Section 2. Inventory and Analysis

2.1 Regional Setting and Overview

The 700-mile long Saint Lawrence River has defined and molded the Clayton community from the first native habitation continuing until modern times. Clayton sits less than 20 miles from the start of the Saint Lawrence River at Lake Ontario. Along this stretch, the river is the boundary between the United States and Canada. Between Clayton and the community of Gananoque on the Canadian side of the river sits Grindstone Island –the fourth largest of the Thousand Islands. The driving connection to Canada is less than ten miles to the north where NYS Route 12 connects with Interstate 81. Today, Clayton is touted as the "Gateway to the Thousand Islands" and with its approximately 15 miles of shoreline is a major destination for fishing, boating and sightseers.

Outside of the scattered urban areas, the region is rural with many scenic qualities. The largest U.S. city in the area is Watertown, New York, approximately 20 miles to the southeast, and home to approximately 26,705 people. A major economic generator in the region is Fort Drum, which is located just a few miles outside of Watertown. A recent expansion at the army post increased population counts to 16,000 military and 14,000 dependents, and over 3,000 civilian workers. The boundary of the Adirondack State Park is less than 50 miles to the east. State Route 12E, which transects the WRA, is part of the Seaway Trail Scenic Byways system.

2.2 History

Life and the economy in Clayton has always centered on the Saint Lawrence River. Even the very first people to see the Clayton area were attracted by the same natural qualities that attract people to Clayton today.

The first humans to call Clayton home arrived around 6 to 8 thousand years B.C. (before present). As the glacial floodwaters retreated, the familiar landscape of the region appeared and so did people. In the surrounding area, Paleo-Indian artifacts from at least 8000 B.C. have been identified from higher elevations (approximately 600') at nearby Ft. Drum, and many sites and artifacts found in Clayton date from the Archaic period (8000 B.C. - 3400 B.C.). The northwest corner of Jefferson County, where the Town and Village of Clayton are located, is known for having the heaviest concentration of prehistoric sites in the State of New York, and Clayton is one of the focal points of this prehistoric activity.

There are over a dozen registered sites and dozens more known areas of prehistoric activity within the Town of Clayton. These sites include campsites, thousands of years old, still littered with chert (flint) points and debris, from the last prehistoric residents, the Saint Lawrence Iroquois. The Saint Lawrence Iroquois were distinct from, but related to, the Five Nations Iroquois and vanished as a separate people about 500 years ago, around the same time as the first European contact in the St. Lawrence Valley. The first and the last historic description of the Saint Lawrence Iroquois was made by the explorer Cartier in

1535. Some 50 years later, Champlain found the distinct culture of the Saint Lawrence Iroquois gone and the Oneida Nation holding claim to the area. The disappearance of the Saint Lawrence Iroquois remains a prehistoric mystery. A local tradition tells that the Oneida won a great battle near the present-day Village of Clayton and the name "Weteringhera Guentere" (meaning "fallen fort") was given for the area.

To date, no European contact sites have been identified in Clayton, nor is there evidence of much historic activity on the U.S. side of the River until after the Revolutionary War. Some of the earliest settlers left their names on places such as Bartlett's Point and Barrett's Creek. After the war of 1812, true settlement started to take shape. As the French settled in the area in the 1820s, the Village was called French Creek. Soon after, its name was changed to Clayton in honor of John M. Clayton, a U.S. Senator from Delaware. In 1872, the Village of Clayton was incorporated. In 1883, the Town of Clayton was officially carved from the Towns of Orleans and Lyme.

Agriculture and timber were the first major industries in Clayton. Workers lashed trees together into rafts and floated them downstream to Montreal and other areas to be milled into lumber. Clayton's location on the river and supply of lumber also became a natural fit for the shipbuilding industry. In 1832, shipbuilding began with the construction of two "ways," structures on which ships were built and launched, in the area of Hugunin Street. For almost six decades the construction or repair of ships employed as many as two to three hundred workers.

Mining in quarries on Picton and Grindstone Islands was also an active industry in the mid 1800's. High quality granite from Grindstone and Picton Islands was widely used for paving blocks and prominent buildings such as the New York State Capitol Building. There are a number of active sand and gravel operations located on County Route 4, (Crystal Springs Road).

Steamers plied the waters of the St. Lawrence from 1840 until 1912. The Village of Clayton served as a refueling stop as well as a departure point for wealthy families to reach their estates or the luxurious hotels on the islands. In 1873, the railroad bolstered the tourism trade by providing a direct connection between the cities of the Northeast and the steamboat terminal in Clayton. Grindstone, Picton, Bluff, Murray and other smaller islands began to become settled by local residents and tourists. Elaborate hotels, shops and other businesses catered to the growing tourist influx. U.S. Presidents Ulysses S. Grant and Chester Arthur visited Clayton during this time. Grant's visit started a major influx of wealthy tourists and started the construction boom of many large estates.

By the early 20th century, the economic boom brought by tourism started to wane. The advent of the automobile and the increase in small privately owned boats diminished the important role that the Clayton waterfront played in connecting rail passengers to the ferry service. The small boat sales and repair business quickly became lucrative, but few of the fabulously wealthy continued to visit the area. The hotel trade dropped off as more private camps and cottages grew along the shores of the Saint Lawrence River. Few local people could afford wood boats, with the initial cost and the subsequent maintenance. The introduction of fiberglass boats in the 1950's and 1960's made boats more affordable for the general public and helped the area prosper.

For a few decades, freight service picked up some of the slack left by the drop-off in rail passengers with Clayton remaining an important refueling station for the coal burning freighters. However, the opening of the Saint Lawrence Seaway in 1959 allowed larger, diesel-fueled vessels to ply the river's waters and Clayton's refueling role ceased.

Like most communities, Clayton has undergone many social and economic changes. Today, Clayton community is a vibrant waterfront with shops and restaurants, and numerous recreational opportunities.

2.3 Community Characteristics

2.3.1 Population

In the 2000 Census, the Village had a total population of 1,821 and the Town had a total population of 4,817. This count does not include summer residents. In 1990, the U.S. Census tallied 2,160 people residing in the Village, and 4,629 people residing in the Town. Between 1990 and 2000, the number of Village residents dropped by 15.7 percent, while the Town grew by 4.1 percent. As can be seen in the following chart, the Village trend over the last decade contrasts sharply with regional trends, while the Town shows growth that is more comparable to overall State trends. In other areas, the move away from developed areas reflects the growing trend of suburbanization and sprawl. This trend may also be occurring in Clayton. Table 2.1 provides a breakdown of population number in each age cohort for the Village and the Town.

