

SECTION II – INVENTORY & ANALYSIS

INTRODUCTION

This Section documents the current condition and uses of the Tioughnioga River Corridor in Cortland County. It is a comprehensive look at issues affecting the River, and is intended to serve as a benchmark for the current status of the Corridor. It is also intended to be used as a basis for formulating actions, activities, and policies to preserve, protect, enhance, develop, and revitalize the Tioughnioga River Corridor.

Flowing southward from Onondaga County to the north, the Tioughnioga River in Cortland County consists of the East Branch and West Branch, which join in central Cortland County to form the Main Branch. Eventually, the Tioughnioga flows into the Otselic River near Whitney Point, just south of Cortland County. The Tioughnioga River is part of the headwaters of the Susquehanna River basin.

The Tioughnioga River corridor was created as a result of the glacial epoch, or Pleistocene Ice Age, that carved the beautiful and scenic Finger Lakes Region: its wonderful lakes, rivers, tributaries, valleys, ridges, and hills. As the melting waters made its way from the Finger Lakes, the Tioughnioga and Susquehanna River basins were formed among the glacial valleys. The City of Cortland, Cortland County's sole city, rests at the confluence of the East and West Branches of the River and at the convergence of seven of the glacial valleys. Its location and elevation (some 1,129 feet above sea level) has dubbed it the "Crown City of New York". Eventually the Tioughnioga and Susquehanna Rivers flow some 400 miles to the Chesapeake Bay and the Harve de Grace area of Maryland.

Before the first white settlers arrived, Native Americans had named the river Tioughnioga, which means *river with bank of flowers*. Local evidence exists of Native American artifacts dating back some 10,000 years in the Central New York area. Paleo-Indians appear to be the first to have settled here. In Cortland County, Native American artifacts date to some 5,000 years ago and are documented by SUNY Cortland. Prior to the Revolutionary War, the Cortland area was Onondaga Indian Nation territory.

The modern beginnings of Cortland County began in 1791. The Tioughnioga River enabled settlers, usually of European origin, to make their way to Cortland County by using the Tioughnioga as a mode of transportation and discovery. Many were Revolutionary War soldiers who received tracts of land as payment for their military service. Back then, Cortland County was included in the Herkimer County Military tract. The first settlers to the area that would eventually become Cortland County made their way to the general area of present day Town of Homer. Once early settlements became established, the Tioughnioga River brought more even more settlers and provided a means for the movement of goods and materials to and from Cortland County. Most of Cortland County's earliest settlements were, understandably, built close to the riverbanks.

In the mid-1800's, Cortland County was the site of one of the earliest railroad corridors in the United States, which was built along and near the Riverbanks with spurs to the east and west. At the time, community leaders banded together to connect the cities of Syracuse, Cortland, and Binghamton by rail to such cities as Montreal to the north, and Philadelphia to the south. The railroad was completed in 1854 and was controlled by the Syracuse and Binghamton Railroad. Control of the line passed to the DL&W in 1869. The rail line served as a major carrier of passengers and goods into the late 1950's. Today the railroad is owned by the New York, Susquehanna and Western (NYS&W) and is used almost exclusively for freight. Passenger usage is limited to special events such as the Marathon Maple Festival. It is one of the few rail lines in the country with the capacity to provide a ride in historically accurate equipment.

In the 1960's, Interstate 81 was built parallel to the River in Cortland County. Just as the advent of the railroad had diminished the River as a transportation mode, the introduction of the automobile into American life resulted in a decreased reliance on the railroad. This rendered the Tioughnioga River as primarily recreational, with little impact or influence on the local economy or day-to-day life of County residents. As detailed throughout the rest of this Section, this status continues today.

1. EXISTING LAND USES

The Tioughnioga River Corridor retains its historical and traditional development pattern of distinct population and development centers, i.e., clearly defined hamlets, villages, and cities surrounded by open space. Agriculture is by far the most common land use, accounting for over 50% of all land. This demonstrates that Cortland's agricultural legacy continues to impact the community to this day. Residential uses, the next most common land use, account for 22.5% of all acreage, with vacant lands and abandoned farmlands accounting for just under 12% of all acreage. Commercial and industrial uses account for 8.4% of land use, nearly 40% of which are gravel mines.

The acreage and percentage of current land uses in the LWRP study area are as follows:

LAND USE	ACREAGE	Percent
Agricultural	7787.20	50.16%
Residential	2409.67	15.52%
Residential w/acreage	1083.07	6.98%
Vacant Lands	1763.73	11.36%
Abandoned Farmlands	42.86	0.28%
Commercial	601.44	3.87%
Recreational	263.73	1.70%
Community Services	234.11	1.51%
Industrial	193.08	1.24%
Sand & Gravel Mines	513.80	3.31%
Utilities	303.34	1.95%
Park & Forest	329.82	2.12%
TOTAL	15525.85	100.00%

NOTE: Acreage for Residential w/acreage, Abandoned Farmlands, and mines are not included within any other category.

Current land use patterns for each Branch of the River are detailed following:

East Branch

The East Branch is the most rural segment of the Tioughnioga River Corridor, particularly in the upper reaches in Truxton and Cuyler, in northern Cortland County. In these areas, land uses consist primarily of open space, including agricultural uses, abandoned farms, vacant lands, and residences with land.

The hamlets of Cuyler, Truxton, East Homer, and Crains Mills, have smaller lot sizes and greater densities than the balance of the area. By far, residences account for the greatest land uses in these development concentrations, with only a handful of

commercial and other uses. There is only one commercial use located outside of the hamlets, on Youngs Crossing Road on the Homer-Truxton border.

There are only two industrial uses in this area: on the East River Crossing Road in the Town of Homer and in the hamlet of East Homer. In addition, the East Branch also has two gravel mines, one on West Keeney Road in the Town of Cuyler and one that straddles the River in southern Truxton.

Land uses and character change significantly in the Town of Cortlandville, with a noticeable change immediately at the Town of Homer-Cortlandville border: from vacant and agricultural lands to commercial, residential, and community services. This area includes one of the more intensive industrial uses along the River, Suit-Kote, which manufactures asphalt and paving mixtures. Suit-Kote also operates gravel mines elsewhere in the River Corridor, controlling the largest percentage of commercial/industrial property in the Corridor. The East Branch in the Town of Cortlandville is also home to the Country Music Park, a campground, music park, and museum.

West Branch

The West Branch of the Tioughnioga River, north of the City of Cortland, includes the River itself, both upper and lower Little York Lake, Song Lake, and Tully Lake. In general, the West Branch, while still predominantly rural, is more heavily developed and populated than the East Branch. As with the rest of the Corridor, traditional settlement patterns remain, with the clearly defined hamlets of Preble and Little York and the Village of Homer separated by open space. The East Branch corridor is bisected by Interstate 81, and includes the Exit 13/Preble off-ramp and the Preble rest area. A rail line roughly parallels I-81 in this area.

The northernmost reaches of the River Corridor consist of Song and Tully Lakes, located on the boundary between Cortland and Onondaga County. In fact, the northern end of Tully Lake is located in Onondaga County. Relatively dense residential development lines the lakeshores, interspersed with parks, forests, and vacant land. Camp Hoover, a Girl Scout camp, covers most of the isthmus that separates the lakes. There are no industrial or commercial uses in this area of the Corridor.

The area between the northern lakes and Little York Lake is dominated in land use by active agricultural, vacant, and park/forest lands. Two major exceptions are a grouping of commercial/industrial uses near Exit 13 of I-81, and the Preble hamlet. Industrial/commercial uses at Exit 13 include a closed service station, Paul Bunyan Wood Products, Barden Home manufacturers, and the closed Emergency-One fire truck manufacturing plant (formerly Saulsbury Equipment).

The Preble hamlet, just south of Exit 13, is primarily a dense concentration of residential homes with one commercial establishment. There is one industry, and several commercial uses just south of the hamlet center. There is also a small commercial

grouping just east of the hamlet on East Clark Road, where it intersects with the aforementioned rail line. One industrial use property is located midway between the hamlets of Preble and Little York.

The hamlet of Little York, on Little York Lake, is similar to Song and Tully Lakes in that relatively dense residential development lines the lakeshore. Dwyer Memorial Park, home to the Cortland Repertory Theater, is located on the north end of Little York Lake, and also encompasses much of the east shore of Green Lake. A small number of small-scale commercial establishments are located on Route 281 in the hamlet, and on Little York Crossing Road.

Agriculture and open space, with scattered residences, again dominate land usage in the area between the Little York hamlet and the Village of Homer. There is one housing subdivision just east of Route 281 consisting of approximately 35 homes. A large gravel mine is located just north of the Homer Village. This mine straddles I-81 and is clearly visible from the interstate. A cluster of commercial businesses and residences are sandwiched between the gravel mine and the northern limits of the Village.

The Village of Homer is the largest Village in the corridor and is characterized by dense residential and commercial development. The Village has a clearly defined Central Business District, dating from the late 1800's. Later 20th Century commercial development is located along Route 281 and other commercial uses are scattered throughout the Village. The Village also has a high percentage of "community services", including a number of churches and the facilities of the Homer Central School District. Durkee Park is located on the River in the northeast corner of the Village.

The southern end of the Village, and the portion of the Town of Cortlandville between the Village of Homer and the City of Cortland, includes Albany International, a major County industry, and late 20th century commercial "sprawl" development. Casey Fields, privately owned recreation fields that are leased to the Homer School District, are also located in this area.

City of Cortland

The City of Cortland is, by far, the largest development concentration in the River Corridor, and all of Cortland County. The City is located at the confluence of the East and West River Branches, which join in the City's east end to form the Main Branch of the Tioughnioga River. The majority of the land area of the City is located west of the Tioughnioga.

In addition to large, dense, concentrations of residential development, the City has a large, historic, Central Business District located approximately a mile from the River. A secondary commercial center is located along the River at Exit 11 of I-81. This secondary area consists of hotels, fast food restaurants, and a shopping plaza. Other commercial areas are scattered throughout the City, most notably along Port Watson Street near the Port Watson Street Bridge. Yaman Park, the City's largest recreation park,

is located in the northeast corner of the City on the east bank of the River. Dexter Park is also located in the River Corridor. The majority of the City's waterfront area consists of vacant land and commercial uses, with only small areas of residential development.

Cortland Cable Company and Cortland Line Company, manufacturers of fishing line and equipment, are industrial uses located directly on the River. The City also has six to seven tracts of industrial land scattered throughout the City, including the Noss Industrial Park. A gravel mine is located on the City's north side. The City's Wastewater Treatment Plant is located in the southeast corner of the City and discharges effluent into the River a short distance south of the Port Watson Street Bridge.

Main Branch

The upper portion of the Main Branch, just south and east of the City of Cortland is dominated by industrial and commercial properties, with limited amounts of residential, agricultural, and vacant lands. Exit 10 of I-81 is located in this area, and includes a cluster of gas stations, fast food restaurants, equipment and used car sales, an engineering testing firm, and similar businesses surrounding the exit area. A larger gravel mine, part of the Suit-Kote asphalt facilities, is the greatest land use in this area in terms of acreage. The only other industrial use is Intertek Testing Services, a company that focuses on performance testing of commercial and household goods.

From the Suit-Kote gravel mine south to the Village of Marathon, land use is closely divided between residential uses and agricultural/vacant lands. Route 11 runs parallel and near to the River throughout most of this section of the Corridor. Much of the residential property is considered "residential with acreage". There are only six scattered commercial sites between Blodgett Mills and Marathon, and no industrial uses. Lot sizes are generally larger than in hamlets and villages and densities are lower, albeit not as low as the areas of the East and West Branches. One exception to this is the hamlet of Blodgett Mills, which has relatively dense residential development, limited commercial development, and a waterfront park.

Similar to the balance of the River Corridor, land uses and densities change dramatically at and near the Village of Marathon. Agricultural and vacant lands give way to relatively dense residential and commercial development. Commercial uses are concentrated at the intersection of Route 11 and Route 221 (four corners area) near Exit 9 of I-81. The Village's Central Business District runs westward from the four corners along Route 221. A large recreation park, Lovell Field, is located along the River just south of the business district. With the exception of properties lining the east side of Route 11 and near the Galatia Street area, the majority of the Village's residential development is located west of the River. Marathon Boats, manufacturer of Grumman Canoes; Gallery of Machines; and Acorn Products are located in the southwest corner of the Village and are its only industrial sites. A gravel mine is located in the northwest corner of the Village.

The most southern reaches of the River, south of the Village of Marathon, consist primarily of agricultural and vacant land, with a couple of light industries, three commercial businesses, and a small handful of residences located along Route 11.

Trout Brook

Trout Brook flows into the Main Branch of the Tioughnioga River just south of the Suit-Kote gravel mine in the Polkville area of the Town of Cortlandville. The brook flows westward from the eastern portions of the County through the Village of McGraw. Land use between Exit 10 of I-81 and the Village of McGraw is mostly open agricultural and vacant land. A notable exception is the Town of Cortlandville Highway Department site.

Other than a small Central Business District that straddles Route 41, the Village of McGraw consists almost entirely of relatively dense residential development. The Village has a large recreation park along the Brook, and a handful of small industries, mostly in the western portion of the Village.

Maps A1 through A6 following show the various land uses in the Corridor.

2. EXISTING WATER USES

Water uses along the Tioughnioga River, including Little York Lake (upper and lower), Song Lake, Tully Lake, and Trout Brook can be classified as either recreational or non-recreational use. The Tioughnioga is not a large river, and therefore large-scale commercial and recreational uses of the River, such as marinas and large-scale manufacturing, do not exist and generally cannot be supported on the River. The current water uses, detailed below, are typical of the types and scale of uses suitable for the River, although these uses could be expanded, enhanced, and more fully developed.

Primary Recreational Water Uses

Primary recreational water uses include:

- Sport fishing, including trout fishing: Public fishing access sites are located on all three branches of the River, including Little York Lake, Tully Lake, and Song Lake. Trout fishing is more prevalent in the upper East and West Branches of the River, while other species are more dominant in the lakes and the Main Branch (see part 13, Fish and Wildlife Communities). The relatively small areas of existing public access, shown on maps C and D in part 5, Public Access and Resources, is a limiting factor for sport fishing.
- Non-motorized boating, including kayaking and canoeing: Low water levels during dry periods often hampers boating, even for shallow water vessels such as kayaks and canoes. Public boat launch areas are available at Little York and Tully Lakes. Informal launch areas are located on all three branches of the River (see part 5, Public Access and Resources). Boat launch access to Song Lake is limited due to the presence of private homes. The Village of Marathon received funding from New York State in 2004 to construct a canoe/hand launch site in the Village at Lovell Field, which will provide access at the lower reaches of the Main Branch. The lack of access for car-top launching is a limiting factor for canoeing and kayaking on the River. Dams located on the West Branch also inhibit small craft use, although use in these areas is often prohibitive due to shallow waters anyway. There are no formal portages at the dam sites, which could also hinder use. Larger water withdrawals must undergo a permitting process through the Susquehanna River Basin Commission (SRBC). Although the SRBC does not specifically take into account small craft navigability as part of their review process, they do require a “passby” flow if the withdrawal quantity is greater than 10% of the available drought flow, based on downstream users and aquatic habitat needs. This presumably would prevent the possibility of too much water being withdrawn from the River and hindering small boat navigability. However, the cumulative impact of water withdrawals on small boat navigability is one that should be considered if such kayaking/canoeing use is to be promoted and/or expanded.

- **Motorized boating:** Small sized motorized vessel use is generally limited to Little York, Song, and Tully Lakes. Motorized boats on Tully Lake are limited to a 7 hp engine. Motorized boating on the balance of the River is generally prohibited due to shallow waters, although it is more likely found on the lower reaches of the Main Branch.
- **Swimming/Bathing:** Swimming is generally limited to Little York, Song, and Tully Lakes. Little York and Tully Lakes have public swimming areas while Song Lake swimming is usually found on private residential property. According to the Cortland County Water Quality Committee, however, bathing in both Little York Lake and Tully Lake are verified “impacted segments” and the DEC’s Priority Waterbody Listings for each shows that bathing is suspected to be threatened. The causes for this threat are aesthetics and oxygen demand from agriculture. Bathing in Song Lake is considered “possibly stressed” for similar reasons, although verification is needed. There are no public swimming areas on the River, although occasional, private swimming likely occurs. The River is generally not suitable for development of public swimming areas due to frequent low water levels and undesirable shoreline and river-bottom characteristics.

Primary Non-recreational Water Uses

Primary non-recreational uses include:

- **Drinking Water:** No municipal or public drinking water is taken directly from the River Corridor surface waters. Limited use for drinking water by private homes may occur, although as class “B” and “C” waterways, drinking water is not a recommended use. The Village of Marathon, Village of McGraw, and the City of Cortland have municipal water systems that receive water from wellheads located within the LWRP study area. The other municipal water system in the study area serves the Village of Homer, which has wellheads outside the LWRP area. The hamlet of Preble is served by a private water system.

According to information provided by the Cortland County Planning Department that was obtained from County Health Department, the following is a list of public wells (wells providing drinking water to the public, not including municipal systems) in the LWRP study area:

Song Mountain Resort
Camp Hoover
Emergency-One
Preble Hotel
Preble Water Association
McBride Mobile Court
I-81 Comfort Station
Dwyer Memorial Park
Vette’s Mini Mart

Country Flavors
Bill Anderson Farm Market
Bob’s BBQ Commissary
Pine Hill Mobile, Inc.
Pine Grove Inn-Homer
Cortland Motel
Night Owls
Sunoco/A-Plus #0267-1683
Subway-McGraw

Suburban Skyliner
 Burger King Rest. Exit 10
 Bear's Place
 Riverside Manor Trailer Park
 Marathon Auction Center
 Marathon Lanes
 Village View Apartments

SCMA Country Music Park
 McGuire's Drive-In
 Hiawatha Inn
 Nana's Place
 Longbranch Club
 Connie's Place
 Yellow Lantern Kampground

- **Effluent Discharge:** The New York State Department of Environmental Conservation controls surface discharge into waterways in New York State through the issuance of SPDES permits.
- **Agriculture:** Information on the use of River water for agricultural purposes is limited. Use of surface water for irrigation purposes is purportedly very limited, if it occurs at all. Use for livestock, i.e., drinking, is also limited, as most livestock existing in the River Corridor are watered via wells or other means. Due to the large amount of agricultural land in the Corridor, however, it can be assumed that a certain amount of surface waters are used for various agricultural uses. Agricultural-related water withdrawals may negatively impact water levels, and by extension navigability, fish and wildlife habitats, etc., on a cumulative basis. Non-point source pollution from agricultural uses most likely impacts other water uses to some extent.
- **Other Water Withdrawals:** The Susquehanna River Basin Commission (SRBC) regulates groundwater and surface water withdrawals in excess of 100,000 gallons per day and consumptive uses in excess of 20,000 gallons per day in the River Corridor. The withdrawal regulations do apply to agricultural operations, although consumptive use regulations were "temporarily" suspended in the 1990's for agricultural uses. According to the SRBC, there are currently four approved withdrawal permits for the LWRP area, and one pending permit. None of these permits withdraw water directly from the River, the lakes, or their tributaries. These five permits are:

USER	USE	SOURCE
Marathon Village	Public Water Supply	Hunt's Creek #1 well
Marathon Village	Public Water Supply	Sautter's Pond, #3 well
Cortland City Water Dept.	Public Water Supply	Well 3, 4, and 5
Song Mountain Ski Resort	Snowmaking	Groundwater, Pond
Albany International*		4 wells

* pending

There are no large industrial or manufacturing uses of surface water in the River corridor.

