as trails and bikeways.

6.7.5 Strategic Economic Development Practices

The loss of agricultural farmland and existing open space can often cause some unexpected economic challenges for rural communities such as Ira and Cato. In these areas, farmland, open space, and potential recreation areas tend to be economic drivers that could attract businesses, residents and tourists. Sprawling development as a result of uncoordinated land use planning will compromise the resources that are inevitably the core of the community's economy. This type of development rarely spurs the economic benefits anticipated, which is why it is extremely important to preserve lands in areas that will be defined as potential hubs for future agriculture, commercial, residential and industrial activity. It is important to implement strategies that will cohesively fit those uses into the rural fabric of the community.

Costs of Community Service (COCS) studies conducted in more than 83 communities show that owners of farms, forests, and open lands pay more in local tax revenues than it costs local governments to provide services to their properties. Residential uses in areas with no public utilities, in contrast, are a net drain on municipalities: it costs local governments more to provide services to homeowners than residential landowners pay in property taxes (COCS Facts Sheet).

For rural communities such as Ira and Cato, practicing smart growth and strategic economic development means supporting and encouraging commercial growth existing development centers such as Villages of Meridian and Cato. This is accomplished by attracting and encouraging growth and investment in and adjacent to these existing neighborhoods in an effort to preserve and enhance the rural character of the Town. In contrast, a lack of strategic land use planning efforts to manage commercial growth along highways draws economic activity away from existing centers. This can eventually reduce commercial viability and dramatically increase infrastructure costs. Smart growth and strategic economic development, however, simultaneously preserves open space and farmland while ensuring that there is an adequate supply of housing for families with a mix of incomes and provides the economic climate for a mix of retail, offices, restaurants and other services that residents can access by automobile, bus, bike, or foot.

Economic development in rural areas such as Ira and Cato poses special circumstantial challenges because of its geographic location and sparse population. The lack of adequate infrastructure, difficulty in accessing resources and professional services, lack of access to capital, and proximity may constrain local finances to local market centers. In recent decades many communities in New York State have tended to fall into two broad categories when dealing with rural economic development strategies, they include:

- Attracting businesses to the area or deter existing companies from relocating by developing industrial parks and offering tax abatements and other financial incentives, and;
- Stimulating the creation or expansion of small businesses through micro-enterprise, business incubator, and related programs.

In the wake of the decline in former industrial and manufacturing sectors of the economy in the northeast, smaller communities are generally more successful in pursuing the latter strategy.

The quality of life offered in Ira and Cato can be an important competitive advantage when it comes to economic development. This may be a key strategy to attracting new investments and quality jobs.

6.7.6 Conclusion

The compilation of this inventory serves as the foundation for the community Goals, Objectives, and Strategies outlined in Volume I of the Comprehensive Plan. By identifying the existing natural, physical, and social characteristics of Ira and Cato, future programming for sound local planning and policy can be addressed in a phased and coordinated manner. In addition, the analysis of existing conditions and current trends will help the community to envision future trends that may either impact the community or provide progressive means to mitigate the impact of undesirable land use activities. This serves as the baseline analysis of the community that supports adoption of the Comprehensive Plan as a GIS-based Generic Environmental Impact Statement (GEIS).