Figure 2.1 - Population Growth, 1990 to 2000

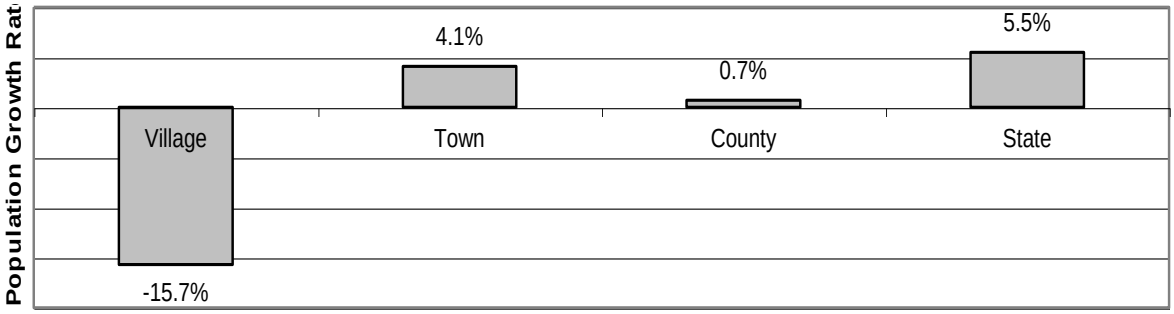
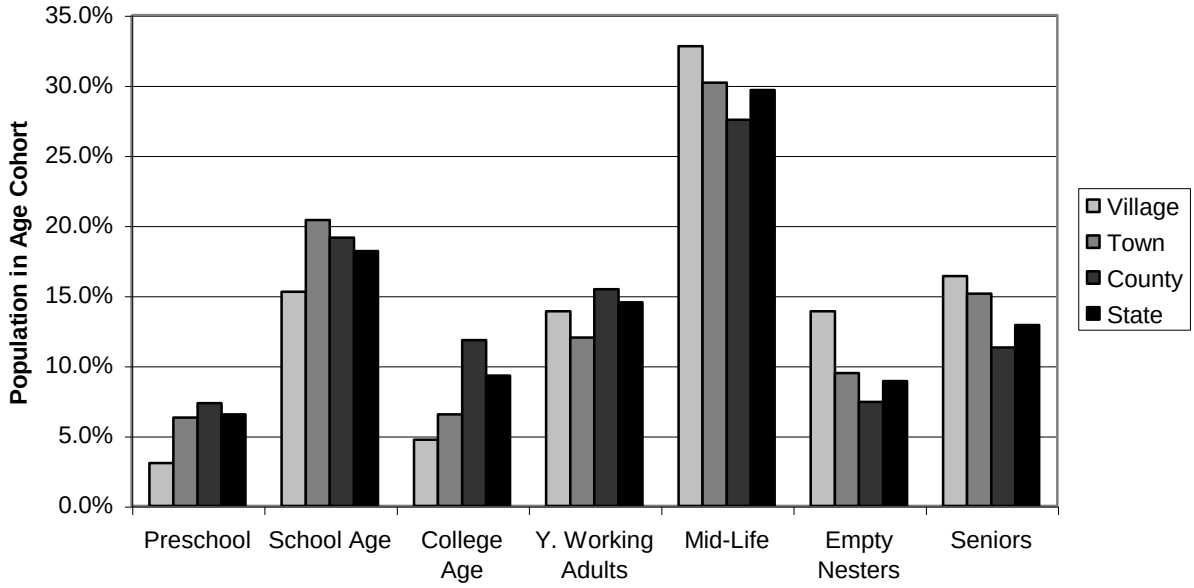


Table 2.1 - Population by Age Cohort, 2000 (Source: U.S. Census)

Age Cohort	Village	Town
Preschool (<5)	104	303
School Age (5-17)	307	982
College Age (18-24)	127	315
Y. Working Adult (25-34)	202	578
Mid-Life (35-54)	520	1,454
Emp. Nest. (55-64)	181	456
Seniors (65+)	380	729
Total	1,821	4,817

A comparison of each age cohort indicates residents of the Town and Village are slightly older (mid-life; empty nesters; and seniors) than those in the surrounding region.

Figure 2.2 - Age Cohort Comparison, 2000



2.3.2 Labor Force and Employment

Since workers travel across political boundaries, it is best to examine the labor across areas much larger than the WRA, the Village, or the Town. The North Country West region comprises Jefferson, St. Lawrence and Lewis Counties. The New York State Department of Labor reported the average statistics for 2004 as shown in the table below. The region had higher rates of unemployment than the state as a whole. Unfortunately, this data tells only part of the story. The government's definition of employed is fairly lax for one must be paid for only one hour per week to be considered working. Also, if someone stops looking for work, as often happens during prolonged economic downturns, they are dropped from the labor force, lowering the unemployment rate. Finally, government statisticians do not consider the many workers who are 'underemployed' – working fewer hours or at lower wages than their desires and skill levels would dictate.

Table 2.2 - Employment Statistics (Source: NYS Dept. of Labor)

County	Unemployment Rate	Labor Force
Jefferson	5.3%	48,300
Lewis	5.3%	12,600
St. Lawrence	5.8%	49,400
New York State	4.5%	Not applicable

In 2003, the Pathfinders, a Dallas-based economic development-consulting firm, conducted a regional workforce survey for the three county regions: Jefferson; Lewis; and St. Lawrence. The goal of the study was to tally the number of workers available to work should a new employer enter the area. Pathfinders found that 16.1 percent of the labor force was underemployed given their skills, education and current salaries. Within the group of underemployed, 10 percent of the workers would change jobs for $8.39 per hour or less; one-third would switch for $10.71 or less; and half would take new work for $13.42 per hour or less.

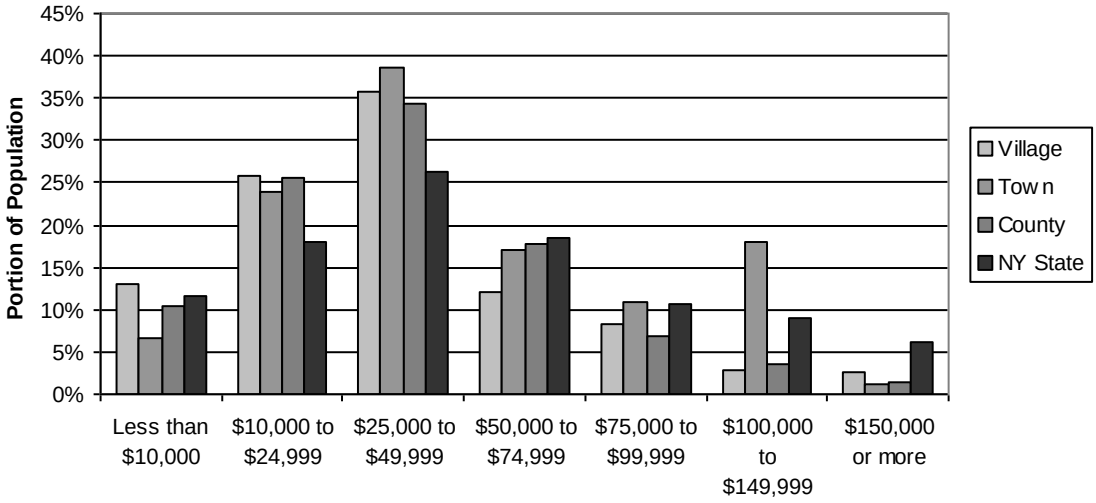
Table 2.3 - Workforce Statistics (Source: The Pathfinders)

	Workers	Portion of Labor Force
Total Labor Force	104,900	100%
Underemployed	16,900	16.1%
Unemployed	8,300	7.9%

2.3.3 Income Characteristics

The distribution of household incomes in the Town and Village of Clayton tends to skew to the lower side. This can be seen in the following chart, which compares the income distribution of the Town and Village with Jefferson County and New York State. The distribution of household incomes in the Village is slightly lower than in the County, and significantly lower than the State as a whole.