3. LAND USE REGULATION

Through management of land use and development, each municipality has the ability to develop and display the most desirable physical features of its community. The power to uphold public order, peace, health, safety, morals, and general welfare, and manage the physical development of a municipality is exercised through a variety of authorizations and regulatory mechanisms. The power to control land use is granted to each municipal government in New York State, including towns, villages, and cities. Each municipal entity has the ability to determine whether to control land use, and, if so, to determine the extent to which they do so.

There are several different tools that local governments use to achieve desirable development. Zoning regulations manage the use of land, density of land use, and the location (citing) of development. Comprehensive zoning is a widely utilized legal tool used by municipalities to restrict land use and to implement community planning. Zoning is a land use technique that should only evolve after a municipality has developed a well-considered plan, oftentimes termed a comprehensive plan. Development of such a plan does not require the municipality to develop and implement a zoning regulation, but a zoning regulation needs a foundation upon which to be effective, not to mention legal.

Traditional zoning is a means of managing use and density separation. There are additional tools that can be developed in conjunction with a traditional zoning regulation, or separate from zoning, to achieve other desirable development patterns.

The *special use permit*, and its review process, is a function that is found in many zoning regulations. Zoning regulations generally state what land uses are allowed in specific districts by right, with no discretionary review of the proposed project or development. The zoning regulation may also require a close examination of a project by implementing a local review process, often called a Special Use Permit review. The local review process gives a municipal board discretionary authority to review a proposed development project in order to assure that it is in harmony with the zoning regulation, or comprehensive plan, and will not adversely affect the neighborhood.

Additional land use management tools include subdivision regulations and site plan review local laws. Municipalities enact subdivision regulations with the intention of protecting the community from the creation and development of poorly designed and ill-equipped neighborhoods. Some subdivision regulations require that newly developed land be provided with basic services essential to modern living, and that the municipality be protected from the financial burden of initial installation. The subdivision process controls the manner by which land is divided into smaller parcels. While a subdivision is typically thought of as the division of land into separate building lots which are sold to individual buyers, subdivision provisions may also apply to a simple division of land offered as a gift or which changes lot lines for some other reason.

Site plan review is a process whereby a local government body will review and determine whether a proposed site plan is appropriate for the community. Site plans

indicate the intended design, arrangement, or layout of a particular parcel of land. Issues of consideration include: ingress and egress, parking, landscaping, buffers, architectural features, location of structures, and impact on adjacent land to name a few.

The following is a summary of existing land use regulations of the municipalities in the LWRP study area.

East Branch

Town of Cuyler

The Town of Cuyler adopted a subdivision regulation in 1991, and utilizes a site plan review local law for mobile home parks. The Town's site plan review local law was adopted in 1994 and was amended in 2000. While a site plan review local law for mobile home parks isn't a comprehensive land use management practice, it does provide some guidance toward the development of residential uses in the Town.

The Town also has a subdivision ordinance and an unregistered/unlicensed motor vehicle regulation. The focus of this regulation is for promoting the health and general welfare of the community, enhancing the general appearance, increasing the beauty of the natural surroundings, and regulating disposition and location of unregistered/unlicensed motor vehicles.

Town of Homer

The Town originally adopted a zoning ordinance in 1958. The most recent amendment to the town's zoning was done in 2002. There are six zoning districts in the Town of Homer.

- Residence District
- Business District
- Agricultural District
- Industrial District
- Planned Development District
- Aquifer Protection District

Uses in each district are divided up into permitted uses, permitted accessory uses, uses requiring site plan review, and uses requiring a special permit.

The LWRP boundary overlays a portion of each of these zoning districts. According to the Town's Zoning Ordinance, the Aquifer Protection District is an overlay zoning district. Therefore, allowed uses in this Aquifer Protection District are essentially the same as the underlying zoning district, but they are subject to the provisions of the overlay zone. These additional provisions have the intent of preserving the quality and quantity of the Town's groundwater resources in order to ensure a safe and healthy drinking water supply. There are three Aquifer Protection Areas. Aquifer Protection

Areas I and II are designated as Critical Environmental Areas (CEA) pursuant to the State Environmental Quality Review Act and the Department of Environmental Conservation.

In addition to zoning, the Town utilizes a mobile home regulation that was adopted in 1962. This regulation was most recently amended in 1994. The Town of Homer also adopted a subdivision regulation in 1971, and it was most recently amended in 1989.

West Branch

Town of Preble

Zoning was initially adopted in 1971, and the Town most recently amended the regulation in 1997. Site plan review is also utilized by the Town, which is part of its zoning ordinance. There are a total of seven zoning districts in the Town.

- Agricultural District
- Residential Lakeside District
- Residential District
- Commercial District
- Industrial District
- Zone A (overlay district)
- Wetland (overlay district)

The Town's Zoning Ordinance mentions the purpose of each of these districts, essentially providing an environment for compatible uses and separating incompatible uses. Uses in each district are divided up into permitted uses, permitted accessory uses, uses requiring site plan review, and uses requiring a special permit. At least a portion of each zoning district is located in the LWRP area. The two overlay zoning districts provide an added layer of environmental protection for certain areas. Zone A overlay district boundaries are similar to the layout of the LWRP boundaries. This district restricts mining of sod, loam, sand, gravel, aggregate, quarried stone except in connection with construction or maintenance of a lot. The Wetland overlay is meant to protect the Town's fragile and unique natural water resources, and ultimately the Cortland-Homer-Preble Aquifer. Any development that requires a building permit in the Wetland overlay also requires the issuance of a Special Permit by the Zoning Board of Appeals. The Special Permit review by the ZBA is meant to impose reasonable conditions on the development of land to help protect the sensitivity of a valued environment. The Wetland overlay district can be found within the LWRP boundary, near or on water bodies and in the Agricultural zoning districts.

The Town's subdivision regulations were initially adopted in 1978 and were most recently amended in 2002. Like the zoning regulation, the Town is working on an amendment for its subdivision regulations.

Village of Homer

Zoning was adopted in the Village of Homer in 1965 and was most recently amended in 2003. The Village uses site plan review as a practice within the realm of its zoning law. There are ten zoning district classifications in the Village. There are two different residential districts, four different business districts, an industrial district, and three different planned development district classifications. Uses in each district are divided up into permitted uses, permitted accessory uses, uses requiring site plan review, and uses requiring a special permit.

The Village's subdivision regulations were adopted in 1973 and were most recently amended in 2000. The Village is largely built out, but undeveloped or underdeveloped tracts remain.

City of Cortland

The City's zoning code was initially adopted in the mid 1950's, and was most recently amended in February of 2004. Site Plan review was not a part of the City's land use management practice until this 2004 amendment was adopted. There are four residential zoning districts, a professional office district, a service district, two business district classifications, an industrial district classification, and a Historic overlay and/or Architectural Design district. The district regulations each list uses allowed by right as well as uses allowed, but require a Special Use Permit.

The purpose of the Historic overlay and/or Architectural Design district is to preserve the physical heritage of the City's past, present, and future historical development in its proper context. This practice will be executed in such a way that it will play an economically viable role in the contemporary scene. The objective is to preserve, maintain and extend the educational and cultural value in the understanding of the forces, which gave or give the City community its special character.

Main Branch

Town of Cortlandville

Zoning was initially adopted in 1950, and the most recent amendment was made in 2003. The Town is currently working on another amendment to its zoning regulations to help manage the pressure from new development. The Town's zoning ordinance utilizes special use permit and site plan review provisions to help achieve desirable development. Because parts of the Town are located over a federally designated sole source aquifer, one unique element contained in the Town's zoning is an Aquifer Protection District, whereby proposed developments need to obtain a special permit (Aquifer Protection Permit) from the Town Board, rather than a special use permit or conditional permit from the planning board.

There are ten zoning district classifications including the Aquifer Protection district. There are three different Residential district classifications, one agricultural district, three business districts, and two industrial districts.

According to the Town Clerk, the Town's subdivision regulations were adopted in 1967 and have not been amended since that time.

Village of McGraw

Zoning was initially adopted in 1966, and the most recent amendment was adopted in 1999. The Villages zoning separates potentially incompatible uses by creating districts that accomplish such separation. There are five residential districts that encourage development from low density, single-family homes, to high density, multi-family dwelling units. Other districts include a general business district, two industrial districts, and a groundwater protection overlay district. The Villages zoning regulation also has provisions for site plan review, which enables a reviewing body to guide the development and layout of a particular parcel of land.

The Village's current subdivision regulations were adopted in 1994. These regulations were based upon a previous subdivision ordinance, but the initial date of adoption of the original is unknown.

Town of Virgil

The Town initially enacted a zoning law in 1979, which was most recently amended in 2006. The Town's zoning law does have provisions for site plan review. There are five zoning district classifications in the Town of Virgil. Although, the only zoning district that lies within the LWRP area is the Agricultural-Residential district. This district provides an area where residential and recreational development may take place without adversely affecting the active agricultural activities. The only permitted uses by right in this district include public parks and playgrounds. Other uses require a Special Permit be obtained.

Town of Lapeer

There are no land use regulations, nor is there an adopted comprehensive plan in the Town of Lapeer.

Town of Marathon

The existing zoning ordinance in the Town was adopted in 1990 and was amended in 1992. The Town utilizes site plan review as a land use management tool, which is part of the zoning ordinance. There are four zoning districts in the Town. The LWRP area encompasses the Agricultural and Commercial districts, while the Industrial and Residential districts are out of the LWRP area. The Town also has a Mobile Home

Ordinance that was adopted in 1992. Practically speaking, this regulation could be managed by the zoning ordinance itself, without needing a separate ordinance.

The Town adopted a subdivision regulation in 1970 and its most recent amendment was completed in 1993.

Village of Marathon

Both a zoning law and a subdivision law were adopted in 1970. Site plan review is a practice in the Village as part of the zoning law. There are four zoning districts in the Village including a Business, Industrial and two Residential districts. The Business, Residential I, and Residential II districts surround the Tioughnioga River through the Village. There have been no amendments to either of the land use regulations since the initial date of adoption.

Municipalities that have adopted land use regulations such as zoning, site plan review, and subdivision regulations are communities that have authority to manage land use developments. Generally, the City of Cortland, Villages of Homer, McGraw, and Marathon, and the Towns immediately surrounding these municipalities are better equipped to manage future development, and preserve specified areas for recreation or environmental purposes. The land use regulations in these municipalities allow for a local review process to assure that development and preservation goals are being met for each individual community. It is evident that several municipalities have kept their land use regulations up-to-date, as new ideas in regulating land use have evolved over time. Changing priorities and conditions may also constitute the need for an updated comprehensive plan and subsequent land use policy updates. The Towns that are not equipped with land use regulations or have minimal oversight as to how their community will be developed are the Town of Lapeer, Town of Cuyler, and the Town of Truxton. Lapeer has no land use management policies, Cuyler has subdivision and a site plan review process for mobile home parks only, and Truxton only has a subdivision regulation. The subdivision regulations for these Towns are each over ten years old.

Maps B1 through B6 following show the zoning classifications for municipalities in the Corridor.

4. LAND OWNERSHIP PATTERNS

Examination of land ownership patterns within the LWRP boundary was conducted by using tax parcel maps and data acquired from the Cortland County Planning Department, and Cortland County Real Property Tax Department. Data used is from 2003 records. There are a variety of circumstances that led to the patterns that are found in the LWRP area. There are many agricultural uses amongst private owners, as well as industrial and commercial sites. Major transportation features such as the New York Susquehanna and Western Railroad and Interstate 81 and other major roads are owned by either the Railroad or New York State Department of Transportation. Other property in this corridor is owned by the federal, State, or local governments for a variety of purposes. Finally, power lines, and utility companies have a notable presence in the Tioughnioga LWRP study area.

Local and regional governments own numerous parcels of land throughout the LWRP boundary area. Several of these parcels have a significant presence along either the East, West, or main branch of the Tioughnioga River. Cortland County owns several parcels near the City of Cortland's Central Business District. The County retains ownership of a 56-acre parcel on Little York Lake, adjacent to Interstate 81. This area is known as Dwyer Memorial Park, and is part of the West Branch Tioughnioga River. Another significant holding of the County is the County Highway Department location along the West Branch between the City of Cortland and the Village of Homer in the Town of Cortlandville. Three parcels in this area comprise of about nineteen acres. Until recently, the East Branch Tioughnioga River retained a significant holding by Cortland County. Lornings Crossing is the location of about a 117-acre parcel formerly used as the County Home. Only about 12 acres of the 117 is located within the LWRP boundary, and it is directly adjacent to the river. This parcel was sold into private ownership in 2004.

The State of New York owns a small parcel of land on Tully Lake that is classified as a forest preserve, but the parcel appears to be under 1 acre in size. New York State also owns a highway maintenance facility just off of Interstate 81 at Exit 10. Other than these features owned by New York State, the NYSDOT right-of-way corridor for I-81 extends throughout the length of the LWRP corridor along the West Branch and Main Branch of the Tioughnioga River. In some locations, the right-of-way takes up a significant amount of land. The actual highway hasn't encompassed the area that the ROW takes up. Therefore, potential exists for future recreational trail development.

Several local governments retain ownership of land that is immediately adjacent to the river. In some cases the municipality maintains these properties as parkland. As an example, the City of Cortland owns and maintains Yaman Park, just off of Kennedy Parkway and directly adjacent to the East Branch of the Tioughnioga River. Another example is the Village of Homer's 12-acre parcel, which is known as Durkee Park, just off from US Route 11. The Village of Marathon's Lovell Field is immediately adjacent to the Main Branch of the Tioughnioga River. The Town of Cortlandville also has two parks in the hamlet of Blodgett Mills that are adjacent or near to the River. Other

municipal uses that can be found along the river include highway garages, sewage treatment plants, and residential vacant land.

Several schools retain ownership of land that is in the LWRP boundary area, but one school appears to have land directly adjacent to the River, which is Marathon Central. The following schools have been identified as owning land in the LWRP area: DeRuyter Central, Homer Central, Marathon Central, McGraw Central, and St. Mary's in Cortland.

One of the major transportation features through the LWRP area is owned by the Cortland County Industrial Development Agency. The IDA owns a major portion of the land where the railroads operate. The major railroad feature follows the West Branch and the main branch of the Tioughnioga River. According to the 2003 Tax Map data for Cortland County, a portion of the land in the Town of Virgil is owned by New York Susquehanna & Western Railroad. The CCIDA also owns manufacturing, processing, and vacant industrial land that are immediately adjacent to the River in the Town of Cortlandville.

The following utility companies own land in several locations throughout the LWRP corridor: National Grid, and New York State Electric and Gas (NYSEG). National Grid owns several parcels that cross through the LWRP area, such as locations in the Town of Cortlandville, just outside both the Northeast and Southeast sides of the City. Another location where NYSEG Utilities cross the corridor is in the Town of Truxton, and Town of Cuyler. NYSEG owns a couple of small parcels, one in the City of Cortland and the other in the Village of Homer.

The majority of land in the LWRP area is privately owned, and a majority of the parcels abutting the River and its branches are privately owned. Understanding this, the New York State Department of Environmental Conservation, Office of General Services considers the East and West Branches, as well as the Main Branch of the Tioughnioga River to be navigable. This means the waterways have been declared as public highways by New York State, and are available for public use for navigational purposes. New York State does not own the underwater lands.

Underwater land ownership for the Tioughnioga River varies depending on what abutting parcel deed descriptions identify. Currently, more research is underway to identify whether adjoining parcel owners retain ownership of underwater land or if a public entity such as Cortland County owns underwater land where abutting property deed descriptions have not indicated such ownership.

5. PUBLIC ACCESS AND RECREATIONAL RESOURCES

Existing Boat Access to the Tioughnioga River

There are no NYS DEC boat launches along the Tioughnioga River in Cortland County. There are two DEC boat launches in northern Broome County along the River that allow for launching small craft and include a small number of parking spaces. There is a DEC hand-launching site on Friendly Lake (Tully Lake) which is in the LWRP Corridor. However, there is no access by boat to the Tioughnioga River. A boat/canoe can be launched at Yaman Park in the City of Cortland, the hamlet of Blodgett Mills in the Town of Cortlandville, and behind the Marathon School in the Village of Marathon. All launches are along the Main Branch of the Tioughnioga River and include small parking areas. They are not, however, formally designated as a boat launch. Along the East Branch of the Tioughnioga River, kayaks/canoes can be launched from the recreational park in the Town of Truxton and the Route 13 DEC fishing access site between Truxton and Cuyler, as well as from several bridges between Truxton and East Homer.

Proposed Boat Launch on the Tioughnioga River

As previously mentioned, the Village of Marathon has proposed the construction of a new boat launch along the Tioughnioga River in Lovell Field, south of Main Street. The new facility will include parking, a small hand launch dock, lighting, and will have some handicapped accessibility. The funding for this project was announced in August of 2004 with construction anticipated in 2005.

Opportunity for a Blue Water Trail

With the funding in place for the boat launch in Marathon, the opportunity exists to create a Blue Water Trail along the Tioughnioga River in Cortland County. As noted in Section 17, the East Branch of the river is navigable by canoes and small boats from Truxton down to the Main Branch. The Main Branch of the Tioughnioga River is navigable south to the Cortland County line. The West Branch is not navigable due to dams and low water flows. It is a recommendation in Section 17 not to dredge the river for navigation purposes.

To create a Blue Water Trail along the Tioughnioga River in Cortland County additional boat launches will be need to be created north of Marathon. The Tioughnioga River Trail Study Report completed in March of 2002 identified thirteen potential access/boat launch sites along the East and Main Branches. The access points were projected not only to provide boat access, but fishing, hiking and picnicking as well. That number may be higher than needed for the Blue Water Trail. The creation of Boat Launch Sites in the area of Truxton, East Homer, City of Cortland, Blodgett Mills and Messengerville could provide excellent access to the Blue Water Trail.

Parks and Recreational Areas

The following are parks and recreational areas that are located in the LWRP Corridor along both the West and East Branches, as well as the Main Branch of the Tioughnioga River:

East Branch

- Cuyler Town Park: Small playground including swings, slide, etc.; basketball court; picnic pavilion with BBQ; athletic field with backstop. Portable Toilet. Small gravel parking lot. No direct River access.
- Yaman Park, City of Cortland: Skate park; manmade swimming lake, numerous picnic pavilions; playground, including swings, slide, etc. Bathhouse with restrooms and concession stand. Large paved parking area. Direct access to the River.

West Branch

- Town of Preble, Preble swimming area: Gravel pit swimming area, small pavilion and storage building. Portable toilets. Grass parking area. No direct River access.
- Town of Preble, Preble Park: Picnic pavilion with BBQ grills; softball and baseball fields; small playground including swings, slide, etc.; Restrooms, concession stand. Grass parking area. No direct River access.
- Town of Preble, Dwyer Memorial Park: Several picnic pavilion with grills; small playground including swings, slide, etc.; wading pool; basketball courts, softball fields, horseshoe pit. Restroom facilities. Large paved parking lot, several smaller parking areas. Cortland Repertory Theatre on second floor with restaurant/concession on first floor. Direct fishing and boat access to Little York Lake.
- Village of Homer, Durkee Memorial Park: Fishing lake (Briggs Pool), in addition to fishing on the Tioughnioga River; picnic pavilion with grills; playground including swings, slide, etc.; horseshoe pit; tether ball, restrooms facilities. Large paved lighted parking area. Direct River access.
- Village of Homer, Homer Green: Concert bandstand, ice-skating in season. On-street parking.
- Town of Cortlandville, Casey Athletic Fields: Soccer/lacrosse fields; softball/Little League fields. Large gravel parking area. River access. Privately owned and leased to the Homer School District.

- Town of Cortlandville, Cortland County Fairgrounds: Soccer fields; fair buildings; Cortland Sports Complex (privately owned) including hockey rink; indoor soccer/lacrosse fields; and fitness center. Large parking area. No direct River access.