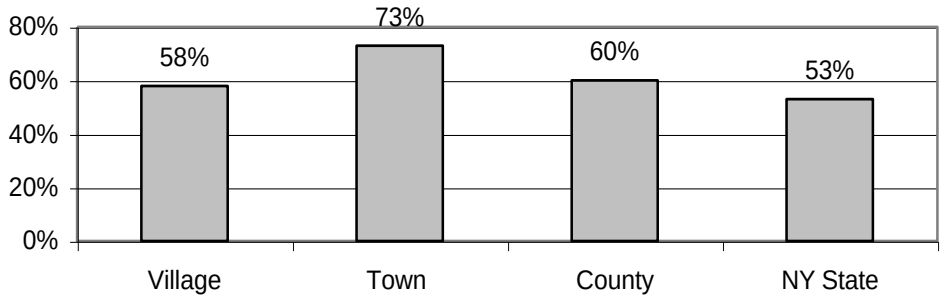
Figure 2.3 - Household Income Distribution Comparison, 2000 (Source: U.S. Census)



2.3.4 Housing Characteristics

In 2000, the census found that the owner-occupancy rate of the Village is comparable with regional and state rates. However, the Town of Clayton, with more single-family homes, has a significantly higher rate of owner-occupancy than the Village or the WRA.

Figure 2.4 - Owner-Occupancy Rate, 2000 (Source: U.S. Census Bureau)



The census does not release the detailed data on housing types or age at the census block level, so calculating it for the WRA is impossible. However, it is still interesting to look at the data from the Town and Village and, as done previously, compare it to other regional geographical units.

Figure 2.5 - Housing Type Comparison, 2000

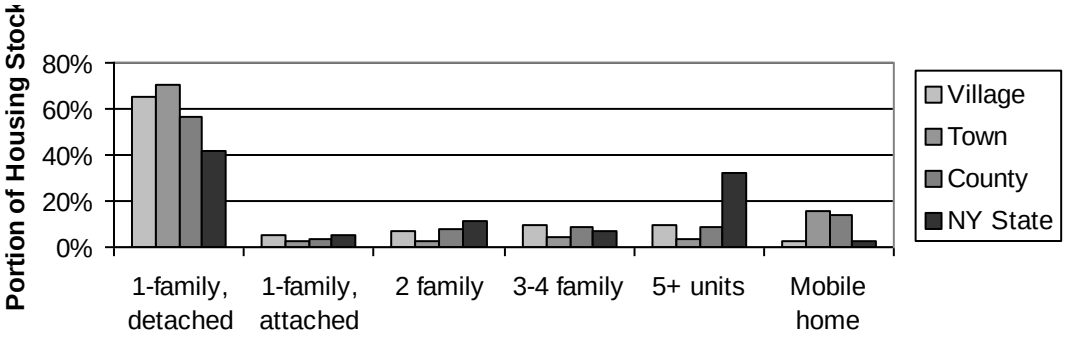


Table 2.4 - Year Housing Units Built (Source: U.S. Census Bureau)

Year Structure Built	Village		Town	
	Number of Units	Portion of Total	Number of Units	Portion of Total
1999 to March 2000	0	0.0%	53	1.6%
1995 to 1998	23	2.1%	157	4.6%
1990 to 1994	30	2.7%	304	9.0%
1980 to 1989	105	9.5%	536	15.8%
1970 to 1979	130	11.7%	420	12.4%
1960 to 1969	82	7.4%	428	12.6%
1940 to 1959	197	17.8%	508	15.0%
1939 or earlier	540	48.8%	985	29.0%
Total:	1,107	100.0%	3,391	100.0%

The U.S. Census tracks the age of housing units. As is typical in historic, urbanized areas, the age of buildings in the Village of Clayton is greater than in the surrounding areas. The average age of housing units in the Town of Clayton is less than the Village, County, or the rest of New York State. The median year that housing units were built compared to other places is:

- Village of Clayton: 1942
- Town of Clayton: 1965
- Jefferson County: 1960
- New York State: 1954

2.4 Land Use

LWRP Map 2 illustrates the distribution of land use types within the Town and Village. Table 2.6 identifies the proportion of the different land uses in the community.

Table 2.5 - Comparison of Land Use in the Town and Village of Clayton, 2008

Land Use	Town of Clayton			Village of Clayton		
	Parcel Count	Size (acres)	Portion of total size	Parcel Count	Size (acres	Portion of total size
Agricultural	254	25,196.4	48.3%	0	0	0%
Commercial	171	912.65	1.8%	99	47.83	5.0%
Community Services	47	182.95	0.4%	20	48.68	5.1%
Forested	34	1,810.86	3.5%	4	46.64	4.9%
Industrial	16	192.35	0.4%	3	6	0.6%
Public Services	15	182.81	0.4%	3	8.35	0.9%
Recreation & Entertainment	35	404.43	0.8%	23	117.47	12.2%
Residential	2487	14,261.35	27.4%	695	250.19	26.0%
Vacant	1018	8,930.34	17.1%	143	435.8	45.4%
Unknown	4	42.14	0.1%	0	0	0%
TOTALS	4081	52,116.28	100%	990	960.96	100%

2.4.1 Land Uses in the WRA

Agriculture

Agricultural lands occur on the south side of NYS Route 12 and 12E outside of the Village and, to a lesser extent, on Grindstone Island. Farming activities on the mainland are comprised of dairy and beef farming, hay and corn crops and an occasional horse farm. Farming activity on Grindstone Island is comprised of beef farming, hay crops, and pastureland for grazing.

Residential

In the Town, residential land use consists primarily of shoreline development with some rural residential activity on the mainland and on Grindstone Island. Shoreline development ranges from small lots with less than 50 feet of frontage, to large lots of over 200 acres. It is anticipated that interest in shoreline property for residential purposes will continue to increase in the future, thus limiting potential for development of water dependent uses. In the Village, residential land use takes three forms: detached single-family homes, apartments, and multiple dwelling units. Apartments can be found as accessory units or over first-floor commercial businesses in the downtown area. Multiple dwelling units include townhouses, condominiums, converted older single-family structures, and multi-story buildings.

Commercial

In the Town, the vast majority of commercial development occurs on the northerly side of NYS Route 12 and 12E and consists of motels, rental camps, cottages, and restaurants. Also present are marine related commercial uses, such as boat storage, marine construction and repair services, boating equipment sales and marinas. The eastern and northeastern shores of the Village peninsula have opportunities for enhancing public access and mixed-use development, siting new commercial uses and improving visual quality.

Public and Semi-Public Institutions and Facilities

In the Town, these consist of a couple of seasonal island post offices, a community center, and a dormant K-6 elementary school on Grindstone Island.

Forested

Areas include a 229-acre parcel located on the northeastern end of Grindstone Island, just inland from Canoe and Picnic Point State Park. Other notable forest lands occur near the southwest end of Cross Island on Grindstone Island and on Crystal Springs Road (County Route 4) near the intersection of NYS Route 12E on the northwest side. Other smaller forest tracts occur throughout Grindstone, Picton, Murray and Bluff Islands and, to some extent, on the mainland throughout the southwest side of the Town's waterfront area.

Recreation and Entertainment

Private camping facilities are located on the waterside of NYS Route 12E west of the Village of Clayton. Other private boating facilities occur throughout the shoreline in areas of concentrated development on the mainland and islands. Public boating access facilities include the Town-owned Upper Landing on Grindstone Island, which provides access to the island for summer residents. In addition, NYS OPRHP operates camping and recreational facilities at Canoe and Picnic Points on Grindstone Island, while NYS DEC manages 2,262 acres of adjacent French Creek for public hunting, fishing and trapping purposes.

Vacant/Undeveloped

In the Town, most vacant land is found at large isolated parcels among agricultural and residential development. Vacant land also exists on nearly all the larger islands and along the steep slope areas of the shoreline.

Utilities/Services

Utilities consist of the National Grid electrical transmission and distribution facility on NYS Route 12 near Blanchard Road. The Municipal Wastewater Treatment Plant is located on the east side of the Village peninsula. The Plant, while performing important functions, also occupies an attractive piece of waterfront property and is less than desirable to nearby residents.

Extractive

In the Town, quarries are located on the Crystal Springs Road (County Route 4). One quarry is a private operation that sells gravel to the general public, while the others provide gravel for the municipal purposes of the Towns of Clayton, Cape Vincent and Lyme. In addition to quarries, Frontenac Crystal Springs water-bottling plant is located on the Crystal Springs Road (County Route 4) and provides bottled spring water to the public and private organizations. These extractive operations are within the WRA, but far enough away from the water's edge to have minimal impact on water quality and scenic views.

Underutilized, Abandoned or Deteriorated Sites

Within the Town portions of the WRA, there are no sites considered underutilized, abandoned, or deteriorated. Several locations in the Village are underutilized and have the potential for revitalization.

Redevelopment of the 8.4 acre Frink America property, located in the northeastern portion of the peninsula, is considered the most important opportunity to attract investment in the Village of Clayton. The Clayton Local Development Corporation (CLDC) is currently seeking qualified firms to transform this waterfront property into a vibrant mixed-use development. A concept master plan and design guidelines were completed to illustrate the community's vision for the redevelopment (see section 4.4.1).

Appropriate infill development should be encouraged in the village area north of NY Route 12E, with a particular focus on the commercial core along Riverside Drive from Centennial Park to the northeastern corner of the peninsula. Opportunities to increase residential housing in this area could occur by converting vacant upper floors of commercial buildings into residential housing.

The Municipal Wastewater Treatment Plant currently occupies an attractive piece of waterfront property on the east side of the village peninsula. The services provided by the plant could be provided by another facility, and the site redeveloped to include water-dependent or water-enhanced uses (see section 4.4.3). Redevelopment of this property should positively impact the waterfront and adjacent significant habitat.

Public parking

There is no rule of thumb to dictate how many parking spaces are required for specific uses in downtown areas, including boat trailer parking. While such standards can be applied to shopping centers, traditional village downtowns are more complex in terms of land and space uses, the nature of parkers (shoppers vs. workers), seasonality, density, walk-in traffic, mixed uses, and mixed hours of operation among other factors. Typically, the traditional retail segment of the village downtown needs a

lower ratio of parking spaces per square feet of leasable area than shopping centers. A balance must be achieved to prevent direct business losses were too few parking spaces are available.

An inventory of the parking facilities available in Clayton suggests that sufficient parking exists for today's visitors. There is, however, a perception that there is not adequate parking. A culprit of this perception is the difficulties visitors are known to have in locating public parking. Consequently, improved parking identification signage should be developed improve visitor access to points of interest within Clayton. Creative solutions, including parking configurations, better signage, and off-site lots should be part of a public parking improvement strategy.

2.5 Water Use

Water dependent uses (those uses that rely on water), such as marinas, commercial docking and boat launching facilities are located in French Creek Bay, Goose Bay, Spicer's Bay, Blind Bay, and Carrier Bay. These types of water dependent uses provide access to the St. Lawrence River and are a vital part of the region's economy.

Water enhanced uses (those uses which are enhanced as a result of their proximity to water) such as boathouses, summer rental cottages, motels, restaurants and public camping facilities are located along the water side of the NYS Routes 12 and 12E. In some cases, these water enhanced uses enjoy direct access to the water's edge and are aesthetically enhanced as a result of their proximity to the St. Lawrence River. In general, the shorelines of the islands located in the WRA are developed with permanent and seasonal homes, camps, rental cottages and boathouses.

The discussion of the uses of the waters in the WRA is divided into the Central Harbor Area and Open Water Area. These two areas also provide the organizational framework for the Harbor Management Plan.

2.5.1 Central Harbor Area

Clayton's central harbor area primarily consists of three bays: French Creek Bay, Goose Bay, and Carrier Bay (see HMP Map 2). The character and water use related issues of these bays is discussed below.

French Creek Bay

French Creek Bay is bound by the Village peninsula to the east, Bartlett Point to the west, French Creek and the Route 12E Bridge at French Creek to the south and the open waters of the St. Lawrence River to the north.

Most of French Creek Bay provides adequate navigability in most areas. However, the southern portion of the bay and along the shoreline lacks sufficient depth for the adequate movement of vessels as water depths range under three feet. Disturbance to natural sedimentation patterns has created problems with shallow areas in the bay. Several sources are contributing to this phenomenon, including restriction of the flows of French Creek and its tributaries by the Route 12E Bridge, disturbance of wetlands and other upland areas that drain into French Creek, transport of bottom sediments by littoral drift, and storm water outfalls. In addition, boats churn up mud as they transit the French Creek Fairway and

weeds are a serious problem in the summer as they clog water intakes on powerboats. The build-up of sedimentation under Route 12E Bridge also makes paddling in the French Creek difficult.

Although French Creek Bay is protected by land on three sides, it is exposed to unobstructed northerly winds, waves, and ice flows from the St. Lawrence River. This exposure can create damaging conditions for boats and docks during storms and in the winter months. Despite these potentially hazardous conditions, Clayton's largest concentration of marina facilities is located in this bay, mostly along the bay's eastern shore. The adjacent land use on the western side of the bay is predominantly residential. Exceptions to this are the Clayton Yacht Club near Bartlett Point and marinas in the southwestern corner of the bay. South of the Route 12E Bridge the waters of French Creek support the aforementioned marina facility along with a significant natural habitat area.

While most of Clayton's recreational boating activity takes place in French Creek Bay, further development of the bay for boating facilities is constrained by a number of factors, including:

- Persistent sedimentation problems reducing water depths
- Northerly and Westerly exposure to the St Lawrence River with its winds, waves and ice floes
- Limited access to French Creek
- Significant wildlife habitat and wetlands in French Creek
- Lack of land area for sufficient parking adjacent to the waterfront

Goose Bay

Goose Bay, situated on the eastern shore of the Village peninsula, is smaller than French Creek Bay and is divided by a causeway that leads to Washington Island. For discussion purposes, the waters west of the causeway will be referred to as upper Goose Bay and those to the east, lower Goose Bay.

The waterfront along both the upper and lower portions of the bay is dominated by non water-related uses. Although one marina facility is located in upper Goose Bay, its waterfront is occupied by the currently vacant Frink America property, the Municipal Wastewater Treatment Plant and residential development (on Washington Island). Land use along lower Goose Bay is composed of a former retail lumber company, and abandoned railroad right-of-way and vacant land along the southwestern portion and residential along the southeastern portion. The water surface area of the upper Goose Bay is sufficient to support additional harbor facilities. The redevelopment of the Frink America property provides significant possibilities for expansion of water dependent uses in this area. Additional harbor facilities in the lower Goose Bay are limited by the Municipal Wastewater Treatment Plant outfall pipe and because it is designated a Significant Coastal Fish and Wildlife Habitat by New York State. The Washington Island causeway prohibits the natural flow of water between Washington Island and mainland. The causeway is also susceptible to storm damage.