Main Branch

- City of Cortland, Dexter Park: Basketball court; tennis courts; playground including swings, slide, etc; softball field; soccer/football field; picnic pavilion; recreation building with restrooms. Large offsite paved parking area. No direct River access.
- Village of McGraw, McGraw Community Park: Swimming pool; fenced basketball courts with lights; playground including swings, slide, etc; small creative playground; two picnic pavilions with BBQ; soccer field; two Little League fields; recreation/community building. Large paved and gravel parking area. Two storage sheds. Access to Trout Brook.
- Town of Cortlandville, Blodgett Mills Park (Four corners): Small playground including swings, slide, etc.; basketball court. Fenced in. No parking. No direct River access.
- Town of Cortlandville, Blodgett Mills Park: Picnic pavilion with grills; basketball court; horseshoe pit; sand volleyball court; softball/little league field. Small paved and large gravel parking lots. Storage and restroom buildings. No direct River access.
- Village of Marathon, Lovell Field Park: Soccer fields; baseball and Little League fields; playground including swings, slide, etc; large recreation pavilion. Portable toilets. Large paved and grass parking areas. Direct River access.

Trout Brook

- Village of McGraw, Elm/Bennett Street Athletic Fields: Asphalt walking trail; soccer field; softball/Little League field; several small picnic areas with benches. Large gravel parking area. Building for storage, concessions and restrooms. View of Trout Brook.
- Village of McGraw, McGraw Recreation Park: Recreation Center; basketball courts; baseball fields; and playground. Located on Trout Brook.

In general the parks are in good condition with a large quantity to serve the total corridor. More could be done to use the parks as formal access points to the river where the location allows such access.

Existing Campgrounds in the LWRP Tioughnioga Corridor

Town of Cortlandville

- Cortland Country Music Park, along Route 13 north of the City of Cortland: Open year round. It also includes 123 campsites, most with electric hookups. Recreation buildings are present. Also included are a Hall of Fame Museum, outdoor performance center, and dance hall.
- Yellow Lantern Campground, along Route 13 north of the City of Cortland: 40 acres of land with 205 campsites/electric hookups. Open May 15 through September 15. Includes laundry and recreation buildings.

Attractions

West Branch

Town of Preble

- Cortland County Repertory Theater, Dwyer Memorial Park: Professional summer theater located on Little York Lake; Open June through September.

Village of Homer

- Homeville Museum: A collection of military related artifacts currently being transferred from private to quasi-public ownership. This museum is currently considering to a new location on Route 11 in Cortlandville.

Town of Cortlandville

- Cortland County Fairgrounds: Home to the Cortland County Fair and the Cortland Sports Complex.
- Cortland Sports Complex: Recently open facility providing an ice rink, indoor turf field and fitness center. Constructed in 2004. Open year-round.

City of Cortland

- Suggett House Museum: Home of Cortland County Historical society and collection. Open year-round.
- 1890 House Museum: A Victorian mansion and museum. Open year-round.

Main Branch

Town of Cortlandville

Skyline Raceway: Stock Car Racing. Open May through September.

Existing Trails in the LWRP River Corridor

- Finger Lakes Trail through the Towns of Virgil and Cortlandville: This trail originates in southeastern Cortland County beginning in and through the Town of Virgil until it meets the Main Branch of the Tioughnioga River. Since crossing the River is not practical at this location, a trail leads north through the LWRP Corridor to the hamlet of Blodgett Mills where it crosses the Blodgett Mills Bridge over the Tioughnioga River. The trail then continues back in a southerly direction to return to the main Finger Lakes Trail. Other trails include Morgan Hill State Forest Trails – Truxton/Cuyler; Hoxie Gorge State Forest Trails – Town of Virgil.
- Snowmobile trails are scattered throughout the Tioughnioga Corridor and in most rural areas of the County.

Proposed Trails in the LWRP River Corridor

The Tioughnioga River Commission has been planning for the development of a Tioughnioga Rivertrail to follow the length of the West/Main Branch of the Tioughnioga River in Cortland County. The trail will be composed of different sections that will, in turn, have different types of surfaces. Some of the trail will be developed along the banks of the River while portions of the trail may follow existing roads. The first section of the trail for which funding has been approved will be a hard surface trail that will connect south end of the Village of Homer to Yaman Park in the City of Cortland.

Public Fishing Access

There are a number of areas of public fishing rights purchased by the NYS DEC along the branches of the Tioughnioga River. Those areas are described below:

East Branch

Towns of Truxton and Cuyler

- Beginning at the Route 13 bridge downstream along the west side of the River for 2,000 LF and then on both sides of the River for 5,000 LF. Designated DEC parking area.
- Upstream from the Route 13 bridge, there are two sections of public fishing rights, both on the east side of the River, between the bridge and Tripoli Road. Total length is approximately 1,500 LF. Designated DEC parking area.

West Branch

Town of Homer

- Beginning from the Cold Brook Tributary going south along both sides of the River for approximately 750 LF and then on only the east side for 750 LF. No designated parking or footpath access, only access across private property.
- Beginning west of Wikstrom Pond going north along the east side of the River for 1,500 LF, then on both sides of the River for 5,000 LF. No designated parking or footpath, only access across private property.

Main Branch

Towns of Virgil, Lapeer, and Marathon and the Village of Marathon

- Beginning at the Route 392 bridge and going across and downstream to Hunts Creek Tributary in the Village of Marathon, there are approximately four miles of public fishing rights. The public fishing rights are on both sides of the River for much of this area, though limited to one side in some places. The fishing area is contiguous with the exception of 1,000 LF in the Town of Marathon. There is a designated parking area at the Route 392 bridge and one footpath easement from Route 11 in the Towns of Lapeer; two footpaths in the Town of Marathon; and one in the Town of Virgil. There is also a designated pull off parking area near the Village of Marathon line.

As noted in Sections 13 and 14, the Tioughnioga River offers excellent fishing opportunities in all branches. Trout fishing is especially good north of Homer on the West Branch, north of Truxton on the East Branch and in all branches near their convergence in the City of Cortland. Public fishing is difficult on the West Branch where the two sections of DEC fishing rights offer no access from a public road. Greater access to the Tioughnioga River is needed and more public fishing rights should be acquired.

6. INFRASTRUCTURE

Throughout the LWRP study area, existing infrastructure varies considerably. Infrastructure, in the context of this report, includes both the existing public utilities serving an area, as well as the transportation system within that same location.

In general, public utilities' availability is directly related to the concentration of population in any one given location. The more people, the greater the availability of services. The same is essentially true for the transportation systems within the LWRP except that major roadways (State routes and interstate highways) will also pass through sparsely populated areas in order to connect to more densely populated communities. The local network of streets and roads, as well as the availability of public transportation services, however, is still generally proportional to the population of the immediate vicinity. Noted below is a more detailed description of these facilities. The information has been arranged by municipality within the study area for ease of reference.

Sewer and Water

There are a wide range of categories and definitions that apply to the issue of publicly provided wastewater treatment and/or water supplies. The most commonly referenced utilities are those owned and operated by municipal governments but there are many more systems and facilities that function under other classifications. This is particularly true for the water supplies under the jurisdiction of the Cortland County Health Department where the same regulations apply to both the larger City of Cortland public water supply, as well as to smaller private water supplies such as at the Virgil Country Market. Rather than enumerate all of the different locations and their categories, a list, which categorizes the systems by the primary categories of Community Water Supplies (CWS), Non-Community Water Supplies (NC), has been provided in Appendix 4, Non-Transient Non-Community (NTNC), and Non-Public (NP). These categories are based on the definitions developed by the New York State Department of Health and are more fully described in Part 5 of the Sanitary Code. Provided below, however, is a brief discussion of the largest and most prominent water supply systems and wastewater treatment systems located within the LWRP study area.

East Branch

Town of Cuyler

Within the Town of Cuyler there is no municipally operated public water supply but the Town does own and operate a small on-site wastewater treatment system for its hamlet area. The system is located just east of Route 13 and is adjacent to, but outside of, the LWRP study area. For all other areas in Cuyler, properties within the LWRP Corridor rely on private on-site septic systems and wells.

Town of Homer

Within the Town of Homer there are numerous water supply systems and small on-site treatment facilities. These smaller systems are typically associated with trailer parks, campgrounds, schools food services, etc.

West Branch

Towns of Preble, Homer and Cortlandville

Similar to the Town of Homer, there are numerous water supply systems and small on-site treatment facilities. These are also typically associated with trailer parks, campgrounds, food services, small markets, etc. Additionally, this area includes the Preble Water Association supply serving a portion of the Hamlets residents.

Village of Homer

The Village of Homer has its own public water supply system that presently has an average daily production of approximately 550,000 gallons per day (GPD). The system serves the entire community. A new 750,000-gallon concrete storage tank has been recently added to supplement the aging existing tanks which had a capacity of approximately 335,000 GPD. The Village also operates and maintains a full sewage collection system, which ultimately delivers the wastewater to the City of Cortland's collection mains for transfer to its Wastewater Treatment plant.

Main Branch

City of Cortland

The City of Cortland is the most populated community with the LWRP study area and is fully serviced with both public water and a Wastewater Treatment plant. The network of both public water and sewage collection mains is extensive and also includes intermunicipal connections to/from other outlying communities as described herein. The Wastewater Treatment plant not only serves the City of Cortland but also treats sewage from the Village of Homer, the Village of McGraw, and portions of the Town of Cortlandville. The water supply primarily serves the City itself but there are connections to both the Town of Cortlandville and the Village of Homer, which allow for the transfer of water to and from the other communities in the event of an emergency.

The City's Wastewater Treatment plant has a design capacity of 9.0 million GPD with a typical average daily flow of 7.3 million GPD. The seasonal variations, however, can be significant, with dry weather flows at approximately 5.0 million GPD and approaching 20 million GPD during high water/flooding conditions. The source of the public water supply for the City is a group of wells located at the Waterworks plant on Broadway. The typical average daily production from these wells is 2.3 million GPD and

will seasonally range from 1.8 to 3.5 million GPD. The overall storage capacity of the system is now approximately 3.8 million gallons.

Towns of Cortlandville, Virgil, Lapeer and Marathon

Within all of these Towns there are numerous water supply systems and small on-site treatment facilities. Similar to other small rural communities in the East and West Branches of the study area, these systems are typically associated with trailer parks, campgrounds, food services, golf courses, etc. It should be noted that a large public water system is operated within the Town of Cortlandville (typical average usage = 680,000 GPD), but this supply primarily serves that portion of the Town outside of the LWRP area.

Village of Marathon

In the case of Marathon, the Village is served by both a public water supply and a wastewater collection and treatment system. Based on recent data, the typical average daily production of potable water is approximately 95,000 GPD, while the wastewater treatment plant averages a flow of about 65,000 GPD.

Trout Brook

Village of McGraw

The Village of McGraw operates its own water system and recent data indicates that the typical average daily usage is approximately 90,000 GPD. As in the case of Homer, the Village also has a sewage collection system, which pumps the waste to the City of Cortland for treatment. The typical average daily discharge to the City system is approximately 85,000 GPD.

As noted above, the more urban areas of Cortland/Homer and the Villages of McGraw and Marathon are the only areas in the Tioughnioga River Corridor that are served by public water and sewer systems. All public systems meet current needs and appear to have sufficient capacity to handle future developments of a small to moderate size. Only the Cortland systems appear to have sufficient capacity for any large-scale development(s) and such developments would have to be sited to be served by Cortland systems. Outside of the areas served by public water and sewer any new developments will have to be served by private systems created specifically to handle the requirements of that development.

Electrical, Telephone and Cable

The service areas within the study area for these types of utilities were not, in all cases, easily definable. While information was sought from the Public Service Commission, none was made available. Based on phone interviews and website searches, the following service area delineations were prepared.

East Branch

Towns of Cuyler, Truxton and Homer

For cable television service, except for a portion of the Town of Cuyler, the entire East Branch study area is served by Time Warner Cable. It is likely that this Cuyler area will also soon be within the territory of Time Warner. Any areas served with cable television service also have access to high-speed internet service. Concerning electrical service, this entire area is served by National Grid. For telephone, there are several providers available throughout the County but the actual lines and poles are owned by Verizon.

West Branch

Towns of Preble, Homer, Cortlandville and Village of Homer

All of these communities area fully served with electrical service, telephone, and television cable. National Grid provides electricity, while telephone poles and services are owned and maintained by Verizon. TV cable is under the jurisdiction of Time Warner Cable. Within each of these municipalities there is a vast network of overhead wires serving the area locations where these overhead systems cross over the river itself.

Main Branch

City of Cortland, Towns of Cortlandville, Virgil, Lapeer and Marathon

The City of Cortland and these townships are also served by the same utility companies as those described above, i.e., cable TV (Time Warner), electric (National Grid) and telephone (Verizon as owner of the lines). Portions of these communities may not have full cable TV service.

Village of Marathon

The Village of Marathon, and a limited portion of the surrounding Town, is unique in that it operates its own electrical power supply (Marathon Municipal Lighting Plant). Verizon provides the telephone service within the Village and television cable is provided by Time Warner Cable.

Trout Brook

Town of Cortlandville and Village of McGraw

For this portion of the Trout Brook area National Grid, Verizon Telephone and Time Warner Cable again provide the services.

Natural Gas, Fuel Oil and Propane Gas

For the entire project area including the East, West and Main Branches of the Tioughnioga River as well as Trout Brook, the only provider of natural gas is the New York State Electric and Gas Company. While not providing gas service to all areas, all of the more populated cities, villages and towns are presently served by gas. For fuel oil and propane gas, the vast majority of the residents not served by natural gas utilize on-site storage tanks of either fuel oil or propane gas. As the service area for natural gas continues to expand these on-site tank users will continue to diminish.

Transportation Routes

There are numerous roads and highways that either pass through or parallel the Tioughnioga River Corridor. The major roads that are associated with the project area are as follow.

Interstate 81 is a significant four-lane limited access highway which passes through Cortland County in a north-south orientation and links the City of Syracuse to the north with the City of Binghamton in the Southern Tier region of the State. On the average, this road handles in excess of 20,000 vehicles per day. Relative to the LWRP, I-81 essentially follows the West Branch of the Tioughnioga River until reaching the City of Cortland. It then continues southward, paralleling the Main Branch all the way to the southernmost boundary of the study area in the Town of Marathon.

Regarding New York State and US highways in the River corridor area, they are all two-lane roadways with full access. Along the West Branch of the LWRP River Corridor, US Route 11 and NYS Route 281 traverse the length of the study area. A small portion of NYS Route 41 is also included as it passes through the Village of Homer, the City of Cortland, and then heads easterly towards the Village of McGraw. All three roads, Routes 11, 281, and 41, include interchanges with Interstate 81 (Exit 10: Routes 41 and 11; Exit 12: Routes 11 and 281. In the Village of Marathon there is interchange with I-81 at Exit 9).

Regarding the portion of the study area south of the City of Cortland, US Route 11 is the sole roadway. Prior to the construction I-81 in the 1960's, Route 11 was the major route for north-south travel.

The only State route include in LWRP study area which follows the River along the East Branch is Route 13. This road is the primary link between Cortland and Ithaca to the southwest and Cortland and DeRuyter/Cazenovia to the northeast. When Route 13 (south) enters the City of Cortland, it interchanges with I-81 at Exit 11.

Noted below, where applicable, is a brief description of those federal, State, county, or local roads that are utilized as the defining boundary for the LWRP. Also included are instances where a federal or State road crosses through the LWRP.

East Branch

Beginning in the northeast corner of Cortland County within the Town of Cuyler, the boundaries of the LWRP River Corridor are generally defined, in part, by the following township roads: Newton Road, Stockton Road, and Cowles Settlement Road. County roads include High Bridge Road, East Keeney Road, West Keeney Road, and Crains Mills Road. The primary New York State road through this area is Route 13, which as aforementioned, follows the East Branch all the way to the City of Cortland. It is interesting to note that just prior to leaving the Town of Cuyler, Route 13 crosses the River and, therefore, changes from being the southern boundary to the northern limit of the LWRP. Within the Town of Truxton, the only township roads included are a short stretch along Bells Mills Road, portions of West Cheningo Road, and North Tower Road. County roads include Crains Mills Road, Cheningo Road, and East River Road. As noted before, NYS Route 13 also defines the boundary. Through the Town of Homer the limits remain very consistent and are defined by County-owned East River Road on the south side and NYS Route 13 on the north. Once the LWRP enters the Town of Cortlandville, the limits include County road East River Road until it intersects with Interstate 81 (northbound lane), just south of the confluence of the East and West Branches.

West Branch

This LWRP study area begins in the north-central portion of Cortland County originating in the Town of Preble. The area is bounded, in part, through this township by the following County roads: Song Lake Crossing Road and Song Lake Road. For the remaining portion included within the Town of Preble, the LWRP limits are defined by US Route 11 to the east, and NYS Route 281 on the west. Through this part of Cortland County these two routes are important north-south highways, which are routinely utilized by local residents.

Continuing into the Town of Homer, the LWRP initially remains defined by Routes 11 and 281. In the case of Route 11, this remains as the east boundary until the road intersects with the northbound lane of Interstate 81. At that point, and continuing through the Village of Homer, the I-81 northbound lane becomes the eastern limit of the LWRP. As Route 281 approaches the Village of Homer, there is a brief portion that follows Hooker Avenue in the Town until it becomes a Village street. Through the Village, the western boundary continues along Hooker Avenue and then transitions onto NYS Route 11 (Main Street).

In the Town of Cortlandville, the LWRP's east boundary remains along I-81 until reaching the City of Cortland municipal line. On the west, Route 11 remains the limit. Within the City of Cortland, this western boundary continues southerly along Route 11 (Homer Avenue) until it terminates at Groton Avenue when it turns easterly along Groton Avenue and then southerly in the vicinity of Pleasant Street paralleling Main Street, crossing Tompkins Street until reaching the area of Frederick Avenue. Then the boundary goes easterly along Randall Street until reaching Church Street. At Church the boundary goes north up to Port Watson Street. Once at Port Watson Street (Routes 41

and 11), the boundary continues easterly until reaching Kellogg Road. On the east boundary, once the LWRP reaches the City line, the limit runs easterly along the northern City boundary until it connects to Route 13 of the East Branch.

Main Branch

For this portion of the project area, the western limits begin at the intersection of Port Watson Street and Kellogg Road in the City of Cortland. From there the LWRP boundary continues southeasterly along Kellogg Road, which is a County road which also passes through the Town of Cortlandville until reaching the hamlet of Blodgett Mills, also included in Cortlandville. Once past Blodgett Mills, the west limit of the LWRP briefly follows the County's Clute Road but shortly thereafter follows the Town's West River Road. West River Road remains as this boundary as it travels through the Town of Virgil until it reaches Messengerville. At that point, the LWRP western boundary follows the railroad until it intersects with the northern boundary of the Village of Marathon. In Marathon, the LWRP boundary continues south to the County line along Divers Crossing Road which is a County road. For the eastern boundary through this entire area (beginning at the City of Cortland) the LWRP limit remains the same, that being the northbound lanes of Interstate 81.

Trout Brook

The study area near McGraw is defined on the north side by the State Route 41 and on the south by Ridge Road, which is a Town road. Along Ridge Road, once it intersects with the town road known as South Hill Road, the boundary turns northerly until reaching the Village of McGraw municipal limit. The entire Village is included in the study area.

Public Transportation

In and along the defined Tioughnioga LWRP study area, there are a limited number of public transportation services. Public transportation is categorized into the various modes noted below. Within each, the discussion has been delineated by the three Main Branches of the River Corridor.

Air Services

There are no public airline services in Cortland County.