Carrier Bay

Carrier Bay is a fairly large and open embayment east of Goose Bay and outside of Village limits. The relatively small segment of the bay which is located within the Village is characterized by two narrow

arms of water surrounding a small peninsula and bordered by Steeles Point to the west, Route 12 to the south, the Town of Clayton to the east, and the open waters of the remainder of Carrier Bay and the St Lawrence River to the north.

Land uses around this embayment include single-family residential development, a large marina, and a restaurant with water access. Although not very large, Carrier Bay provides excellent natural protection from wind and wave action for the docking of boats.

A shoal threatens access into Carrier Bay. This shallow area is located near the entrance between Steeles Point and Pier 65; any drop in lake levels could prevent vessels from entering or leaving the bay. Carrier Bay has been designated a Significant Coastal Fish and Wildlife Habitat by New York State.

2.5.2 Open Waters

There are multitudes of "traveling corridors" among the open waters in the WRA. The islands, which make this area so dramatically unique, contribute to the complexity of boating patterns. In the open waters area there are no designated unsafe or unsanctioned mooring or anchoring areas. However, boat anchorage between Canoe State Park and Picnic Point Park occurs within a Significant Coastal Fish and Wildlife Habitat and should be monitored and discouraged for potential habitat interference.

2.5.3 Surface-water activities

Recreational Boating

Recreational boating is the principal surface-water activity within the WRA (see HMP Map 1). There are docks and launching facilities available within the WRA, but additional facilities would help meet a growing demand. The recreational boats range in size. During the months of July and August, recreational boating is continuous. Warm season recreational boating activities include: boating (motor craft, personal watercraft, and sailboats), mooring and anchorage, fishing, touring, paddling, scuba diving; and various special events such as the annual Poker Run.

In general, four types of boaters utilize the WRA:

1) Resident Boaters. Boaters who typically keep their boat in a Clayton marina the majority of the time and approach the WRA area from the landside.

2) Short-term Boaters. Day-trip boaters (including islanders) who approach the WRA from the waterside, patronize retail establishments, and tend to stay for a few hours.

3) Transient Boaters (water). Boaters who arrive in the WRA from the waterside, patronize the shops, restaurants, motels, etc. in the commercial district, and tend to stay overnight.

4) Transient Boater (land): Boaters who wish to launch boats from land.

An increase in the volume and diversity in boating activities may pose a concern for safety and overall health of the St. Lawrence River, however, the current New York State Navigation Law and United States Coast Guard regulations regarding vessel speed limits and noise levels effectively address these concerns.

Commercial Boating

Most of the commercial boating activity occurs on the west side of the Village peninsula and east of the Village in the Town of Clayton. These commercial operations are primarily focused on tourism and recreational boat usage, with boating repair services, marinas, tour boats, charter fishing boats, and boat rentals. Minimal private dredging activity has taken place in these areas to accommodate commercial boating.

Non-boating activities

The principal non-boating activities are swimming, fishing, and scuba diving. Potter's Beach on Grindstone Island is a 600-foot long naturally sandy beach and the only public swimming area on the St. Lawrence River within the jurisdiction of the Town of Clayton. Access to Potter's Beach is mostly limited to boats. Unauthorized swimming occurs at the Regional Dock and other areas of the Village. Fishing on public docks often conflicts with boat usage. Fishing off the Route 12E Bridge at French Creek is desired, however currently the bridge is too narrow to accommodate safe fishing access. Scuba diving, the only underwater use in the WRA occurs at various underwater shipwrecks. Preservation and awareness of the shipwrecks and diving opportunities is needed. Over the last decade, the Thousand Island region has experienced an increase in recreational tourists interested in diving to see many historic shipwreck sites.

Some winter recreational activities occur in the HMP area. When there is sufficient ice coverage, winter activities include: ice fishing; cross-country skiing; snow hiking; and horse racing. Programmed use of the River for winter activities has been precluded over the past decade due to a lack of ice.

St. Lawrence Seaway Navigation Channel

The St. Lawrence Seaway international navigation channel is a critical component to the movement of commerce from the Atlantic Ocean to the interior Great Lakes and major harbors located in Rochester, Buffalo, and ports further west such as Chicago and Milwaukee. The Channel is also an important component of the Clayton's cultural fabric. Although local recreational and commercial boating traffic routinely crosses the shipping channel to access many of the islands, conflicts with commercial ships using the channel have been avoided through strong and effective communication between all boating agencies.

The possibility of winter navigation on the St. Lawrence Seaway raises many issues that are related to potential environmental impacts to the shoreline and wetland areas within the WRA and the entire St. Lawrence Seaway. Studies conducted by the U.S. Army Corps of Engineers regarding the extension of the navigational season on the St. Lawrence Seaway identified the following possible environmental impacts:

- Potential increase in shoreline erosion and shore structure damage due to pressure waves induced by ship passage;
- Damage to wetlands, benthic communities and aquatic vegetation beds from high velocity water currents and ice scouring;

- Re-suspension and re-deposition of sediments in or near spawning areas resulting in possibly increased mortality rates in egg and larvae of fish species;
- Degradation of water quality where polluted sediments are re-suspended within the water column;
- Potential increase in toxic, hazardous substances and oil spills as a result of increased navigation;
- Restriction to normal range movements of mammals between the mainland and islands, as a result of maintaining an open vessel track for ship passage, thus creating imbalances of predator-prey relationships on island areas; and
- Potential loss of winter recreation activities, such as ice fishing, skiing and snowmobiling, in small harbor areas due to unstable ice conditions created by ship passage.

Given the requirement of safeguarding Significant Coastal Fish and Wildlife Habitats and protecting valuable waterfront resources, winter navigation proposals should not be encouraged unless specific measures that mitigate potential environmental impacts associated with winter navigation can be implemented.

2.6 Agricultural Lands and Farming Activity

A large portion of land within the Town's waterfront revitalization area contains prime farmland soils or soils of statewide significance (see LWRP Map 3). Prime farmland soils produce the highest yields of food, feed, forage, fiber, and oilseed crops while soils of statewide significance are important to agriculture in the state, but exhibit some properties that do not meet prime farmland criteria, such as seasonal wetness or erosion.

Prime farmland soils are primarily located adjacent to French Creek, with small pockets located on the northern portion of Grindstone Island and at various points along the Town's mainland shoreline. Soils of statewide significance are located on Grindstone Island, adjacent to the Lower Town Landing Road, west of School House Road, northeast of Flynn Bay, on Mason Point, northeast of Carrier Bay, inland from Bartlett Point, northeast of Sawmill Bay, and generally scattered adjacent to French Creek. Although these areas comprise a vast amount of the waterfront revitalization area, relatively little of this land is utilized for actual agricultural purposes.

Active farming occurs near the municipal boundary of the Town of Cape Vincent and Town of Clayton, where lands have been committed to Agricultural District #2. Agricultural districting encourages the continued use of farmland for agricultural production through a combination of landowner incentives and protections, such as preferential real property tax treatment (agricultural assessment and special benefit assessment). Other areas that support farming activity and crop production include portions of the north and south sides of NYS Routes 12 and 12E inland from Bartlett Point, and a small area on Grindstone Island which is used to produce beef cattle, hay crops and pasture grasses.

Farming activity within Jefferson County and the Town has decreased in recent years as a result of:

- The decline of dairy production due to concerns over this market's cyclical nature,
- Significant changes in federal agricultural policy and assistance, and
- Loss of land to competing uses.

Agriculture is an important part of the character and culture of the area, and the community needs to explore opportunities to preserve agricultural land and farming activity. Viable agricultural land needs to be retained in order to provide suitable crops and pastureland for dairy and beef farming, to serve as important natural buffer areas, and for economic and aesthetic reasons. The Town of Clayton should continue to support education regarding Purchase of Development Rights (PDR) programs.

A PDR is a voluntary tool that pays landowners for their development rights to protect their land for agriculture. An easement that runs with the deed to the land in perpetuity is placed on the property ensuring it cannot be developed for non-agricultural uses. The landowner still maintains ownership of the property and all other rights to it. PDR can be applied to agricultural properties as well as lands with scenic, natural, or other open space values.

The Town of Clayton should consider advancing purchase of development right projects by supporting those that provide multiple benefits and receive various funding sources, such as farmland protection and watershed protection. The Town does not need to have a PDR program in place to submit projects or state grant funding. In addition, other programs exist through the NYS Department of Agricultural & Markets, Natural Resource Conservation Service and TILT and their farmland preservation initiatives. The Town should assist farmers in learning more about these programs and connecting them with the right project partners.

Nationwide, the general public has become more interested in purchasing and consuming locally grown products, and subsequently, has begun to show increasing support for local farmers markets. Expanding the Farmer's Market at Frink Memorial Park provides a location and an opportunity to enhance local offerings of locally grown and created products. The market should continue to be located in the downtown to ensure spin-off business opportunities for other merchants.

2.7 Existing Zoning

LWRP Maps 4 and **5** show the location of the existing zoning districts in the Town and Village of Clayton. To address the concerns about appropriate development, the Town of Clayton should consider ways to encourage appropriate use and scale of buildings, and additional site plan review standards, particularly along the rural Route 12 and 12E corridor areas.

Tools that provide permanent protection of agricultural land from development and ways for more efficient and affordable development compared to large lot development also deserve consideration.

The following table identifies the zoning districts in the Village of Clayton.

Table 2.7 - Existing Zoning

Village Zoning District
Resort – Single-Family Residential
Neighborhood Residential
Neighborhood Residential – Special Use
General Residential
Marine Development
Business
Industrial
Industrial – A
RiverWalk District – A
RiverWalk District – B
RiverWalk District – C
Town Zoning District (in WRA)
Residential
Marine Residential
Marine Development
Agricultural and Rural Residential
Hamlet
Business
Industrial
Conservation

2.8 Public Access and Recreation

There are numerous opportunities within the WRA to enjoy water-related recreational activities; including boating, water skiing, scuba diving, swimming, hunting, fishing, trapping, and nature observation (see LWRP Map 6). Demand for water-related recreational activities is particularly high during late spring and summer months as tourists and seasonal residents begin to return to the Thousand Islands region. As in many other Thousand Island communities, the demand for water-related recreational resources exceeds the supply. This has been confirmed by past and present State Park attendance records, which indicate that user demand for public facilities that provide access to water-related recreational resources exceeds the availability and capacity of State-owned facilities.

The majority of shoreline in the WRA is privately owned with private access privileges. The privately owned sites that provide surface-water access include residential properties with docks, recreational clubs, marinas, resorts, restaurants, and motels with private docks, and boating supplies and service facilities. The public has expressed the need for additional public swimming and boating facilities in the Village and along the Town's mainland shoreline. One location that could be redeveloped to provide additional access to the water is the Municipal Wastewater Treatment Plant property located at the east

end of Mary Street. A potential designated location for public swimming is Centennial Park. Potential locations for additional waterfront access include Bain Street, the expansion of the Clayton RiverWalk, and docks at the Frink America property.

2.8.1 Town Access and Recreation

Public access to the waterfront in the Town is available at the following locations:

- French Creek Wildlife Management Area. This location offers access and utilization of the French Creek Marsh and provides excellent hunting opportunities. Parking facilities are available for 5 vehicles. Canoes and small boats can be launched from the bank adjacent to the Marsh and French Creek.
- Canoe Point and Picnic Point State Parks. These State facilities offer docks for transient boaters, 35 campsites, 6 rental cabins, 24 boat slips, and a children's playground.
- Potter's Beach. The Thousand Islands Land Trust (TILT) owns this recreational preserve located at the west end of Grindstone Island. Typically accessed by boat, the property provides a natural sand beach and a 230-acre nature preserve adjacent to the river.
- Upper Landing (Aunt Jane's Bay) on Grindstone Island. The town owns two docks available for transient boats.
- Limited public access is available through such uses as motels, rental cottages, or restaurants, which provide docking or boat launching facilities for fee.

2.8.2 Village Access and Recreation

Village access to the waterfront is available at the following locations:

- The Regional Dock in Frink Memorial Park, which is a public deep-water dock.
- The Clayton Municipal Dock located on French Creek Bay at the end of Mary Street, which provides public dock space for transient vessels with some overnight slips, a boat launch, and restrooms with showers.
- The Clayton Village Dock, which provides short-term public docking for less than two hours, public restrooms, and a videophone for US Customs. A 200-foot long floating breakwater protects the floating docks.
- A private boat launch (with no dock) at the foot of Rees Street, which provides access to French Creek Bay and is used by island supply barges.
- A public non-motorized watercraft launch at Centennial Park and along the causeway to Washington Island.
- Designated mooring areas at French Creek Bay (29 buoys) and Upper Goose Bay/Washington Island (8 buoys). See Mooring Area maps, prepared by Jefferson County in January 2010, located in Appendix A.

Public parks in the Village are generally in good condition and include:

- Centennial Park, Memorial Park, and Frink Memorial Park, which are primarily used for passive recreation such as fishing and viewing the river.
- Lion's Field is an open playing field on the east side of Webb Street, mid-block between Union Street and Route 12 (State Street). It provides for active recreation, but not waterfront access. The field is a popular amenity that is used for football, soccer, skating, sledding, and frisbee.
- Clayton Recreation Park, located on East Line Road in the southern part of the Village, has a number of athletic facilities that are open to the public. These facilities include: an outdoor swimming pool, tennis courts, basketball courts, baseball fields, soccer fields, a pavilion, playground, walking trail, and an indoor ice rink used for figure skating, hockey, and public shows in the summer months.

Historical and cultural institutions open to the public in the WRA are listed in Table 2.8. Table 2.9 lists public and semi-public boating facilities in the WRA. Private boating facilities are listed in Table 2.10. This table indicates a majority of available tie-ups in the WRA are provided by private marinas.

Table 2.8 - Historical and Cultural Recreational Facilities

Facility	Season	Notes
Antique Boat Museum 750 Mary Street	Mid-May to Mid-October	National premier boat museum with over 200 watercraft
Clayton Opera House 405 Riverside Drive	Year round	Community performance space
Thousand Islands Art Center, Home of the Handweaving Museum 314 John Street	Year round	An organization dedicated to preserving and promoting of handcrafts
Thousand Islands Museum 312 James Street	Year round	Historic and artistic displays of life along the Saint Lawrence.
Winged Bull Studios 226 James Street	Year round	A gallery and public studio featuring artist Greg Lago's prints and engravings
St. Lawrence Gallery 203 James Street	Year round	Art gallery and studio that features Michael Ringer's art.