Railroad Services

At this time, there are no public railroad services available. The last public trains ended service in the late 1950's, although there has been some recent, preliminary discussions regarding bringing commuter transportation to the area again.

Bus Services

There are essentially two levels of bus service available in the Cortland area. On a broad scale, there is a bus depot located on Grant Street in the City of Cortland where Greyhound and Trailways bus lines provide travel services to and from Cortland County. The primary route utilized by these companies is I-81.

On a local level, the Cortland Transit Company provides a range of bus services. Headquartered in the City of Cortland, this bus service has four local routes, which serve the immediate Cortland City and Homer Village vicinities. In addition, there are two routes that extend beyond the central area. First is a route that runs five times a day, which connects Cortland with Cincinnatus, Willet, and Marathon. The only portion of the route that falls within the LWRP is the last leg between the Village of Marathon and the City of Cortland. The route follows the main River Corridor. The other “out-of-town” route is between Cortland and the Town of Dryden (Tompkins Cortland Community College) in Tompkins County. The route followed is NYS Route 13, which is not totally within the LWRP limits except for the portion in the immediate Cortland area. Cortland Transit also provides what is called a Dial-A-Ride service where an individual can make a reservation to have the bus pick them up and drop them off at any location within Cortland County. All of the Cortland Transit busses are accessible by wheelchair. These bus services are provided only between Monday and Friday, with no weekend service.

Map E following shows major transportation routes in the Corridor.

7. HISTORIC SITES

The remnants of Cortland County's historic past can be found along and near the riverbanks of its Tioughnioga River. They tell the story of the River and its link to the development of the area. Many riverfront communities have painstakingly inventoried their historic sites for inclusion in the National Register of Historic Places. The City of Cortland has enacted local legislation to protect its historic district. The following is a list of some of the most significant historic sites in the riverfront communities. Most, if not all, of the listed properties still exist, all or in part.

East Branch

Town of Cuyler

- **Keeney Settlement:** One of the earliest settlements in the Town (1795), which in its earliest beginnings was included in Pompey, later Fabius, in Onondaga County. The Keeney Settlement Cemetery is located near the Cuyler border in Fabius and contains the remains of many of the Settlement's first inhabitants, including a dozen or more Revolutionary War veterans. The house presently unoccupied and owned by the Stenslands on West Keeney Road was the District #5 Schoolhouse.
- **Cuyler Cemetery:** Cuyler Cemetery is located at the intersection of Route 13 and East Keeney Road Extension. It is the burial site of the Town's earliest settler, David Moss, who arrived in Cuyler in 1792. Mr. Moss was granted 600 acres for his service in the War. There are also at least two dozen Civil War veterans buried in the cemetery, which is still active.
- **Railroad Station:** The station is a circa 1870's station, almost identical in style and construction to the Truxton train station. Built by the New York and Oswego Midland Railroad, it ran from Norwich to Scipio Center. Today the site is home to the Town's historical society, which uses the facility for special historical displays.
- **Spicers Waterfalls:** The falls are located on Trout Brook on Tripoli Road in the Town and were the site of the Griswold planning and cider mills, part of the Town's early settlement.

Town of Truxton

- **McGraw Field and John J. McGraw Monument:** John J. McGraw "Little Napoleon" was born in Truxton in 1873 and went on to play professional baseball and manage the New York Giants baseball team for 30 years. He was one of the Baseball Hall of Fame's earliest inductees. After his death in 1934, the New York Giants played an exhibition game at McGraw Field against the "Truxton Giants". More than 7,000 persons came to watch. A monument to the memory of

McGraw was erected on Main Street (Route 13) in the Town in 1934 and remains today.

- McGraw Field Grandstand: In 1928, John McGraw paid for and donated the field's grandstand, which cost him a tidy sum of \$800, at a time when cars sold for \$200. It remains today and was used by dignitaries attending the memorial baseball game to honor John McGraw.
- Railroad Station: The railroad station was constructed in the 1870s as part of the County's earliest rail line. The Town has received grant funds to preserve the structure and is looking into the possibility of using it for the Town offices.
- Fire House Bell: The bell stands just outside the Fire House on Route 13. It was salvaged when the Baptist Church was demolished in 1931. The clapper has been purposely removed because the unique design of the bell allows it to be heard for some five miles when rung. There are only two bells of this design in the State.
- St. Patrick's Church, Main Street: The current building was erected in 1880 to replace the earlier church, which was destroyed by fire. It is the oldest Roman Catholic Church in Cortland County that is still in use.

Town of Homer

- Home of John Albright, NYS Route 13 at East Homer: He was one of the first Revolutionary War soldiers to stake his claim in Cortland County. In 1797 he brought his wife and four daughters to East Homer. He is buried in the East Homer cemetery and the local grange is named after him.
- Health Camp Road: In the 1930s, a seven-acre camp was established for teachers and children, usually children from poorer families, who were recommended to the camp by their physicians because the child was considered to be at risk for tuberculosis. The experience was said to be pleasant for the children who were fed nutritious meals and encouraged to swim and exercise. The camp was sold at auction in 1953. Today the stone wall at the entrance survives.

West Branch

Town of Preble

- Cortland Repertory Theater/ Traction Company Park, Little York Lake: The Cortland-Homer Horse Railroad Company introduced mass transportation in the Cortland-Homer area in 1882. The Cortland Traction Company electrified the trolley line in 1895 and extended the service into McGraw and Preble. As was common at the time, the trolley company developed a park to encourage ridership on the weekends. The Traction Company Park was located on the east side of the Tioughnioga River, across from the building now occupied by the Cortland Cable

Company. A deadly trolley accident caused the public to lose faith in the trolley service. As a last ditch effort to save the trolley, the company abandoned its park on the River and designed a new one on Little York Lake. What is now the County-owned Little York Park was built on 80 to 90 acres and included a 70 x 55 foot pavilion that cost \$10,000 to construct. Five thousand people visited the 1906 opening. After the advent of the automobile, the trolley fell on hard times and eventually ceased operations. Today, in addition to Little York Park, the pavilion is occupied by the Cortland Repertory Theater. The pavilion and the park are listed on the National Register of Historic Places.

- **Hamlet of Baltimore, Route 11:** The early history reveals that this was an active hamlet with a tannery and shoe shop, an inn that included a post office, hotel, brickyard, and a schoolhouse. Today only the inn remains as a private residence.
- **Preble Congregational Church:** The Presbyterians erected their building in Preble Center, a mile north of the hamlet of Baltimore in 1831 but moved it to its present location in 1859. Major renovations were made in the 1920's. The steeple is lit at night and can be seen across the Preble Valley. Its religious affiliations have changed over the years. The church is listed on the National Register of Historic Places.

Town of Homer

- **Birthplace of Francis B. Carpenter, US Route 11, three miles north of the Village of Homer:** Francis Carpenter was best known for his painting of the portrait of Abraham Lincoln reading the Emancipation Proclamation. The painting currently hangs in the U.S. Senate Building in Washington, DC. He also painted three other presidents.
- **Salisbury – Pratt Homestead, Corner of Route 281 and Cold Brook Road:** Only confirmed Cortland County stop on the Underground Railroad.

Village of Homer

- **The Village of Homer has a State and federally designated “Old Homer Village Historic District”,** which was formally designated in 1972. Some of the important contributing buildings in the district are noted below, as are other historic buildings located outside of the district.

Historic District

- **Jedediah Barber House, 18 N. Main Street:** One of the Village's most influential early settlers built his 32-room Federal style home in 1826. Barber was responsible for the development of many prominent Homer buildings and businesses including the Cortland Academy, a bank, a church, roads, a railroad, and his Great Western Mercantile.

- **Lenticular Truss Bridges:** Three such bridges span the Tioughnioga River in the Village of Homer at Water, Wall, and Pine Streets. They were built in the early 1880's. Tension rods were combined to produce a metal version of the wooden truss. The bridges are individually listed on the National Register.
- **Homer Town Hall, 31 N. Main Street:** This building was built in 1908 from drawings completed by the noted Syracuse architect, Charles F. Colton. It was a joint effort between the Town and the Village and has been the site of government offices for both since its construction. It is a three-story cast and concrete, rectangular building with dome and pedimented portico supported by Corinthian columns. Probably the best-known use of the building was the portion dedicated to the Capitol Theater. In use for 20 years, the 698-seat auditorium showed scores of films and held numerous benefits. Remnants of the theater still remain.
- **20 Clinton Street:** Very few of the structures built in the Village before 1815 remain. The earliest extant frame house was built by Asa White in 1799. It was moved from Main Street to 20 Clinton Street circa 1826.
- **26 Clinton Street:** The octagonal house located here is one of less than 23 such houses remaining in the State out of the 2,000 that were originally built. Typical of this style is the cupola, the paired chimneys, and the smooth stucco walls over gravel. This property also includes a board and batten barn in the rear.
- **Former David Harum Restaurant:** Jedediah Barber built this building in 1853 to be used as a bank. It has cast iron over windows and is a unique commercial building.
- **Barber Block, S. Main Street:** The arrival of Jedediah Barber in 1811 to the Village of Homer was the beginning of great prosperity in the Village. Barber bought land running from Main Street to the Tioughnioga River on Wall Street and built his Great Western Mercantile. Some of the architectural features include a mansard roof and decorative cast iron surrounds on the first floor windows. The still intact, but deteriorated, Keator Opera House is located on the third floor.
- **James Street Train Station, 43 James Street:** This station replaced the original 1854 structure around 1900. Its present use is the Homer Police Station.
- **Homer Village Green:** The Homer Village Green rests in the center of the Village's commercial business district. Its original design included the centrally located green surrounded by churches and schools. It was reflective of the New England heritage of the first white settlers. By the 1830's, the green was flanked by four churches and the Cortland Academy, which operated for 50 years until it was destroyed by fire. Today only the Episcopal Church remains. The present green contains a bandstand and is the site of the Homer Elementary School. A

number of the original maple trees planted in the 1860's have withstood the test of time.

- **Phillips Free Library:** The library is located at 27 S. Main Street and was donated to the Village in 1902 by George W. Phillips and his daughter, Ellen. It was designed by famed Central New York architect, Archimedes Russell, and is a fine example of Romanesque architecture.
- **David Harum House:** The David Harum house is located at 80 S. Main Street and is a Federal style home with a three bay blinded arcaded façade with Ionic pilasters, hip roof, and balustrade. Its former famous resident was an enterprising horse trader and self-promoter who was born in the Village in 1823. With P.T. Barnum, David Harum helped to perpetuate the myth of the Cardiff Giant. Harum was the inspiration for Edward Noyes Wescott's novel, *David Harum*.
- **81 S. Main Street:** The residence located here was built in 1819 under the Federal style and was remodeled in the 1880's in the second French Empire style. It has a steep mansard roof, projecting dormer windows, and bracketed eaves. Andrew Dickson White, co-founder and first president of Cornell University was born here in 1832.
- **83 S. Main Street:** Taverns were numerous in the 1820's and 1830's in Homer, when four stagecoaches per day ran through the Village. This Federal style building was once a temperance tavern called *Wisdom's Grace*.

Other Village Sites

- **Cherry Valley Turnpike, Albany Street:** Also known as the Albany Post Road, this east/west route passed through Truxton, over the east hill, down Albany Street to Cayuga Street and westward. It was built circa 1797.
- **Glenwood Cemetery:** Paris Barber, son of Jedediah, sold 30 acres of Lot 44 in 1869 at the foot of West Hill on Route 281 to be used exclusively as a cemetery. The land was originally part of his farm. Bodies from a cemetery near the present elementary school site were exhumed and moved to Glenwood. Today the cemetery contains almost 15,000 plots including the remains of both Revolutionary and Civil War soldiers.

Town of Cortlandville (South of the Village of Homer)

- **Circus House, US Route 11:** Sig Sautelle built his octagonal circus retreat at this site in 1906. Sautelle was the first to transport his circus by rail. A bridge across the Tioughnioga River on his property accessed the animal stalls. In 1914, he sold his property to the David Harum Canning Company. For many years the octagonal building was operated as a restaurant. The property is presently an

antiques shop. In addition to its unique architecture and colorful past, the interior is a “catalogue” of pressed tin ceilings.

- Cortland County Fairgrounds, Fisher Avenue: The County Fair dates back to 1863. By 1914, the Fair was one of the grandest in the State. The site was also utilized as “Camp Campbell” when the 76th volunteers of the Civil War rented the site for training purposes. The modern day County Junior Fair was established in 1954. The original buildings have been replaced or extensively renovated.
- Former Riverview Farm, Loring's Crossing: The former Cortland County Poor Farm was built in 1836 for Cortland County's ill and indigent. Until that time, towns and villages paid their citizens to house the County's unfortunate. The Poor Farm served the needy for over 100 years. The site is listed on the National Register of Historic Places.

City of Cortland

The City of Cortland has a local, State, and federally designated “Main Street/Tompkins Street Historic District” that was designated locally in 1990. Some of the important contributing buildings in the district are noted below, as are other buildings outside of the district.

Historic District

- Former Cortland Savings Bank, 1-5 N. Main Street: The 1917 building was designed in the Classical Revival style. This style conveys strength, an attribute suitable for a bank. The current bank occupying the building is First Niagara.
- Samson Block, 2-8 Main Street: One of four downtown structures with a stamped galvanized sheet iron front façade. The building was constructed in 1896. The Groton Avenue façade is rough textured sandy brick with stamped metal and stone trim.
- Beard Building, 7-9 Main Street: Built in 1884, the building originally housed the Beard and Peck furniture and undertaking business until 1903. The site has a stamped metal cornice, terra cotta tiles, colored glass, wood panels, and stamped tin ceilings on the inside. The height is emphasized by the use of pointed arches.
- Community Restaurant, 10 Main Street: This building was erected sometime near the end of the Civil War. The brick front was added pre-1935, replacing wooden clapboard. The building has an Italianate wooden cornice with dentil molding, paired brackets, and center gable with scroll sawn panels. It also includes a vintage 1940's neon sign.

- Garrison Block, 17-19 Main Street: This 1887 building has unusual shaped window arches of light stone with dark keystones. The building was named for its original owner, the president of the Homer Horse Railroad.
- Burgess Block, 33 Main Street: This site housed one of Cortland's longest existing retail stores, the Burgess Clothing Store (1887-1977). The construction includes bracketed cornice and windows with stone sills.
- Old First National Bank Building, 35 Main Street: This building was built in 1915-1916 for a bank that began in the City in 1869. It is Indiana limestone with polished granite "water table" base. It is a Classical Revival style with Ionic columns. The rear three bays on the north side reveal a 1938 addition.
- Fireman's Hall, 38 Main Street: From 1875 to 1914, this building housed a volunteer fire company. The site included a horse stable in the rear which still exists, although altered over time. The Italianate style building includes a stamped sheet metal cornice, false gable and brackets, and circular attic window. The top floors have stamped metal lintels and wooden sills.
- Schermerhorn Block, 43-49 Main Street: The building was erected in 1880 and has a crenalated cornice of stamped sheet metal mimicking a medieval Moorish fortress. There are pointed arches on the third floor and Tudor arches on the second. It was the site of several small shops and then was converted to one store in 1927 by the J.J. Newberry Company. J.J. Newberry's occupied the site until it closed in 1992.
- Old Bank Block, 51-55 Main Street: This was the original home site of one of Cortland's first settlers, Jonathan Hubbard, who settled in 1794. In the 1860's, an Italianate style building was constructed on the site to house the Bank of Cortland.
- Beaudry Block, 73 Main Street: Beneath the metal cornice and limestone nameplate is a terra cotta Indian flanked by two terra cotta floral panels. The third floor windows have colored glass transoms. Carved gargoyles top rough stone piers on the storefront. The building was originally designed for G.F. Beaudry who sold bicycles and stationery.
- Cortland Standard Newspaper, 110 Main Street: The newspaper was established by Francis G. Kinney in 1867; a weekly newspaper that was originally called the Cortland County Standard. After being located in several spots in the City, the newspaper moved to its present location in March of 1883. The building was designed by Syracuse architect, Horatio Nelson White, and includes a mansard roof decorated with color slate, a portion of which was removed in 1948.
- Squires Block, Southwest corner of Tompkins and South Main Streets: Constructed in 1883, the newly constructed building incorporated the 1820's

Randall Store. It contained the City clock, maintained by the City, which existed on privately owned property. The clock was first lit by automatic gas light. The building was destroyed by fire on April 11, 2006.

- Elmer Sperry Home, 124-126 South Main Street: This structure is the boyhood home of Sperry (1860-1930), inventor of the gyroscope compass and 400 other patented inventions. Modern adaptations of his inventions helped the United States in its space program success. He was also a major financial contributor to the construction of the Cortland Free Library.
- 1890 House Museum, 37 Tompkins Street: This is a Chateausque limestone mansion, originally designed for Cortland industrialist Chester F. Wickwire (Wickwire Brothers) with a 1920's fernery addition designed by Carl Clark.
- Democrat Building, 12-14 Central Avenue: This is a Richardson Romanesque design by Cortland native architect, George Conable. The building was built in 1889 and was the home to the *Cortland Democrat* weekly newspaper for more than 100 years.

Other City Sites

- St. Mary's Church, 46 N. Main Street: This Roman Catholic Church was designed by William Ginter and was erected between 1909 and 1913. Reminiscent of European cathedrals, its perpendicular Gothic form, proportions, Tyrolean stained glass, and other ornamentation is outstanding.
- Cooper Brothers Foundry (Present site of Cortland Cable Company), River Street: Lester and George Cooper created an iron foundry and machine shop on River Street in 1881. Cooper Brothers continued manufacturing milling machines, air furnaces, concrete mixers, gas engines and more until it closed in 1935. Although altered, the site still contains the footprint of the original building.
- Cortland Wagon Company, East Court Street: The site of the present Cortland Corset Company was the former site of the Cortland Wagon Company. The company was established in 1869 by L.J. Fitzgerald and Gee. In 1872, an interest in the company was purchased by C.W. Kinne and the company became known as Fitzgerald and Kinne. New and larger buildings were erected on the site allowing the construction of wagons to increase from 4,500 in 1877, to 27,000 in 1888. The company built such products as carts, road wagons, platform spring wagons, and elaborate carriages and it was the first Cortland company with a world-wide market. Financial problems and the introduction of the automobile caused the plant to close in 1910.
- Cortland County Line Company, East Court Street: The Cortland Line Company also had its start in one of the old Cortland Wagon Company buildings. In 1915 the company manufactured fishing line; during WWI, it made medical sutures;

and in WWII it produced parachute and bomb fragmentation cords. During the 1930s, the company extended into tennis racquet production, which was later sold to Wilson's Sporting Goods. The Cortland Line Company still produces premier fishing line and is located in a newer facility on Kellogg Road in the City.