Table 2.9 - Public and Semi-Public Boating Facilities

Facility	Season	Notes
Antique Boat Museum	May-September	22 transient slips not open to the general public, not open to overnight visitors only daily museum visitors
Canoe Point State Park	May-September	24 transient slips located on an island 4 miles from the

Facility	Season	Notes
Grindstone Island		Village
Centennial Park Riverside Drive	Spring to Fall	Non-motorized watercraft launch
Clayton Yacht Club	Spring to Fall	2 transient slips for Yacht Club members only, located over 1 mile drive from the Village
Town Dock Aunt Jane's Bay Grindstone Island	Spring to Fall	5 transient slips for island residents & their guests (not located near the Village)
Village Dock Riverside Drive	Spring to Fall	26 transient slips for hourly docking only; No overnight facilities
Village Dock Frink Memorial Park	Spring to Fall	Deep-water transient dock approximately 200' long.
Village Dock Mary Street	Spring to Fall	30 transient slips, however only 12 to 15 spaces on the South side of the dock are available for overnight docking. The North side of the dock is not safe for overnight docking due to exposure to wave action.
Village Boat Launch Rees Street	Spring to Fall	Gravel boat launch

Table 2.10 - Private Boating Facilities

Facility	Season	Notes
Bayside Marina 1044 State Street	Year-round	50 slips, transient slips if available, showers, restrooms, shore power, mechanic, prop & hull, launch ramp, winter storage, boat rentals
Cantwell Pier 65 39645 NYS Route 12	Year-round	For sale, winter storage, docks, three year-round boathouses
Clayton Marina 50 State Street	Year-round	100 slip, 5 transient slips, boat lift, mechanic, prop & hull, launch ramp, restrooms, shore power, showers, marine store, winter storage, boat sales and rental
Don's Prop Shop 38648 NYS Route 12E	Year-round Seasonal hours	Repairs to boats propellers and skegs, trailer repairs, complete welding service and machine shop, marine supply store, and nautical gifts
French Bay Marina 530 Theresa St.	Summer dockage, winter storage	125 slips (64 enclosed), 15 moorings, transient slips if available, boat lift, boat repair, launch ramp, restrooms, pump out facilities, shore power, showers, winter storage, boat sales and rental

Facility	Season	Notes
French Creek Marina 250 Wahl Drive	Year-round	50 transient slips, However, access to this marina is severely restricted as all boats must pass under a bridge with 8 ft. clearance. Very few transient boats, if any, with overnight accommodations are able to use this marina.
Islander Marina 500 Theresa Street	Year-round, Seasonal docks April-November	50 slips, transient slips if available, 9 moorings, fuel (gas), boat lift, mechanic, Laundromat, pump out, restrooms, shore power, showers, marine store, winter storage, boat sales and rental
Meyers Marine 40729 NYS Route 12 & 328 Rivershore Drive	Summer dockage, winter storage	Boat lift, mechanic, prop & hull, launch ramp, marine store, winter storage, boat sales
Northern Marine 16872 Stern Drive	Summer dockage, winter storage	Fuel (gas), boat lift, mechanic, prop & hull, launch ramp, pump out, restrooms, showers, winter storage, boat sales
Pier 225 Marina 835 Rees Street	April 15 to October 15	26 slips, 7 transient slips, 2 moorings, launch ramp, fuel (gas), pump out, showers, restrooms, winter storage, boat repairs, parking for customers only
R.J. Marine Associates 690 Riverside Drive	April to October	10 slips, transient slips if available, fuel (gas and diesel), mechanic, pump out, winter storage, boat sales
Seaway Slips & Cottages 1100 State Street	Spring to Fall	45 slips, 2 transient slips, mechanic, launch ramp, restrooms, shore power, showers, winter storage, boat rental, fishing pier
Spicer Marine Basin Spicer Bay 40467 NYS Route 12	Summer dockage, winter storage	Fuel (gas), boat lift, mechanic, prop & hull, launch ramp, pump out, restrooms, shore power, showers, marine store, winter storage, boat sales
St. Lawrence Restoration 411 Franklin St. #2	Summer dockage, winter storage	50 slips (24 covered), transient slips if available, 8 moorings, boat lift, mechanic, prop & hull, restrooms, shore power, showers, marine store, winter storage, boat sales
Steele's Point Marina 334 Rivershore Drive	May-Sept	Boat and yacht rentals: pontoon, fishing, power, and personal water craft
T.I. Adventures 1101 State St.	Summer	Kayak lessons, rentals and sales

The number of vessels in the Clayton market region has remained relatively stable with changes in population. Dockmasters are reporting full occupancy levels all season with requests for transient dockage as vessels transit the market region. Currently transient vessels are drawn to Clayton for the

Antique Boat Museum, Antique Race Boat Regatta, the Opera House and other events. Although there are many marina facilities in the area, transient dockage is scarce due to high seasonal occupancy rates. Providing additional transient dockage will attract boaters that homeport in the region and wish to visit Clayton as well as those that are seeking a short-term slip while traversing the seaway. Based on population growth, slip wait lists and increased tourism the market is expected to support an additional 225 to 350 transient slip nights over the next 5 years. New boating facilities should offer basic amenities such as potable water, electric, dock lighting, pump-out facilities, parking, solid waste collection, fire protection, service distribution, dock boxes, and security. Additional ancillary amenities, such as internet access, fuel, shower and restrooms, laundry, fish cleaning station, may also help attract boaters (see Frink Waterside Development Marina Market Evaluation, August 2011).

The Village and Town of Clayton need additional coordinated way-finding signage to improve the visitor experience. Improved signage is needed to assist transient boaters who are unfamiliar with Clayton and want to know more about the services and amenities in the area, both prior to landing and once they are ashore. For visitors arriving from the landside and using the public boat launches improved signage is needed to identify public parking facilities. Thus, there is a need for informational and directional signage to provide convenience to boaters, to promote commercial interests, and to protect the privacy and other interests of the residents.

2.9 Historic Resources

Within the Thousand Islands region, there are numerous significant historic, archaeological and scenic resources. The locations of these significant resources in the WRA are identified on LWRP Map 7.

2.9.1 Town Historic Resources

The mainland shoreline and many of the picturesque islands of the Town of Clayton are dotted with historic homes and cottages that display Italianate, Greek Revival, Federalist, Queen Anne, and Gothic forms of architecture. Architectural styles from past eras provide a sense of the spatial and building standards that were used during a prominent time of development in the Thousand Islands region. These architectural features and styles are vital aspects to the regional and local tourist economy and deserve to be preserved and protected. Important historic structures in the Town of Clayton are located on Grindstone Island, on the mainland adjacent to the Village of Clayton, and at one location near the Town of Cape Vincent/Town of Clayton municipal boundary. Notable historic resources in the Town are listed in Table 2.10.