- City of Cortland Fire Department, 21 Court Street: The City of Cortland's fire station is an architectural prize. Erected in 1914 and designed by Sacket and Park, Architects, the building is a remaining example of the pseudo-Dutch style popular in upstate New York at the turn of the century. The site is individually listed on the National Register of Historic Places.
- Unitarian/Universalist Church, Church Street: The cobblestone church was completed in 1837 in the "New England Meeting House" style and was one of Cortland's first four churches. Congregation member, John Hubbard, lobbied for the City to become the county seat. The basement of the church was used as the first Town Hall. During the Civil War era, church members were sympathetic to the abolitionist movement. They provided food and warm blankets for escaping slaves and invited well known abolitionist speakers such as Henry Ward Beecher, Sojourner Truth, and Harriet Beecher Stowe to speak at the church. The church is listed on the National Register.
- Cortland County Courthouse, Courthouse Park: The present courthouse is the County's third building. It was erected on the ashes of the Cortland Normal School which burned in 1919. Riley Gordon of New York City designed the existing structure which was built in 1924. The building is individually listed on the National Register.
- County Office Building, 60 Central Avenue: In 1893, the concept of progressive education took hold in the village of Cortland. On Railroad Street (now Central Avenue) the new Central School welcomed students through grade 12. Today the building is the home of Cortland County government offices.
- Cortland Water Works, Broadway: The Cortland Water Works Company began in 1884 at its present location. It originally provided three million gallons daily through 17 pipes to all parts of the village of Cortland.
- Wickwire Brothers, Inc.: The last of the Wickwire Brothers, Inc. complex of buildings stood on South Main Street in the City. Wickwire Brothers was founded in 1873 and was known internationally for producing different types of wire goods: chicken fencing, screening, and different types of nails. The company closed in 1972. At its height, the company occupied 40 acres and employed 1,500 persons. The building was destroyed by fire in December of 2005.
- SUNY Cortland: The Cortland Normal School began in 1868 on property where the Cortland Courthouse now stands. Most students enrolled in the Normal School

to obtain a secondary education in preparation for college. It burned to the ground in 1919 and was relocated to its current site in 1923. Its sole building was Old Main which still exists today. By act of the State Legislature and the State Board of Regents, the college became a four-year learning institution providing course work leading to a bachelor's degree. In 1948, it became one of the chartered State University of New York schools. The campus encompasses some 191 acres in the City. Numerous educational and dormitory buildings have been added over the years.

Main Branch

City of Cortland

- Port Watson, along the banks of the Tioughnioga River, east of River Street: Elkanah Watson (1758-1842) was a man with many interests, one of them being an interest in land acquisition and development in Central New York. The Village of Port Watson was planned as a model town on the River. An historic marker is located at the eastern gateway to the City near the Port Watson Street Bridge. The village was absorbed by the City in 1867.
- Traction Company Park, across the River from Cortland Cable Company: The trolley company had a recreational park here that was accessed by trolley over a bridge at Elm Street. Today only a wooded area remains.

Town of Cortlandville (South of the City of Cortland)

- Former Chris-Craft Factory on Route 11 (now Intertek): Six brothers began building boats in Cortland in 1905. Thompson Brothers' canoes and rowboats became so popular that a plant was built in Michigan in 1911. In 1924, a factory was built in Cortland. In 1962, Thompson Boat became part of the Chris-Craft Boat Company. That same year, Chris-Craft moved to the Route 11 site. After wood boat production was discontinued in 1965, the company began the production of fiberglass boats. At its height in 1972, the company employed 190 persons. The company shut down in 1974.
- Church of Blodgett Mills: The Baptist Church was relocated from the site of the Cortland Memorial Hospital to the hamlet of Blodgett Mills in 1840. Its affiliations have changed over the years, however, it still remains today as a place of worship.
- NYS Harmony Grange No. 372, Blodgett Mills: The still-active grange was the first to organize in the country. It was chartered on April 5, 1876. The cobbled portion of the building served as School District Number 20 for Virgil and Cortlandville in the early 1800's.

Town of Virgil

- **Joseph Chaplin Home:** Joseph Chaplin moved to the Town of Virgil in the Hamlet of Messengerville in 1792 and was the Town's first settler (he married the widow Messenger, hence the name). He was instrumental in the settlement of Cortland County. He was hired by New York State to build the first state road from Oxford in Chenango County to Cayuga Lake. Pioneers who used the road forded the Tioughnioga near Chaplin's home.
- **First State Road:** Route 392 was the first road in Cortland County built by New York State under the direction of Joseph Chaplin. It starts in the Hamlet of Messengerville and continues through to Virgil's Four Corners. It proceeds westward from the Four Corners to Route 13 and is referred to as the West State Road.
- **Virgil Methodist Church, Church Street:** The present structure, built in 1848, replaced the original structure built in 1831. Major renovations took place in 1875 and 1975. There is still an active membership today.

Town/Village of Marathon

- **Three Bear Inn, Broome Street:** Originally built as Brink's Tavern in 1799, the tavern remained in the Brink family for some 124 years. When the Foreshees of McGraw bought the Inn in the 1920's, they hung three bearskins from the porch and sometimes exhibited bears.
- **Peck Memorial Library, Main Street:** The library building commenced construction in 1894 and opened in January of 1896. In addition to having a library and a place for shops, there is an upstairs auditorium that operated for years as a movie theater. The library is included in the National Register of Historic Places.
- **St. Stephen's Church, Academy Street:** In 1896, the cornerstone for this Roman Catholic Church was laid. The architect was the famed Central New York architect, Archimedes Russell, who also designed the Phillips Library in the Village of Homer.
- **Climax Road Machinery Company, Front Street:** The company was formed in 1887, burned in 1894, and was rebuilt in 1895. Its road building machines were sold all over the country.
- **Marathon Train Station:** From 1907 to 1958, Marathon Station served as the gateway for local passenger and freight service by rail. Nine times daily for 50 years, trains stopped in Marathon on their way to Oswego and Syracuse, Binghamton and beyond. The Lackawanna Railroad commissioned Frank Nies to design the Marathon Station in 1906. Preservation efforts in 2002 restored the

building for passenger and freight usage and as an important tourism destination and community landmark.

- **Tarbell Building:** By the late 1800's, the Village of Marathon was a prosperous commercial town and its buildings reflected this prosperity. The Tarbell Building was one such building, erected in 1885 by Gage Tarbell, attorney and insurance broker. The three-storied brick structure is one of the most imposing in the Village and is presently home to a NAPA franchise. Unfortunately, many of downtown Marathon's structures have not survived the test of time due to fires and flooding. The building is included in the National Register of Historic Places.
- **"Barrel" House, Cortland Street:** The round house is believed to be the only one of its kind in the State. It was constructed in the 1860's by Joseph Conger who was a cooper. His occupation is likely the connection to the architectural style.

Trout Brook

Village of McGraw

The Village of McGraw has a State and federally designated historic district which is located primarily on Main, East Main, and Clinton Streets.

- **Lamont Memorial Library, NYS Route 41 (Main Street):** Daniel Lamont (1851-1905) was probably best known as Grover Cleveland's Secretary of War. He also served as vice president of the Northern Pacific Railway Company. After his death, in 1906 his widow established the sometime family home as a memorial library. The library is included in the Village's historic district.
- **New York Central College:** McGraw is the only village in the County to boast of having had its own college. Its activities were founded by the Free Missionary Society, an anti-slavery group. The college pledged to serve students without regard to sex, color, or nationality. The college was plagued by financial problems and went bankrupt in 1858 after an 11-year run. An historical marker can be found on West Academy Street where one of the original buildings remains.

Map F following shows the location of historic districts and sites in the Corridor.

The River Corridor area is rich in places which tell the story of Cortland's past. The Villages and the City have done an excellent job in inventorying the important collection of historically and architecturally significant structures that have withstood the test of time. Some of the rural areas have not made nominations to the National Register of Historic Places. This threatens the survival of important buildings. Since there are an abundance of places and buildings in the River Corridor which link the community to its heritage, the development of the Corridor would be well-served by including more

historic markers and kiosks which tell the River's history. A concerted effort should be made to nominate more structures to the National Register.

Since the River area was the site for so much of Cortland County's earliest development, as most Native American and early settlers used the River as a major source of transportation, a water source, and source of hydropower, most of the River bank area is archaeologically sensitive. Zoning that is enacted with respect to the LWRP, or projects developed with State or federal funding, will no doubt need to deal with the sensitivity of this area for potential archaeological resources.

8. SCENIC RESOURCES

The scenic resources of the Tioughnioga River corridor are extremely abundant and of a very high quality. The landscape of the study area viewshed is a particularly beautiful example of typical Central New York State rural scenery with its dark green, steeply wooded moraines and gorges; rolling hills sporting a tapestry of varying agricultural crops and farms with herds of grazing cattle; bucolic villages and hamlets displaying historic architecture and church spires rising above the valley floor; a number of small, attractive water bodies and wetlands; and a river valley plain of varying width through which the scenic Tioughnioga River meanders.

Viewpoints of the study area can be characterized in several ways: 1) expanded views of the river and the river valleys from the surrounding hillsides; 2) expanded views from within the river and riverfront area looking out and up at the adjacent hillsides and valleys; and 3) short distance views of and within the hamlets, villages, City streetscapes and roadway areas. The views from Interstate Route 81, and NYS Routes 11, 13 and 281 offer a sequence of constantly changing views of the river and the surrounding hills. These transportation routes are the means by which the highest numbers of people are able to observe and enjoy the Tioughnioga River valley scenic resources.

The limit or boundary of lands visible from within the study area is dictated largely by topography and position of the viewer – it generally occurs where the horizon is formed at the steep, forested ridges of the moraines or along the high rolling terrain supporting agricultural fields and forests. In many locations throughout the study area, expansive and especially distant views exhibit a sequence of receding ridges and hills, which can be seen for considerable distances. Whether the views of the valley walls are expansive or not, they constantly supply a simple yet stunning backdrop for the river valley scenery in the foreground. Throughout the entire study area, there is the constant presence of older farms and surrounding agricultural fields whose presence plays a key role in the charming, rural character and beauty of the scenic resources throughout the Tioughnioga River valleys.

Expanded Views Of Study Area

East Branch

The East Homer/Truxton/Cuyler Valley

The East Branch of the Tioughnioga River travels through the Truxton/Cuyler valley, which eventually joins the West Branch of the River in the City of Cortland, just south of Yaman Park. The Truxton/Cuyler valley is the most rural of the three valley sections that contain the Tioughnioga River and comprise the LWRP study area. This valley does not contain Interstate Route 81, as are most of the other portions of the study area and therefore does not exhibit the extent of commercial development that other portions of the river corridor currently support. As far as overall expansive views are

concerned, the absence of the Interstate and its associated commercial developments does raise the quality and quantity of the scenic resources in this area.

West Branch

The Homer/Little York/Preble Valley

This valley contains several important water features in addition to the West Branch of the Tioughnioga River itself including Upper and Lower Little York Lakes, which are located in the midpoint of this valley section, and Tully Lake to the north, near the Onondaga County line. These water bodies add another dimension to the typical rural scenic resources described for other sections of the study area.

Main Branch

The Blodgett Mills/Messengerville/Marathon Valley

The Blodgett Mills/Marathon valley does contain I-81, but the extremely narrow width of the valley in this area and the potential for flooding of the entire valley floor in some locations has limited the extent of commercial development in this area. The elevated viewpoint of I-81 does offer views into the very rural, narrow river valley which are of outstanding quality.

Trout Brook

The McGraw Valley

The McGraw valley is also rural in nature and does not contain I-81. The area where a very high level of commercial development takes place begins at the intersection of I-81, Route 11, and Route 41 in the hamlet of Polkville.

Short Distance Views Within Study Area

The Rural Hamlets of Cuyler, Truxton, East Homer (East Branch), Preble, Little York (West Branch), and Blodgett Mills (Main Branch)

The scenic resources contained within each of the small rural hamlets of Cuyler, Truxton, East Homer, Preble, and Blodgett Mills consist largely of old or historic structures – in each case a church or several churches, commercial buildings and quaint and/or stately residences exhibiting typical New England style architecture. These communities when viewed from a distance as part of the overall landscape, form an important component of the rural, historic New England style countryside that is of such high quality.

A certain percentage of these “aesthetically-important” buildings are often in some state of disrepair, have had more contemporary features added, or have been

replaced entirely with a much more contemporary structure. In addition, there are some areas – particularly along the main thoroughfare - where there is a noticeable lack of medium to large street trees and green area between the roadway and sidewalk. These issues have a tendency to reduce the aesthetic value of these resources when viewed from a close vantage point. However, if the historic features were to be enhanced and additional attention given to providing street trees and green areas, the immediate scenic value of these rural hamlets would increase substantially.

The hamlet of Little York has a unique aesthetic character of its own due to the presence of Little York Lake. This community is largely comprised of small, quaint cottages and farms surrounding the edge of the lake. The large Victorian “Pavilion” which overlooks the lake from the north (home to the Cortland Repertory Theater) is very visible from NYS Route 281 and adds to the quaint charm of the Little York Lake area.

In the flat agricultural lands north of the hamlet of Preble a cluster of industrial and commercial businesses has begun to form. These facilities generally consist of large metal buildings with associated support structures and equipment. This trend is likely to continue due to the fact that this area is within the crossroads of Interstate Route 81 and NYS Routes 281 and 11, just south of the Onondaga County line and immediately adjacent to I-81. The presence of this industrial commercial cluster does detract somewhat from the scenic resources of the valley in this location, however the structures have a very low profile within the valley floor and are clustered together, reducing the extent of impacts throughout the Preble valley.

The Hamlet of Polkville

The hamlet of Polkville is unlike that of the other communities described above in that it is composed almost entirely of large-scale commercial and industrial businesses. These include a gravel mine and asphalt storage tanks, gas stations, diners, vehicle repair shops, electrical transmission lines, and an electrical substation all within the crossroads of Interstate 81, and NYS Routes 11 and 41 and between the City of Cortland and Polkville along Route 41. The quality of the scenic resources in this area is quite low due to the number of commercial and industrial facilities contained within this relatively small valley area.

The Villages of Homer, McGraw and Marathon

The Villages of Homer, McGraw, and Marathon each exhibit the same type of visual resources as those described above. These small village communities contain a larger number of historic structures as well as structures that are larger in size and stature than those found in the more rural hamlets. Similar conditions of disrepair or incongruous architectural styles or features are present as well as a noticeable lack of street trees and green space between sidewalk and curb. However, the historic character is noticeably present and of an adequate quantity and quality to be of important scenic value – particularly if efforts are made to emphasize the historic features and add medium to large sized street trees and green strips between sidewalk and curb. The Village of Homer

is particularly fortunate to have a “village green” surrounded with churches and other elegant historic structures, a very historically intact commercial Main Street, as well as a high quantity and quality of large, historic residences - particularly in historic district of Main Street, Clinton Street and Cayuga Street. These village streets also exhibit a high number of large street trees and green space between curb and sidewalk, which adds substantially to the quality of the visual experience. These communities with their church spires and interesting historic architecture are also an integral component within the expanded views of the countryside as a whole.

The City of Cortland

The City of Cortland lies in the flat valley plain where the seven valleys of Cortland County intersect. The City contains a number of important scenic resources. Some of these include the historic district of Main Street; the attractive West Court and Church Streets with lovely historic churches, commercial and residential buildings; the neoclassical, domed County Courthouse and adjacent park; as well as a number of large, historic residential properties along the western portion of Port Watson Street. Along the immediate area of the Tioughnioga River the City and adjacent to I-81 are a large number of commercial properties with associated signage, parking lots and traffic. The scenic value of these highly developed commercial areas is considered to be relatively low in comparison to that of the more historic portions of the City and the more rural countryside and smaller communities.

Negative Visual Components

As discussed in the paragraphs above, the quality of the scenic resources in the study area is adversely affected in some areas by the presence of negative, unattractive or less attractive features within the study area viewshed boundary. Some of these include radio and cell phone towers, power poles and transmission lines, billboards; industrial tanks, towers and large buildings; large expanses of asphalt with an abundance of motor vehicles; large bright lights, a significant number of signs both short and tall; run-down or shabby buildings and streetscapes; a lack of enhancement, preservation, and/or restoration of important historic and aesthetic buildings and resources; and a significant absence of street trees and green area between street, sidewalk and parking lots within populated areas.

Although some of these features appear throughout the study area viewshed boundary, their level of impact on the value of the scenic resources depends on the density or concentration of these features in any given area, the relationship and proximity to the viewer, and/or the level of obtrusiveness that occurs within any given detraction. Generally speaking, aside from the highly developed areas described above, these negative features do not significantly reduce the overall quality of “expanded view” scenic resources throughout the remainder of the study area.

Map G following indicates location of scenic resources. Representative photographs are also included below.



#1



#2

#3



#4





#5

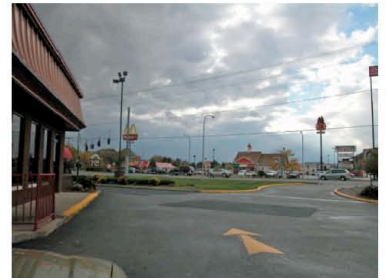


#6



#8

#7



#10



#9



#11



#12



#14



#13



#15



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#17



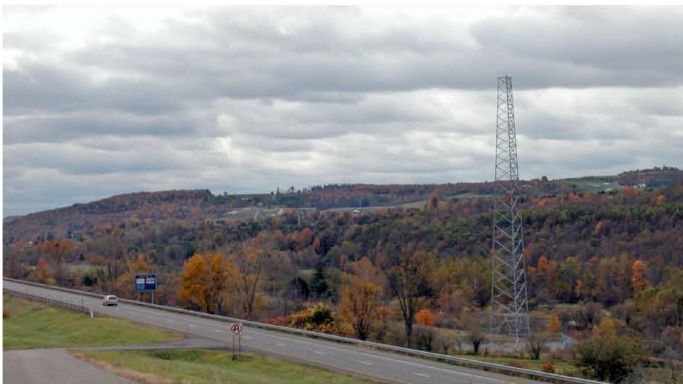
#18



#19



#20





#21



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#23



#24



#25



#26



9. PHYSIOGRAPHY, TOPOGRAPHY AND GEOLOGY

Physiography

Cortland County is located in the northern part of the Appalachian Plateaus Province. The area is known in New York State as the Allegheny Plateau. This plateau has also been referred to as the Southwestern Plateau Province. The plateau consists of many layers of acid sandstone, siltstone, and coarse textured shale of the Devonian age. The plateau, when seen from a high elevation, presents an even skyline to the viewer. In places, however, a few remnants of hills rise above the rest of the plateau. Most of these remnants represent caps of more resistant rock.

As shown on the general Bedrock Geology map which follows, the majority of Cortland County, as well as the entire study area, is underlain with the blocky shale and thin-bedded sandstone of the Ithaca formation. The bedrock is several hundred feet thick, and most of the rocks contain lenses of sediments coarser than the predominant rock in the formation. The rocks have been disturbed but little, even though they have a general dip of 30 to 50 feet per mile toward the south and southwest.

The main valleys are about $\frac{1}{2}$ to $\frac{3}{4}$ mile wide. The main valleys are about $\frac{1}{2}$ to $\frac{3}{4}$ mile wide on the average. The most narrow valley section (1,000 feet wide) exists along the Main Branch between Blodgett Mills and the Village of Marathon. The widest valleys contain the City of Cortland (12,000 feet wide) and Tully Lake (8,000 feet wide). The shape of the hills and valleys indicates that they were formed through the movement of water and ice. The valley floors are predominantly covered by gravelly fill, and the walls are steep. In only a few places do spurs extend out into the valleys; most of them have been destroyed by glaciers. It has been suggested that glaciers formed the steep sidewalls of the valleys. The floors of the main valleys are about 500 feet lower in elevation than the adjacent uplands.

The tributary valleys are narrow and have floors consisting of alluvium instead of gravelly outwash. Their floors are steeper than those of the main valleys. Between Blodgett Mills and Marathon, where these valleys enter the valley of the Tioughnioga River, they are like gorges. There are a few other gorges in Cortland County. In most of the tributary valleys, the walls are only moderately steep. Some of the walls extending east to west are steeper on the south side than on the north side. At the junction of the tributary valleys and main valleys, a number of large alluvial fans have built up.

Nearly all the walls of the main valleys and some of those of tributary valleys contain deposits of gravel, or till, or a mixture of the two. This material was deposited in lateral moraines that are long and narrow and that have steep sides facing and paralleling the floor of the valley. Good examples of these kinds of landforms occur in the valley northeast of the City of Cortland and extend to Cuyler. Just above the morainic deposits, in many places, there is a steep, narrow wall of bedrock, and then the uplands.

The rolling hills in the uplands were smothered by glacial ice. Commonly, long, narrow ridges, extending north to south, or northeast to southwest, connect one hill or summit to another. The uplands are covered with a thin deposit of glacial till. The till is compact, acid, and medium textured, and it has platy or massive structure; its matrix consists of materials derived mostly from the underlying bedrock. On some of the highest ridges and on the steep walls of valleys, the till is only one foot thick, but between the ridges, it is 10 to 20 feet thick. Along the small tributary streams, it is even thicker.

The north ends of the hills are generally steeper than the south ends. In some areas the ridges resemble steps. Here, the till is seldom thicker than one to two feet. The step-like landforms are common in the eastern and central parts of the County. In places, their elevations vary from 50 to 150 feet within short horizontal distances.

Topography

In most of Cortland County, average elevations range from 1,100 feet in the valleys to 1,800 feet in the uplands. In the extreme northwestern corner of the County, however, a small area has an elevation of only 880 feet. Mt. Toppin near Preble and hills near Virgil are the highest points in the County. The highest elevation is Greek Peak at 2,100 feet.

The LWRP study area comprises the lowest elevations for any particular segment due to the fact that it contains the River and its tributaries. The boundaries of the study area are largely defined by roads that travel along the base of the steep hillsides and rolling hills that form the valley walls. Maps H1 through H6 show topography in the Corridor.

Geology

As described in the most recent edition of, *Cortland County Soil and Water Conservation Soil Survey*, issued in 1961, Cortland County was completely covered by ice during the period of the Wisconsin glaciation, the last part of the glacial era. In this area, glacial ice deposited material that formed two moraines: the Binghamton and the Valley Heads. Both of these moraines were formed an estimated 13,000 to 16,000 years ago during the Cary substage, or the third substage of the Wisconsin age. The Binghamton moraine is commonly referred to as Old Cary and the Valley Heads, as Young Cary. The Binghamton has been leached more deeply of carbonates than the Valley Heads.

The Tioughnioga River travels through the typical valley outwash area, which was glacially formed through the stratified deposition of different soil and rock materials. Most of the topography of the immediate area surrounding the study area is very flat and follows the same gradient as that of the River. At the adjacent hillsides, the topography dramatically changes and these hilltops are typically 600 to 800 feet higher than the valley below.

Soils

Although the Binghamton moraine covers most of the County, two distinct areas thought to be of the Valley Heads moraine are identified as follows:

- Areas consisting of valley plugs or terminal moraine deposits at the heads of valleys extending north and south: these deposits are west of Scott, northwest and east of Cuyler, and near Virgil and Hartford. Here, the glacial ice became stagnant and gravel and till, or a mixture of the two, were deposited. Streams flowing from the ice deposited material forming gravelly terraces or outwash plains. On these deposits, the Palmyra and Howard soils formed. The Lansing, Conesus, and Valois soils formed on glacial till.
- Areas in the uplands covered by a mantle of till: Most of these areas are along the western border of the County between Harford and Scott. In these areas, Valois, Langford, and Erie soils have formed.

Most of the surface mantle of the County is of the Binghamton moraine. In the valleys and on the valley walls are deposits of gravelly outwash and glacial till or a mixture of the two. Glacial till is an unsorted mass of soil material and rock fragments left by melting ice. Glacial outwash is material that was carried by water flowing from a melting glacier and lain down in the form of a plain, delta, kame, or other feature. Outwash deposits generally are stratified as a result of sorting and of deposition at different times by the flowing water. Where bodies of water were impounded for some time, stratified deposits of clay and silt settled out from them. These are called lacustrine deposits. In the valleys there are also alluvial deposits that were laid down by streams since the last glacial period. These materials were deposited in the same way as those of the Valley Heads moraine. On the outwash deposits the Chenango, Red Hook, and Atherton soils have formed. On the terraces cut by streams are the Unadilla and Scio soils. In the uplands the principal soils are the Bath Marin, Volusia, and Lordstown.

Concerning the soils at or near the surface, the Cortland County Soil Survey provides a comprehensive examination of the soils present. These are mainly characterized as gravelly or silt loams at slopes of 0 to 25%.

10. WATER QUALITY

The quality of both the surface water and groundwater within the Tioughnioga LWRP study area is generally considered good. Over the long history of growth and development along the River Corridor, the negative impacts of either particular sources (point sources) or unidentifiable, more widespread contaminant sources (non-point sources), have not been of such a severity as to cause significant concerns. While information concerning the water quality of the region is continuously evolving, the data provided herein represents recent trends which accurately depict the present “state of affairs” concerning water quality. In addition, there have been two recent reports prepared that fully detail the status of the River Corridor and its water quality. One is the February 2001 report prepared by the Cortland County Soil and Water Conservation District entitled, *Water Quality of the Tioughnioga River and Tributaries, Cortland County New York*. The other is the May 2004 information packet assembled by the Cortland County Water Quality Coordinating Committee entitled, *Information to Re-evaluate Current Watershed Ranking for the Cortland County Water Quality Strategy*. This package of data includes information relative to the NYS DEC Priority Waterbody List (PWL) and the Impacted Segments listing of the DEC.

As background to the discussion that follows, it is important to have some basic understanding of the Tioughnioga River and its watershed and the various other watersheds that exist within Cortland County. Listed below are selected key characteristics and data associated with each.

- The Tioughnioga River watershed represents the northern limit of the Susquehanna River Basin for this region of central New York.
- There are portions of 10 different watersheds within Cortland County with the Upper and Lower Tioughnioga River watersheds being the major ones followed by: Otselic River, Virgil Creek, Owego Creek, Skaneateles Lake, Geneganslet Creek, Otisco Lake, and Oneida Lake.
- Under the NYS DEC Classification system for surface waters, various portions of the Tioughnioga River are classified as follows: for the entire length of both the East and West Branches, the River is a Class C and the entire main branch of the river, from the confluence in the City of Cortland to the County southern boundary, is classified as Class B. For Trout Brook from where it meets the Tioughnioga heading easterly to the Village of McGraw, the stream is classified as Class C.
- Under NYS DEC definitions, “The best usages of Class B waters are primary and secondary contact recreation and fishing. These waters shall be suitable for fish propagation and survival.” The definition for Class C states, “The best usage of Class C waters is fishing. These waters shall be suitable for fish propagation and

survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.”

The discussion that follows is divided into the two main pollution source categories. They are (1) “Point” (specific discharge locations) and (2) “Non-Point” (different and unidentifiable sources).

Point Sources of Pollution

Along the entire route of the River that is included in the study area there are only four significant “point” discharges that may impact the quality of the water. Two locations are outfalls from a sewage treatment plant (STP) while the other two are the release of process/cooling water from two local industries.

Beginning along the West Branch, there is one point discharge at the Albany International facility located on Route 11 (Homer Avenue), just south of the I-81 Exit 12 on/off ramps. This facility is located on the west side of the River and discharges untreated cooling/process water from the plant. Since the vast majority of the discharge is associated with the operation of the air conditioning system in the plant, the seasonal variation is significant. During the summer months, the average discharge is approximately 250,000 GPD while during cool temperature months, the discharge will average 45,000 GPD.

The other three discharge locations are all located along the Main Branch of the Tioughnioga River. The most northerly site is at the Wastewater Treatment plant for the City of Cortland (adjacent to the Port Watson Street bridge) which has a design capacity of 9.0 million GPD and presently discharges approximately 7.3 million GPD. This figure represents the average for the year, with seasonal variations being significant and ranging from 5 million GPD to in excess of 20 million GPD. The treatment process at the facility was modified in 1995 and now functions as a fully nitrifying activated sludge system. Realizing the significant implications of the high inflow volumes handled in the spring, the City is gearing up to conduct a comprehensive I & I (inflow and infiltration) evaluation so as to reduce the quantities treated during the wet seasons of the year.

Just a short distance south of the Wastewater Treatment plant, and located on the east side of the River, is the process water discharge from the Intertek ETL Testing Laboratories facility located on Route 11 just east of the aforementioned Port Watson Street Bridge. This facility discharges an average of 500,000 GPD of non-contact cooling water.

The third and final significant discharge along the main branch is located at the southern end of the County in the Village of Marathon. The Village’s wastewater treatment facility is located on the south end of the Village on the west side of the River and treats and discharges an average of 65,000 GPD. The design capacity of this facility is 200,000 GPD and the treatment is an extended air activated sludge process. The

facility has recently upgraded some of its equipment and system to improve the overall function but the design capacity will remain the same.

Non-Point Sources of Pollution

Non-Point Source Pollution essentially covers all other pollution sources that originate from a variety of different, non-specific locations/sources. In this type of rural Cortland County community, one of the most frequently referenced examples of such a non-point source is the agricultural land that is routinely fertilized and disturbed, thus making it a prime source for contaminated runoff since it carries undesirable nutrients and sediment into adjacent watercourses. Other examples would be commercial/industrial sites where there may be a parking lot which can contribute contaminants to the initial runoff during a rain event due to leaking oil and/or gas products from vehicles. These same sites also frequently have outdoor storage areas for refuse and may use products containing contaminants from which undesirable materials may leak onto the ground and then into the runoff.

In cases where the River Corridor includes a lake, an obvious potential source of pollution is any gas operated boats and/or recreational water-based equipment. By having these types of uses on certain lakes, it significantly increases the risk of possible discharges of petroleum-based products into the water body. For these same lakes, another source of contamination is the leakage and seepage of residential wastewater that may be migrating from failed septic systems on properties along the waterfront. Where there is a concentration of homes, the likelihood increases that some wastewater is making its way into the water body.

Another potential non-point source in the study area is mining operations. Due to the abundance of gravelly materials frequently found in the valley areas along the River, this too can contribute to the degradation of the water quality through accidental leaks from heavy machinery working the mines and the sediment that may migrate from the site due to the bare/exposed surfaces of earth.

Noted below is a listing and brief discussion of the primary, and generally identifiable, non-point sources of pollution that are located within the Tioughnioga LWRP study area. This list does not include any discussion of existing and closed landfills and any active and/or inactive hazardous waste sites. That information is included in the discussion found in the Environmental Issues section of the inventory.

East Branch

Along the East Branch of the River through the Towns of Cuyler, Truxton, Homer, and Cortlandville, there is limited industrial activity and the primary non-point source is, again, the agricultural uses which are present throughout. There are several small hamlets along this route, none of which likely contribute significantly to any issues or problems. The one noteworthy industrial facility in the Town of Cortlandville at Lorings Crossing is the asphalt manufacturing plant of Suit-Kote Corporation. There are

numerous oil emulsion storage tanks located at the plant which are very near the River and oil tanker trucks are loading and traveling through this facility routinely during the construction season, likely leaving some residue on the ground.

West Branch

Beginning in the Town of Preble, the location of Song Lake and Tully Lake, which serve as the headwaters of the West Branch, immediately prompt a concern for both the slow infiltration and migration of undesirable residential wastewater releases, as well as accidental spills and runoff of petroleum type products. This same concern surrounds the chain of lakes associated with Little York (Towns of Preble and Homer) where many homes surround the water and motorized boats are permitted. The other significant source of pollution is the heavy agricultural use within the River Corridor in these same two townships. Runoff laden with nutrients and other contaminants makes its way to the River in many locations. Relative to commercial/industrial development and more urbanized areas, the one significant growth area of industrial/commercial activity is just north of I-81 Exit 13 (Preble) along Route 281 where Paul Bunyan Products (wood pallets, wood mulch), Bestdeck (manufactured decking products), and Barden Homes (manufacturer of residential and commercial buildings) are all located.

Continuing south, the next two noteworthy features are the Village of Homer and the City of Cortland, with their many streets and closed stormwater collection systems, which ultimately carry runoff to the River. These municipalities also serve as the home for numerous commercial and industrial businesses. By their mere presence the risk of negative impacts increases.

Main Branch

The initial portion of the Main Branch of the River, as it leaves the City of Cortland, is also subject to the runoff and impacts of a more developed area. With numerous industries and commercial businesses located along the Route 41/11 corridor between the City of Cortland and Polkville in the Town of Cortlandville, this vicinity is vulnerable to potentially contaminated runoff. Once past the Polkville area and moving in a southerly direction along the River Corridor, area the activities and population concentrations drop off dramatically. This area is primarily rural in nature and the most likely predominant non-point source pollution would again be the agricultural uses and/or the runoffs from nearby roadways. The lone exception to this would be in the Village of Marathon where, due to the developed conditions and numerous parking areas, additional threats exist.

Trout Brook

The Trout Brook portion of the study area can be easily delineated into three distinct groups. Beginning at the junction of Trout Brook with the Tioughnioga, the initial run is not heavily populated but does include Interstate 81 and its runoff as well as both the NYS Department of Transportation maintenance facility and the Town of

Cortlandville Highway Department. Due to the vehicles and nature of the materials handled, each of these locations represent a threat. Continuing eastward, the landscape immediately becomes rural and agricultural with its own runoff issues as discussed earlier. The third area is the McGraw village itself. With Trout Brook making its way directly through the Village, the potential impact from contaminated runoff increases.

11. NATURAL RESOURCES

Within the broad category of Water Resources, three distinct areas to be addressed have been delineated, including Water Resources, Vegetation, and Sub-Surface Resources.

Water Resources

Within the broad category of Water Resources, we have delineated three distinct areas to be addressed. They are the following: (1) groundwater, (2) surface water, and (3) wetlands.

Groundwater

The study area exists over a designated EPA Sole Source Aquifer, which is also a New York State Department of Environmental Conservation Primary Aquifer. These designations are based primarily on a combination of the following criteria: (1) the aquifer supplies at least 50% of the drinking water for the identified population, (2) an alternative source of drinking water would not be available if the aquifer were to be contaminated, (3) the aquifer is vulnerable to contamination due to ongoing human activities, and (4) the aquifer is highly productive in its yield.

The key feature of this aquifer is its highly permeable soil in the upper zone profile, which is fully saturated with water. This saturated thickness of material is perfectly suited as a groundwater source. The recharge of this aquifer is derived from a combination of the various surface water creeks and tributaries entering the valley, the Tioughnioga River itself, and the general surface runoff generated on both the valley-side slopes and floor. The direction of flow of the aquifer in the study area is the same as the River itself, essentially north to south. A map showing the location of the aquifer in relation to the River Corridor follows.

Surface Water

The Tioughnioga River and its tributaries drain most of Cortland County. Because the bedrock formations are nearly horizontal, the tributary streams have a typically dendritic pattern of drainage. This pattern is characterized by irregular branching of the tributary streams in several directions. Where most of the tributaries enter the main valleys, the streambed has a steep gradient.

Other significant surface water features include Song Lake and Tully Lake in the Town of Preble, Little York Lake in the Towns of Preble and Homer, a number of small lakes/ponds created by gravel mining operations in the Towns of Preble, Homer, Village of Homer and Town of Cortlandville and small water bodies within the confines of the Tioughnioga River banks in the Hamlet of Tripoli and Truxton.

Wetlands

There are many wetlands throughout the study area that are included in the U.S. Army Corps of Engineers' National Wetlands Inventory (NWI) of 1995. To qualify as a wetland under the Federal Standards, land must meet specific criteria for acreage, vegetation, soils, or hydrology. Construction activities involving areas designated as NWI wetlands are required to obtain permits from the U.S. Army Corps of Engineers.

NYS Regulated Wetlands also appear throughout the study area. To qualify, these wetlands must meet or exceed a 12.3-acre minimum area. Construction activities involving NYS Regulated Wetlands are required to obtain permits from the New York State Department of Environmental Conservation.

The purpose of wetland protection legislation and the permitting process is due to the fact that not only do wetlands offer a unique and important habitat for wildlife (as discussed further in the Significant Fish and Wildlife section of this study) and a natural sedimentation basin for water borne sediment, but wetlands also perform a critical function in the control of downstream flooding. They function as a first-stage overflow system into which excess stormwater runoff and the resulting increase in the water levels of the River can expand and lose velocity before traveling downstream.

Vegetation

At the time of the first settlements in the 1790's, the area that is now Cortland County was covered by an almost continuous stand of northern hardwoods mixed with many white pines of excellent quality. The dominant trees were sugar and red maple, white ash, black cherry, red oak, yellow birch, beech, aspen, elm, white pine, and hemlock. Basswood, chestnut, and white oak grew to some extent. Hemlock and elm grew on wet soils of the uplands and on soils of the valleys in which the water table was within two to four feet of the surface.

Since that time, all of the forests in the County have been harvested at least two or three times. Most of the present timber consists of second and third-growth beech and maple growing on steep or wet soils.

Active agricultural fields generally consist of corn, hay (alfalfa, clovers and grasses), oats, strawberries, and cabbage. No significant orchards or vineyards exist within the study area.

In abandoned fields and in pastureland located in the uplands are hawthorn, seedling apple, wild blackberry, and small seedlings of maple and beech. The hawthorn and seedling apple trees appear first in these abandoned fields. Other plants making up the rest of the cover include cinquefoil, Queen-Anne's Lace, Indian paintbrush, goldenrod, povertygrass, and ragweed.

Along the River banks and within wetland areas, the typical wetland vegetation is present and also includes a wide variety of willow, cottonwoods, shadblow, several varieties of dogwood and viburnum, red maple, rushes, reeds, water lilies, yellow and purple flag iris, skunk cabbage, as well as a number of native and naturalized grasses and wildflowers.

Sub-Surface Resources

The Susquehanna River corridor in Cortland County contains no significant underlying oil, gas, or metallic mineral deposits. The entire area is underlain by major deposits of salt (halite), but it lies more than 1,000 meters underground, making mining not economically viable. The main mineral resource present in the study area is sand and gravel used for construction materials.

12. FLOODING AND EROSION

Flooding

Flooding and erosion occur on a regular basis throughout the entire LWRP study area as it follows the Tioughnioga River throughout the length of Cortland County. Significant portions of the study area fall within the 100-year and 500-year floodplain and are shown on Maps FE-1 through 4.

The areas of higher density development that incur damage from flooding and/or erosion from the Tioughnioga River and its tributaries can be significant. Areas most affected within the study area include: the City of Cortland; the Town of Cortlandville; Villages of Marathon, McGraw, and Homer; and the hamlets of Messengerville, Blodgett Mills, and East Homer. These communities are all located at the downstream portions of the West Branch, the East Branch, and along the entire Main Branch of the Tioughnioga River as it travels from the City of Cortland to the Village of Marathon. The exception is the Village of McGraw, which is located along the downstream portion of Trout Brook.

Flood Patterns

The pattern of flooding throughout the study area indicates areas where the existing River and stream channels are not large enough to contain the additional stormwater runoff that occurs with 100-year or 500-year storm events.

In the designated flood areas, the excess water expands into the adjacent floodplain areas to an elevation equal to the height of the River and it is within these areas that floods occur. In the flat River valleys that encompass the Tioughnioga River, the boundaries of the flood zones expand as topography allows. Where the River plain is narrow and the valley hills are very steep, such as the vicinity of the Village of Marathon, the flood zone width does not change dramatically between a 100-year and 500-year storm, but the height of the water within the flood zone would increase in the case of a flooding event.

Wetlands perform an important function for the prevention of downstream flooding by acting as natural regulators for the fluctuation in the height of the River during normal storm events or snowmelt. Wetlands also function as natural sedimentation basins that slow down the velocity of excess stormwater flow, allowing some of the sediments to settle before proceeding downstream. It is this critical flood and sedimentation control that forms the basis of wetland protection legislation on the State and federal level.

Most flooding that occurs in the Tioughnioga River Corridor impacts primarily agricultural properties and areas of open land, rather than developed areas. As noted in Part 15, the prime agricultural lands in Cortland County are located in the corridor. Any damage caused by flooding is generally limited. The exception to the above is flooding that occurs in the Villages of McGraw and Marathon, and parts of the City of Cortland.

Flooding in McGraw is caused by water coming from small tributaries to Trout Brook while the rising of the Main Branch of the Tioughnioga usually causes flooding in Marathon. In both communities, recent planning efforts noted that flooding was an issue that needed to be addressed. McGraw currently has a study underway to determine possible solutions to the flooding issue. Any new development proposed in the Tioughnioga River Corridor as a result of the LWRP must take into account to potential for flooding either from the river itself or its tributaries, and must also consider potential positive environmental benefits of periodic flooding.

Areas of Erosion

Erosion is a significant problem throughout the study area due to the presence of highly erodible soils, the steep inclines of tributary streams, and detrimental land uses along the banks of the River and its tributaries. The abundance of active agricultural fields and open, residential lawns along the River Corridor contributes significantly to the level of erosion and loss of soil and sediment that is experienced throughout the study area. Without the benefit of anchoring vegetation, these areas have no effective means by which to keep the soil and sediment from entering the River. The steep topography of the hills surrounding the Tioughnioga River drainage basin cause stormwater to travel from the hills down to the River at a very fast pace. This not only increases the rate at which the River will expand beyond its banks, but it also adds to the scouring effect on adjacent lands.

Soil types, which are present along the study area corridor, and are particularly susceptible to erosion, include the Bath-Chenango gravelly loams, Chagrin channery silt loam, Lansing gravelly silt loam, Middlebury silt loam, Palmyra gravelly silt loams, Tioga channery silt loam, and Tioga silt loam.

13. FISH AND WILDLIFE COMMUNITIES

Fish

East Branch River Headwaters (East, West, Middle Branches of Tioughnioga Creek and Hills Creek) (10 miles)

Originating in Onondaga and Madison Counties, these headwater tributaries join to form the East Branch of the Tioughnioga River. Wild brook trout and wild brown trout are common. The East Branch Tioughnioga Creek in Madison County is stocked with yearling (8-9") brown trout. Also common are fallfish, cutlips minnow, creek chub, blacknose dace, longnose dace, common shiner, white sucker, mottled sculpin, and johnny darter. Northern pike, walleye, rock bass, burbot, spottail shiner, pearl dace, redbelt dace, and margined madtom are also present.

East Branch - Cuyler to Cortland (15 miles)

Wild brook trout are rare and wild brown trout are uncommon. Yearling and two-year old brown trout (12-15") are stocked in Cuyler, Truxton, East Homer, and Cortland. Smallmouth bass, rock bass, walleye, white sucker, common shiner, spotfin shiner, spottail shiner, bluntnose minnow, cutlips minnow, carp, fallfish, blacknose dace, longnose dace, creek chub, stoneroller, burbot, johnny darter, shield darter, and margined madtom are common. Northern pike, pumpkinseed, bluegill, American eel, yellow perch, northern hog sucker, rosyface shiner, mottled sculpin, brown bullhead, banded killifish, and banded darter are also present.

West Branch - Outlet of Tully Lake to Preble Road (3 miles)

Wild brook trout are abundant and wild brown trout are rare. Also present are blacknose dace, longnose dace, cutlips minnow, johnny darter, chain pickerel, largemouth bass, and margined madtom.

West Branch - Preble Road to Goodale Lake (2 miles)

Wild brook trout are abundant and wild brown trout are common. Also present are chain pickerel, largemouth bass, redbreast sunfish, white sucker, creek chubsucker, cutlips minnow, fallfish, creek chub, blacknose dace and johnny darter.

Little York Lake (150 acres)

The fish community of Little York Lake includes stocked rainbow trout (stocked at 8-9"), stocked brown trout (stocked as yearlings, 8-9"), largemouth bass, smallmouth bass, rock bass, chain pickerel, yellow perch, alewife, brown bullhead, black crappie, bluegill, pumpkinseed, redbreast sunfish, white sucker, creek chubsucker, carp, golden shiner, spottail shiner, bluntnose minnow, banded killifish, and johnny darter. (Note,

Lower Little York Lake and Goodale Lake have an identical fish community to Little York Lake minus trout and alewife species.)

West Branch - Little York Lake Crossing to Albany International dam (5 miles)

Wild brook trout are uncommon and wild brown trout are fairly common. This section is stocked with yearling and two-year old brown trout. Rock bass, white sucker, northern hog sucker, johnny darter, shield darter, cutlips minnow, common shiner, spottail shiner, fallfish, stoneroller, blacknose dace, longnose dace and mottled sculpin are common. Also present are smallmouth bass, largemouth bass, pumpkinseed, bluegill, redbreast sunfish, chain pickerel, yellow perch, American eel, brown bullhead, margined madtom, creek chubsucker and burbot.

West Branch - Albany International dam to junction with East Branch

Wild brook trout are rare and wild brown trout are fairly common. Yearling and two-year old brown trout are stocked. Rock bass, pumpkinseed, white sucker, fallfish, blacknose dace, longnose dace, stoneroller, carp, common shiner, johnny darter and mottled sculpin are common. Also present are walleye, northern pike, smallmouth bass, bluegill, American eel, burbot, brown bullhead, cutlips minnow, bluntnose minnow, spottail shiner and shield darter.

Main Branch (17 miles)

Wild brown trout are rare and wild brook trout are not present except perhaps in the junction pools of coldwater tributaries. Trout are not stocked in this section, however they are stocked upstream and some may travel to this reach. Walleye, northern pike, smallmouth bass, rock bass, white sucker, fallfish, cutlips minnow, common shiner, golden shiner, spottail shiner, spotfin shiner, carp, creek chub, blacknose dace, longnose dace margined madtom, johnny darter, and shield darter are common. Largemouth bass, pumpkinseed, bluegill, redbreast sunfish, yellow perch, chain pickerel, American eel, river chub, stoneroller, northern hog sucker, brown bullhead, mottled sculpin and banded darter are also present.

Wildlife

As previously mentioned, the Tioughnioga River is located in the Appalachian Uplands (Plateau) physiographic region of New York. The River Corridor and its tributaries are part of the headwaters of the Susquehanna River and the Chesapeake Bay Watershed. This large ecologically similar region spans an area that stretches from the upper Delaware River Valley west to Lake Erie and south of the New York State Thruway corridor. It is an ecological region that is historically characterized as forestland with rolling hills ranging in elevation between 1,000 and 1,800 feet above sea level. The bedrock of shale and sandstone is overlain by nutrient poor and poorly drained soils on the hilltops and reasonably productive well-drained soils in the valley bottoms. Much of the land cleared for farming after the Revolutionary War has been retired from

farming and most of this farmland retirement took place in the 20th Century, especially on the poorer soils. Second growth forests, composed mainly of northern hardwood species, now occupy over 60% of the landscape in this region. Dairy farming is the principal farmland use in this region and occupies about 35% of the total area. Crops for dairy cattle feed such as corn, alfalfa and cool season grasses, as well as natural summer pasture, predominate the farmland acreage in this area.

The environment in this vast area of New York has been shaped over the years by human settlement and use. This human use of the land over the past two centuries has favored the development of a wildlife community that thrives in a disturbed or early successional terrestrial stage. Currently 17 species of amphibians, 10 reptiles, 37 mammals, and 108 birds have been found resident or confirmed as breeders in the River Corridor. All species listed can be found along the East and West River Branches, as well as the Main Branch, in appropriate habitats for that species. In the last 50 years, forests have again begun to predominate the landscape. With this transition from mostly cleared land to forests, wildlife communities have also begun to change. Black bears, bobcats, fisher, river otter, although still rare in the Corridor, have begun to return. Likewise, grassland birds such as bobolinks and meadowlarks have begun to decline, along with cottontail rabbits and ring-neck pheasants.

The wildlife community found along the Tioughnioga River is riverine/palustrine. In its simplest terms, this means a river and/or wetland environment. Plant species vary along the shoreline from obligate wetland plants such as cattails, to facultative plants, such as silver maple. The plant communities that naturally thrive along a river set the stage for the wildlife species that find their life's needs met in this type of aquatic environment. Painted and snapping turtles, for example, are commonly found in both branches of the Tioughnioga River. Similarly, beaver, mink, and muskrat find habitat for feeding, denning, and raising young in and along the banks of the River and tributaries. Wood ducks and great blue herons are also common species found along the Tioughnioga River, because, once again, this riverine/palustrine community provides all the essential elements for sustaining their life needs. Forests or woodlots, grassy fields, brushy hedgerows, wetlands, river shoreline, brooks, spring holes, found in ample variety in the Tioughnioga River Corridor and the River itself, are all important habitats that support the birds, mammals, amphibians, and reptiles found here.

14. SIGNIFICANT FISH AND WILDLIFE HABITATS

Wetlands

There are no wildlife habitats classified as significant habitats by the NYS DEC found along the River Corridor, except for several wetlands. Wetlands by simple definition are lands seasonally or permanently covered with water that support plants that gain a competitive advantage in waterlogged soils. Wetlands include lands and submerged lands commonly called marshes, swamps, sloughs, bogs, and floodplains. Wetland plants include trees such as red maple (*Acer rubrum*) and willows (*Salix spp*); shrubs such as alder (*Alnus spp*) and dogwoods (*Cornus spp*); emergent vegetation such as cattails (*Typha spp*) and bulrushes (*Scirpus spp*); rooted floating leaved plants, including water lily (*Nymphaea spp*) and spatterdock (*Nuphar spp*); free floating vegetation such as duckweed (*Lemna spp*) and water meal (*Wolffia spp*); wet meadow plants, including sedges (*Carex spp*) and reed canary grass (*Phalarus arandinacea*); bog mat vegetation including sphagnum moss (*Sphagnum spp*) and cranberry (*Vaccinium macrocarpus*); and submerged plants, including pondweed (*Potamogeton spp*) and coontail (*Ceratophyllum demeranus*), to name just a few.

Considerable acreage of wetlands once found in the United States has been lost or degraded over the last two centuries due to unregulated draining, filling, dredging, excavation, building and pollution associated with the settlement and development of this country. New York State has certainly followed this trend, especially as our human population grew in the 19th and 20th centuries. It was only in the last 50 years of the 20th Century that wetlands gained recognition as an invaluable resource for flood protection, wildlife habitat, open space, and water quality. It was this recognition, coupled with the fact that more than half of New York's wetlands were already lost, that led to the passage of the New York Freshwater Wetlands Law (ECL 24) and ultimately the Federal Wetlands Protection Act in the 1970's. Now both these laws provide a State and federal oversight process governing the human use and management of wetlands in New York State. Table 1 lists the wetlands regulated by State and federal law found along the Tioughnioga River Corridor in Cortland County.

Table 1. Wetlands Regulated by New York State Environmental Law and Federal Wetlands Law

Wetland Number	Location	Class Level	Area (acres)	Federal Designation
OV3	Tully Lake	2	24.4	Lacustrine
OV4	Tully Lake	2	23.0	“ “
OV5	Tully Lake Outlet	2	75.9	“ “
HO1	Preble Swamp	2	311.5	Palustrine
HO2	Goodale Lake	2	520.0	Lacustrine
HO3	Lower Little York	1	20.0	“ “
HO4	Jct. Sessions Hill Rd	2	77.9	Palustrine
HO5	N. Pitts	2	18.0	“ “
HO6	Factory Brook	2	19.7	“ “
HO7	East of Homer CHS	3	11.6	“ “
DR2	Jct. South of Newton Rd	2	17.6	“ “
	Polkville to Blodgett Mills			Palustrine/Riverine
	Blodgett Mills to Marathon			“ “
	Marathon to County Line			“ “
	W. Branch to Lorings Crossing			“ “
	Lorings Crossing to E. Homer			“ “
	E. Homer to Truxton			“ “
	Truxton to Cuyler			“ “
	Cuyler to County Line			“ “

Federal and NYS Listed Endangered, Threatened, Special Concern Species

There are ten species of fish and wildlife found in the Tioughnioga River valley classified as threatened or of special concern by the New York State Department of Environmental Conservation. A list of these species is provided in the table below. No permanent resident species or confirmed breeding species in this area are classified as endangered. There are also no federally endangered or threatened resident species found in the River Corridor, although it is possible for peregrine falcons, bald eagles, and several other endangered birds to use the Tioughnioga River Valley during migration.

Under the Environmental Law of New York, Section 11-0535, and the New York Code of Rules and Regulations - Part 182, a threatened species is likely to become endangered in New York within the foreseeable future. An endangered species is one that is in imminent danger of extirpation or extinction in New York. Likewise, a species of special concern is one for which a welfare concern or risk of endangerment has been documented.

Included in the list below, are five birds, all protected under the Federal Migratory Bird Treaty Act. The Wood Turtle is also fully protected by the New York Fish and Wildlife Law, Section 11-0103. The two mollusks are found in three separate locations along the riverbed of the West Branch and the Main Branch of the River. Only the New York State Endangered Species Law protects these mollusks. The Jefferson salamander is only protected to the extent that it is listed as a species of special concern under State law.

In addition to these ten species of wildlife, there are three plant species listed under New York State Rare Plants Law. Lake-cress (Rorippa aquatica) was last found in 1983 at the south end of Song Lake and is classified threatened. Straight-leaf pondweed (Potamogeton strictifolius) was last found in 1969 at the outlet of Goodale Lake and is classified endangered. Northern clustered sedge (Carex arcta), another endangered plant, was last found in 1919 near the confluence of Cheningo Creek and the East Branch of the Tioughnioga River. The New York Natural Heritage Program also lists two significant rare plant communities in the Tioughnioga River Valley. Both are located in the glacially formed area of Tully Lakes. The first is a rich shrub fen on the west side of Tully Lake, just south of the junction of Gatehouse Road. This fen is just north of the Cortland-Onondaga County boundary. The second is an inland calcareous lakeshore on the southeastern shore of Song Lake. Both communities are unprotected by State law.

Table 2. A list of the New York State Endangered, Threatened and Special Concern Fish & Wildlife Species of the Tioughnioga River Valley in Cortland County.

Threatened	
Mollusks:	
Brook Floater	Alasmidonta varicosa
Green Floater	Lasmigona subviridis
Birds:	
Pied-billed Grebe	Podilymbus podiceps
Special Concern	
Salamanders:	
Jefferson Salamander	Ambystoma jeffersonianum
Reptiles:	
Wood Turtle	Clemmys insculpa
Birds:	
Northern Goshawk	Accipiter gentilis
Common Nighthawk	Chordeiles minor
Horned Lark	Eremophila alpestris
Vesper Sparrow	Poocetes gramineus
Mammals:	
Small-footed Myotis	Myotis leibii

Fishery Resources of the Tioughnioga River

East Branch

The East Branch provides a variety of fishing that includes warm water species (primarily walleye, smallmouth bass, and rock bass) from Cortland to Truxton as well as fishing for stocked brown trout in the Cortland to East Homer and Truxton to Cuyler reaches. From Cuyler upstream, the fishery is primarily for wild brown trout and wild brook trout. Brown trout are stocked in the East Branch of Tioughnioga Creek in DeRuyter. The River is primarily pool/ riffle habitat with few large pools except for the section from East Homer to Truxton, which is deep and an excellent habitat for walleye and northern pike.

Popular fishing areas are the result of access and stocking. Yaman Park provides access at the lower end of the East Branch. Bridge crossings at Lorings Crossing, East River Crossing, East Homer, Truxton, and near Cuyler, provide access to the River. In addition, the NYS DEC has purchased 1.531 equivalent miles of Public Fishing Rights, the right of access to the public for the purpose of fishing, in the vicinity of NYS Route 13 crossing near Cuyler and developed a parking/launch facility for canoes.

Riparian vegetation is generally limited to a narrow band along the stream. In many areas, the land is cultivated to the stream bank, eliminating permanent vegetation.

West Branch

The West Branch of the Tioughnioga River provides a high quality trout fishery for stocked and wild brown trout and wild brook trout. Natural reproduction by brown trout was documented by the NYS DEC in 2001 when recently emerged fry were collected in mid-May near the Holiday Inn and Riverside Mall in the City of Cortland. Collections later in the summer indicated the young wild trout survived and grew well. The upper reaches of the West Branch, upstream of Goodale Lake, are dominated by a very abundant wild brook trout population.

Popular fishing areas include all of the West Branch of the River located in the City of Cortland (especially from the Holiday Inn upstream to the Euclid Avenue area); in the Village of Homer, especially Durkee Park; the area near Albany International; and from the Village of Homer upstream to Seven Valley Pond.

Stream habitat in the West Branch is generally pool/riffle with pools smaller and more frequent than in the East Branch or Main Branch, more typical of trout streams. Channel modification has occurred in the past and the modifications are still evident and include: a flood control project, which modified the stream from its mouth upstream approximately 0.8 miles, to slightly upstream of Riverside Mall in the City of Cortland; a rock dam near Euclid Avenue in the City is a barrier to fish migration during low flows; a rock dam near the County Highway Department garage on Traction Drive in the Town of Cortlandville, an excellent pool digger; a dam built between Cortland and Homer now

owned by Albany International in the Village of Homer but defunct; deep pools dredged for gravel removal located in the Village of Homer and near White Bridge Road in the Town of Homer; a dam still functioning just upstream of Goodale Lake; and a channel relocation to accommodate construction of I-81 in the Towns of Cortlandville and Homer. Trout stream habitat improvement structures have been constructed and maintained by a private fishing club in the section between Goodale Lake and Preble Road.

Riparian vegetation is generally limited to a narrow band along the stream and consists primarily of mature hardwoods, brush, and grasses. Extensive mature hardwood cover exists from Preble Road upstream to Currie Road (the area known as Preble Swamp).

Public Fishing rights, totaling 0.609 equivalent miles (one equivalent mile is one mile along both stream banks), have been purchased by the NYS DEC in the vicinity of Seven Valley Pond.

Main Branch

This segment of the Tioughnioga River provides fishing for warm water species with rock bass, smallmouth bass and walleye being the primary attraction with northern pike, chain pickerel, largemouth bass, and brown bullhead also providing sport.

The Main Branch of the River consists of large pools separated by extensive riffles and runs. Popular fishing areas in this Cortland County reach include: the Hoxie Gorge area, the Messengerville area, and at the junction of the East and West Branches. Public Fishing Rights have been acquired in portions of the River from Messengerville to Marathon totaling 3.364 equivalent miles. Four footpaths from Route 11 to the River have been acquired in some locations as well.

Riparian vegetation primarily consists of a narrow band of mature hardwoods and brush along the Riverbank.

Trout Brook

Shared Resources

Some fish species' life histories involve long migrations to complete their life cycles. Of these species located in the Tioughnioga River system, two species, walleye and American eel, are known to travel long distances. The water and habitat quality of the Tioughnioga River and its tributaries impact fish communities far outside the local waters.

Walleye tagged by the NYS DEC in the Susquehanna River in the City of Binghamton and Johnson City have been recaptured as far upstream as Sherburne, Norwich, Oxford and Greene in the Chenango River and into the Tioughnioga River.

Long downstream movements exceeding 100 miles have also been recorded. Walleye typically travel upstream to reach suitable spawning habitat.

American eel have an unusual life history. Adults travel to the Sargasso Sea to spawn. Newly hatched young drift in the sea until they reach the American coastline where they transform into a miniature eel and head for their rearing areas: males stay in brackish or marine environments, while females travel up freshwater river systems, sometimes far inland, where they stay for an average of ten years before beginning their spawning migration to the sea.

Hunting Along the Tioughnioga River

The NYS DEC regulates the traditional activities of hunting and fishing, and annual season regulations, through licensure. Small game and white-tail deer hunting in the River Corridor and along the River outside of the villages, hamlets, and City of Cortland is a long held traditional activity in Cortland County during the Fall and Winter months. The most important small game species hunted in the River Corridor are wild turkey, cottontail rabbits, gray squirrel, and raccoons. Other species hunted here, but in lesser numbers, are ruffed grouse, woodcock, coyote, and red/gray foxes. Because the NYS DEC only collects contemporary information on the numbers of these species taken each year and the numbers of active small game hunters on a State-wide basis, it is impossible to enumerate these figures for just the River Corridor in Cortland County. From an observation standpoint, many hunters, especially nearby residents and landowners, utilize the River and surrounding uplands during the five-month hunting period.

Regarding specific game, the ring-neck pheasant, an introduced game bird, was once a common resident breeder in the river valleys of Cortland County. Now it is only observed and/or hunted because of State and private stocking programs. The NYS DEC releases approximately 100 adult pheasants for public hunting in late October on private land along the East Branch of the River near Truxton. In addition, private individuals and the Cortland County Sportsmen's Association release an unknown number of pheasants in the vicinity of Young's Crossing, as well as along Cheningo Creek north of Sprouse Road for both private and public hunting.

Waterfowl hunting is conducted on both the East and West Branches, and the Main Branch of the River, where permitted by State and federal rules and regulations. It is not, however, a principal hunting activity except perhaps near Goodale Lake, lower Little York Lake, and Preble Swamp. In the other River reaches, waterfowl are hunted sporadically during a two-month season commonly by hunters floating in a canoe. Wood Ducks, mallards, and Canada geese are the most frequently hunted waterfowl species.

The most important wildlife species hunted in the Tioughnioga River valley is the whitetail deer. Recent (2003) deer population estimates provided by the NYS DEC for the townships covering the River Corridor range between eight and 22 deer per square

mile (640 acres) before the hunting season. Approximately one-third of them are removed each year. The lowest populations of deer are found east of Interstate 81. Although there are no estimates of the numbers of people who hunt deer in the Tioughnioga River valley, one can be sure that most of this area is hunted intensively by both archery and firearms hunters over the course of the two-month season. Most deer hunting in the River Corridor is practiced by adjoining landowners, their family, and friends. Area hunters, for the most part, are local residents.

Trapping Along the Tioughnioga River

Similar to small game and deer hunting, the NYS DEC strictly regulates trapping through various laws, regulations, and licensure. Of the 15 native mammal species considered economically valuable furbearers by New York State Law (Article 11), the NYS DEC regulates the annual taking of 11 of them in the Tioughnioga River Corridor. They include the American beaver, muskrat, mink, raccoon, red fox, gray fox, coyote, skunk, opossum, long tail weasel, and ermine (short tail weasel). Except for the weasels, which are not commonly trapped, the rest are commonly found and taken by trappers in Cortland County and its environs. Information on the intensity of trapping for those species, other than beaver and coyote, is unknown at the County or River Corridor level. However, because there are approximately 100 to 125 licensed trappers in the Cortland County at present, one can be sure that trapping by a few of these licensed trappers for the species listed is occurring in the waters of the River, its banks, and the surrounding uplands in the valley Corridor of all River Branches. Trapping for the fur industry has a long and storied past in New York State and is still revered as a cottage industry in rural Cortland County. Similar to hunting, most trapping along the River is undertaken by local adjoining landowners, their family, and friends.

The NYS DEC intensively manages the beaver population throughout New York State, including Cortland County, by determining annual trapping seasons. This is due to the damage beavers can cause to roads, manmade ponds, woodlots, crops, and other human developments. The American beaver is well established in Cortland County, especially in and along the Tioughnioga River corridor and its main tributaries like Trout Brook, Cold Brook and Factory Brook. Wherever a roadway, elevated trail, railroad grade or farm lane intersects small to medium size tributaries feeding the river, where the topography is less than a 2% grade and preferred woody vegetation like willow or alder are present along the stream, one can expect a potential conflict with beaver dam building activity. Beaver populations have been periodically surveyed by airplane over the last 20 years to provide density estimates of the number of active beaver ponds over landscape scale management units. These estimates are then used in prescribing the correct trapping season length to accomplish a population reduction, increase, or stabilization. Currently the beaver population in the River Corridor ranges between 3.8 and 3 active beaver ponds per 10 square miles of land and is within the population goal set for this area.

Another, sometimes controversial species, is the coyote. This animal was not found in New York until approximately 60 years ago. It rapidly dispersed southward

from northern New York State over this time and is now a commonly seen and heard wild canine. Coyotes are social animals, occurring in family groups that can range in size from a mated pair, to a pair with six young of the year and a few unmated offspring from a previous year. The NYS DEC, in a study of coyotes during the 1980's, estimated the population density in Central New York to be about one coyote for every four square miles. They collected specimens in this study from all branches of the Tioughnioga River, so it is known that they are present now and will be seen, heard, hunted, and trapped in the River Corridor as long as they continue to exist in the area. Corridor users should expect to encounter these predators on occasion throughout the year.

15. IMPORTANT AGRICULTURAL LANDS

Agriculture has historically been a mainstay of the Cortland economy and way of life. While this economic importance diminished over the latter half of the 20th century, agriculture, in its many forms, continues to be an important part of Cortland County. This agricultural importance is due in large part to the fertile soils of the County's river valleys, which make farming a worthwhile endeavor.

The United State Department of Agriculture's (USDA) Soil Conservation Service has mapped and classified important farmland in Cortland County. The July 1980 map was based on interpretations derived from a soil map constructed in 1957 by the Cartographic Division of the USDA Soil Conservation Service of Cortland County. County farmland is classified as Prime Farmland, Unique Farmland other than Prime, Addition Farmland of Statewide Importance. According to Title 190, the *National Environmental Compliance Handbook*, Subpart F, section 610.94, these farmland classifications are defined as follows:

Prime Farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion, as determined by the Secretary of Agriculture. Prime farmland includes land that possesses the above characteristics but is being used currently to produce livestock and timber. It does not include land already in, or committed to urban, development or water storage.

Unique Farmland other than prime farmland is land that is used for production of specific high-value food and fiber crops, as determined by the Secretary. It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality or high yields of specific crops when treated and managed according to acceptable farming methods. Examples of such crops include citrus, tree nuts, olives, cranberries, fruits, and vegetables.

Additional Farmland of Statewide importance, other than prime or unique farmland, is land that is of statewide or local importance for the production of food, feed, fiber, forage, or oilseed crops, as determined by the appropriate State or unit of local government agency or agencies, and that the Secretary of Agriculture determines should be considered the same as prime or unique farmland for the purposes of this evaluation.

A review of the 1980 Important Farmlands map shows that a large majority of all land in the County is classified under one of the three important farmland classifications. The majority of Prime Farmland is located in the County's river valleys. This includes the valley floors of the East, West, and Main Branches of the Tioughnioga as detailed below:

East Branch

Most of the land in this part of the Study Area is classified as Prime Farmland. In the most upper reaches, north of the Cuyler hamlet, Prime Farmland is more evenly divided with “other” lands not considered to be important farmlands. There are no Unique Farmlands, and this is a small percentage of Additional Farmland of Statewide Importance. The largest concentration of Additional Farmland is located between the East Homer hamlet and the Truxton hamlet.

West Branch

Similar to the East Branch, the overwhelming majority of all lands are classified as important farmlands, with most classified as Prime Farmland. The area just south of Tully and Song Lakes contains the largest contiguous area of Prime Farmland in the Study Area. The largest concentration of Unique Farmland in the Study Area, by far, straddles I-81 just south of the Preble Hamlet. A large concentration of Additional Farmland is just south and contiguous to this land. Urban areas in and around of the Village of Homer and City of Cortland have supplanted important farmlands in the southern end of the East Branch.

Main Branch

The acreage of important farmlands in the Main Branch is less than in the East and West Branches, due in part to a narrower valley floor. Overall, land is relatively evenly divided between “Prime” Farmland, Additional Farmland, and non-important farmland. The largest area of Prime Farmland is located in the Polkville area, northeast of the confluence of Trout Brook and the Main Branch. A small percentage of the land in the area between the Blodgett Mills and Messenger hamlets is considered Prime Farmland, with Additional Farmland and non-important farmlands predominating. The ratio of Prime Farmland to Additional Farmland and other land increases just north and south of the Village of Marathon. There are no Unique Farmlands located along the Main Branch.

Agricultural Districts

Article 25-AA of the Agriculture and Markets Law is intended to conserve and protect agricultural land for agricultural production and as a valued natural and ecological resource. Under this statute, territory can be designated as an agricultural district. To be eligible for designation, an agricultural district must be certified by the county for participation in the State program. Once a district is designated, participating farmers within it can receive reduced property assessments and relief from local nuisance claims and certain forms of local regulation.

Agricultural district designation under Article 25-AA does not generally prescribe land uses. Under section 305-a of Article 25-AA, municipalities are, however, restricted from adopting regulations applicable to farm operations in agricultural districts which

unreasonably restrict or regulate farm structures or practices, unless such regulations are directly related to public health or safety (Agriculture & Markets Law, §305-a(1); Town Law §283-a; Village Law §7-739). The law also requires municipalities to evaluate and consider the possible impacts of certain projects on the functioning of nearby farms. Projects that require *agricultural data statements* include certain land subdivisions, site plans, special use permits, and use variances.

Farm operations within agricultural districts also enjoy a measure of protection from proposals by municipalities to construct infrastructure such as water and sewer systems, which are intended to serve non-farm structures. Under Agriculture and Markets Law 305, the municipality must file a notice of intent with both the State and the county in advance of such construction. The notice must detail the plans and the potential impact of the plans on agricultural operations. If on review at either the county or State levels, the Commissioner of Agriculture and Markets determines that there would be an unreasonable adverse impact, he or she may issue an order delaying construction, and may hold a public hearing on the issue. If construction eventually goes forward, the municipality must make adequate documented findings that all adverse impacts on agriculture will be mitigated to the maximum extent practicable.

Right-to-farm is a term which has gained wide-spread recognition in the State's rural areas within the past several decades. Section 308 of the Agriculture and Markets Law grants protection from nuisance lawsuits to farm operators within agricultural districts, or on land outside a district which is subject to an agricultural assessment, under Section 306 of the Law. The protection is granted to the operator for any farm activity which the Commissioner has determined to be a *sound agricultural practice*. Locally, many rural municipalities have used their home rule power to adopt local *right-to-farm* laws. These local laws commonly grant particular land-use rights to farm owners and restrict activities on neighboring non-farm land which might interfere with agricultural practices (Excerpted from the New York Department of State's Local Government Handbook)¹.

The Cortland County Planning Department, in consultation with the Cortland County Agriculture and Farm Board, recently undertook a mandatory eight-year review and re-designation of Agricultural Districts in the County. This process was completed in 2005. Currently, the greatest amount of Agricultural District land in the County is located along the East and West Branches, with a lesser amount on the Main Branch. The largest contiguous area of land designated as an Agricultural District in the Study Area is located in the Town of Preble between Little York and Song Lake.

16. ENVIRONMENTAL ISSUES

In conjunction with the discussion concerning water quality in the Tioughnioga LWRP, this section will describe and identify additional environmental issues of concern that may affect the River Corridor. The primary focus of this discussion is the presence and proximity of solid waste facilities and the existence and potential impacts that any identified Inactive Hazardous Waste Sites may have on the study area. In addition, specific industrial sites are also noted due to the materials handled and/or the risks associated with the nature of the business.

Background

As in most rural areas of Central New York, the history of waste disposal followed a very predictable pattern where initially local townships, villages, and cities each had their own disposal sites. Then gradually through the 1960's and 1970's, these facilities were closed and abandoned. In their place, here in Cortland County, a landfill was developed that serves the entire County. The County Landfill was first operated in 1972 after being purchased from a private operator and is located on Town Line Road in the Town of Solon. There are no other operating landfills in Cortland County.

Landfills (Past and Present)

In evaluating the impact of both the closed and existing landfills in the County on the River Corridor, two distinct sources of information were utilized. One is a 1968 study prepared by the Cortland County Health Department which provides a brief summary of the small landfills operating at that time. The second source was an interview conducted with Mr. Ralph Pitman, the recently retired head of the Cortland County Solid Waste Department. Upon review of the information gathered, the vast majority of the former landfill sites are not located within or immediately adjacent to the study area. However, there are five closed sites that did operate either within or relatively close by. These are the former: (1) Town of Preble Dump on Currie Road west of the railroad; (2) Town of Cuyler Dump on East Kenney Road, just south of the Onondaga County line near the West Branch of the Tioughnioga Creek; (3) East Homer Dump on East River Road approximately half way between Lorings Crossing and East River Crossing roads; (4) Town of Marathon Dump located near the northern end of Muster Road which places it just west of the LWRP study area; and (5) a small dump located at or near the southern boundary of the Village of Marathon in the vicinity of the Sewage Treatment Plant on the Front Street Extension. It should also be noted that the present County Landfill (formerly Towsley Dump) on Town Line Road in the Town of Solon is located just upgradient to "Orange Creek", an unnamed tributary to Trout Brook which runs through McGraw and connects to the Tioughnioga River near Polkville. While none of these sites has ever been linked to any contamination or impacts on the River Corridor, they are so noted due to their proximity.

Inactive Hazardous Waste Sites

As found on the New York State Department of Environmental Conservation website, there are five identified sites that fall within the inactive hazardous waste site category. At each location, the presence of a known hazardous material has been confirmed. The five sites and a brief description of the status at each are noted below.

- Cortland County Landfill, Town Line Road, Town of Solon, 2.1 miles north of Trout Brook): Ferric Hydroxide Sludge, solvents, oils and other items are present in the old landfill area. A Remedial Investigation/Feasibility Study (RI/FS) was completed in 1998 and the final closure plan for consolidating and capping the site has been completed.
- South Hill Dump, South Hill Road, Town of Cortlandville near McGraw, 1.8 miles ENE of the Tioughnioga: Pesticides, solvents, TCE and other waste liquids have been found with a RI/FS undertaken in 1995. Sampling continues with evidence of contamination remaining. Full cleanup has not been completed.
- Rosen Site, Pendleton Street, City of Cortland, 1 mile west of the Tioughnioga: Miscellaneous solvents, primarily TCE, scrap, industrial waste and waste fluids have been found and after extensive investigation and remediation, a final closure plan has been adopted.
- New York State Electric and Gas (NYSEG), Cortland-Homer Coal MGP, S. Main Street, Route 11, Village of Homer, < 0.1 miles west of the West Branch: Coal tar and various residues associated with this coal gas producing site have indicated impacts on the soils and water. Limited remediation has been undertaken thus far with final agreements between NYSEG and the DEC being discussed.
- Smith Corona Merchant (SCM), Town of Cortlandville, Route 13 South, 3.7 miles WSW of the Tioughnioga: The presence of trichloroethylene (TCE) and related wastes were fully documented with several remedial actions completed. No additional off-site actions are required but air stripper and soil-gas venting systems are to remain in operation.

Three of the sites, the South Hill Dump, the Rosen Site, and NYSEG site are all categorized as Class 2 sites, meaning “Significant threat to the public health or environment – action required”. While significant, this Class 2 rating is frequently used for any and all sites where limited remedial actions have taken place thus far. The Cortland County Landfill site is also shown as a Class 2 site but knowing that the closure work was recently completed, it would be anticipated that the code would be changed to Class 4 which is “Site is properly closed – requires continued management”. This same Class 4 rating has been assigned to the SCM site.

Industrial Sites

The most identifiable industrial activity located in and around the Tioughnioga study area that represents an environmental risk is that associated with the handling and storage of fuel oil and petroleum products. The greatest concentration of these facilities is in the Route 11/41 corridor between Cortland and Polkville. Within a one mile stretch, there are three fuel/heating oil businesses (E&V Energy, Agway and Mohawk Home Comfort Services), three gas stations, and two large oil emulsion storage tanks operated by Suit-Kote Corporation in conjunction with their asphalt manufacturing business. The other location where significant volumes of such products are stored is at the Suit-Kote facility located on Lorings Crossing Road immediately adjacent to the East Branch of the Tioughnioga.

Subsequent to discussions with officials at the Environmental Health division of the Cortland County Health Department, the following information came to light as to the number and size of the storage tanks utilized for the materials handled and stored in this area.

- Gas Station and Heating Oil Supplier: 2–10,000 Gallon [G] (gasoline, buried), 3–10,000 G (diesel, aboveground), 1–10,000G (heating oil, aboveground).
- Gas Station: 2–12,000G (gasoline, buried), 1-12,000G (kerosene [3K], diesel [9K], buried).
- Gas Station: 3-8,000G (gasoline, buried), 1-8,000G (diesel, buried), 1-2,500G (kerosene, buried).
- Heating Oil and Fuel Supplier: 1-5,000G (gasoline, aboveground), 1-10,000G (gasoline, aboveground), 1-12,000G (kerosene, aboveground), 1-8,000G (diesel, aboveground), 1-20,000G (heating oil, aboveground).
- Heating Oil and Fuel Supplier: 1-25,000G (kerosene, aboveground), 1-25,000G (diesel, aboveground), 2-20,000G (gasoline, aboveground), 2-25,000G (heating oil, aboveground).
- Asphalt Manufacturer (Polkville) [NYS DEC jurisdiction]: >500,000G (emulsion, aboveground), 1-10,000G (diesel, aboveground), 1-10,000G (waste oil, aboveground), 1-10,000G (gasoline, aboveground).
- Asphalt Manufacturer (Lorings Crossing) [DEC]: >500,000G (emulsion, aboveground), 2-20,000G (diesel, aboveground).

Bulk Storage Tanks

Scattered throughout the River Corridor there are other gas stations and various industries, which also store and utilize petroleum and other chemical products. Specific details concerning stored petroleum products are available at the County Health Department. The stored chemicals fall under the jurisdiction of the NYS Department of Environmental Conservation, Region 7, Syracuse Office. In addition, the Cortland County Emergency Management Department has a County-wide list of all businesses that handled and/or stored reportable quantities of chemicals under what is called the Tier 2 Chemical Inventory program of the EPA.

17. NAVIGATION HAZARDS

East Branch

From the Madison County line to the Route 13 DEC Fishing Access Site, the River is too narrow, too shallow, and probably has numerous snags.

From the DEC Fishing Access Site to Truxton, the River is shallow but it is navigable at times.

From Truxton to Cortland, the River is navigable by canoe or small boat except during summer low flows.

West Branch

From Tully Lake to the railroad bridge in Preble Swamp, the stream is too small and brush-choked to navigate.

From the railroad bridge in Preble Swamp to Preble Road, the stream is navigable by canoe even though there are downed trees.

From Preble Road to Goodale Lake, the stream is shallow, there are several small dams, and a large dam approximately 10 feet high at the old sawmill at Slab City that would render this section undesirable or not navigable.

From Goodale Lake to Homer there is one dam, Little York Lake, and several downed trees between Cold Brook and Seven Valley Pond that would make navigation difficult.

From Homer to Cortland there are two dams, at Albany International and a rock dam near Euclid Avenue in the City of Cortland which would require portaging around. The old rock dam near the Cortland County Highway garage is not an impediment to navigation.

Main Branch

A braided channel and possible downed trees exist in the vicinity of the Marathon/Virgil town line, however the Main Branch is navigable.

Trout Brook

Not navigable.

Dredging For Navigation

Even though the opportunity for a Blue Water Trail is identified in Section 5 above, dredging for navigation by canoes/ kayaks is not recommended since natural forces tend to re-deposit stream bed material in the same locations. It is recommended that downed trees be cut to allow passage and that dams be removed (Albany International) or modified (near Euclid Avenue) to facilitate passage of fish during spawning runs.