Table 2.11 - Town of Clayton Notable Historic Resources

	Name*	Location	National Registry Ref. No. & (Determination)**
1.	Tomaivoli Cottage	Bluff Island	(No Determination)
2.	Boyer Summer Home	Whiskey Island, West Side	(No Determination)
3.	Marina and Summer Homes	Calumet Island	(No Determination)
4.	Hummel Castle	Grennell Island, West Side	(No Determination)

	Name*	Location	National Registry Ref. No. & (Determination)**
5.	Frontenac Post Office	Round Island, West Side	(No Determination)
6.	Gray Summer Home	Round Island, West Side	(No Determination)
7.	Churchill Cottage	Watch Island, West Side	(No Determination)
8.	McHenry Summer Home	Watch Island, West Side	(No Determination)
9.	Dr. Douryea Summer House	Long Rock Island, West Side	(No Determination)
10.	Scott Summer Home	Grennell Island, West Side	(No Determination)
11.	Holden Summer Home	Grennell Island, West Side	(No Determination)
12.	Neary Cottage	Murray Island, West Side	(No Determination)
13.	"Carpe Diem"	Round Island, West Side	(No Determination)
14.	The Yacht Club	Round Island	(No Determination)
15.	Russell Summer Home	Wintergreen Island, West Side	(No Determination)
16.	Summer Home	Round Island, West Side	(No Determination)
17.	Summer Home with Screened Porch	Round Island, West Side	(No Determination)
18.	Hart Summer Home	Round Island, West Side	(No Determination)
19.	Parker Summer Home	Round Island, West Side	(No Determination)
20.	Marean Summer Home	Round Island, West Side	(No Determination)
21.	Dixie Cottage	Round Island, West Side	(No Determination)
22.	"Brun Arche"	Round Island, West Side	(No Determination)
23.	Kettell Summer Home	Round Island, West Side	(No Determination)
24.	Grindstone Island Methodist Church	Grindstone Island	(No Determination)
25.	White Italianate Home	Bartlett Pt. Rd., West Side	(No Determination)
26.	Fairview Manor (Long Vue Manor)	38289 NY 12-E	05NR05454, (I)
27.	Calhoun Residence	Bog Rd., East Side, South of Bevins Rd.	(No Determination)
28.	Crystal Springs Hotel	CR 4, North of Bog Rd., East Side	(No Determination)
29.	Lyman Residence	NY 12, North Side	(No Determination)
30.	Willoughby Residence	38876 NY 12-E	(No Determination)

*Names based on the New York State Preservation Historic Preservation Network Exchange listing.
** Determinations: I = Individually eligible properties

2.9.2 Village Historic Resources

Two historic districts sit in the Village core, and both are listed on the State and National Registers of Historic Places (see LWRP Map 7). Properties in both of these districts are subject to zoning implications for work undertaken in these zones. The 1985 Historic District encompasses buildings on the north and

south sides of Riverside Drive between James and John Street as well as parcels along the west side of James Street past Hugunin Street, midway to Jane Street. The two and three-story attached and semi-detached structures represent the waterfront's historic mix of commercial uses on ground floors and residences on upper stories. Built between 1854 and 1920s, the structures include a concentration of Italianate style buildings in brick and wood, three Richardsonian Romanesque structures with stone facades, and other early 20th century commercial buildings.

In 1997, the Village designated another historic district consisting of buildings along the south side of Riverside Drive running from John Street to Merrick. The district includes the Thousand Islands Inn on the southeast corner of Riverside and Merrick, which was built in 1897.

Table 2.12 - Village of Clayton Notable Historic Resources

	Name*	Location	National Registry Ref. No. (Determination)** & (Year)***
1.	Wetterhahn	Wetterhahn Site	00NR01592 (L) (2001)
2.	St. Lawrence Gallery	203 James St.	90NR01184 (L) (1985) & 97NR01187 (L) (1997)
3.	Pool Hall	209 James Street	90NR01184 (L) (1985) & 97NR01187 (L) (1997)
4.	The Lost Navigator	215 James Street	90NR01184 (L) (1985) & 97NR01187 (L) (1997)
5.	Koffee Kove Restaurant	220 James Street	90NR01184 (L) (1985) & 97NR01187 (L) (1997)
6.	Winged Bull Studio	228 James Street	90NR01184 (L) (1985) & 97NR01187 (L) (1997)
7.	"McKinley Building"; Gray's Flower Shop; Porch and Paddle;	232-238 James Street	90NR01184 (L) (1985) & 97NR01187 (L) (1997)
8	"Montgomery Ward"; Gold Cup Farms; River Rat Cheese Store	242 James Street	90NR01184 (L) (1985) & 97NR01187 (L) (1997)
9.	"Lyric Theatre"; Lyric Coffee House	246 James Street	90NR01184 (L) (1985) & 97NR01187 (L) (1997)
10.	Island Treasures	300 James Street	90NR01184 (L) (1985) & 97NR01187 (L) (1997)
11.	N/A; Village Video; Thousand Islands Realty, LLC	304-308 James Street	90NR01184 (L) (1985)
12.	N/A	306 James Street	90NR01184 (L) (1985) & 97NR01187 (L) (1997)
13.	N/A	308 James Street	90NR01184 (L) (1985) & 97NR01187 (L) (1997)
14.	"Antique Store"; Thousand Islands Museum	312 James Street	90NR01184 (L) (1985) & 97NR01187 (L) (1997)

	Name*	Location	National Registry Ref. No. (Determination)** & (Year)***
15.	Clayton Trading Company	320 James Street	90NR01184 (L) (1985) & 97NR01187 (L) (1997)
16.	NAPA Auto Parts & Skinners Trolling Spoons Factory	322-326 James Street	97NR01187 (L) (1997)
17.	St. Mary's Church Rectory & Parish	521 James Street	96NR01048 (L)
18.	Thousand Islands Inn	335 Riverside Drive	97NR01187 (L) (1997)
19.	Town Hall/Opera House Museum	403 Riverside Drive	97NR01187 (L) (1997)
20.	Save The River	409 Riverside Drive	97NR01187 (L) (1997)
21.	Thousand Islands Land Trust	413 Riverside Drive	97NR01187 (L) (1997)
22.	Islanders Boutique	419-421 Riverside Drive	97NR01187 (L) (1997)
23.	Reinman's Department Store	435 Riverside Drive	97NR01187 (L) (1997)
24.	"Hungerford Building"; Karla's Christmas Shoppe	500 Riverside Drive	90NR01184 (L) (1985) & 97NR01187 (L) (1997)
25.	"Willams Building"; Riverside Café; Tiny Tots Trading Post	504-510 Riverside Drive, North Side; East of John St.	90NR01184 (L) (1985) & 97NR01187 (L) (1997)
26.	"Kemp Residence"; Ford English & Assoc., LLC; Riverside Media Group	507 Riverside Drive	90NR01184 (L) (1985) & 97NR01187 (L) (1997)
27.	"Cerow Building"; Jreck Subs	514-516 Riverside Drive	90NR01184 (L) (1985) & 97NR01187 (L) (1997)
28.	Chamber of Commerce; Undersea Images, Inc.; Grater Architects, PC	517-519 Riverside Drive	90NR01184 (L) (1985) & 97NR01187 (L) (1997)
29.	American Legion; Apex Dental Laboratory, LLC	518 Riverside Drive	90NR01184 (L) (1985) & 97NR01187 (L) (1997)
30.	Hilda's Place	522 Riverside Drive	90NR01184 (L) (1985) & 97NR01187 (L) (1997)
31.	N/A	525 Riverside Drive	90NR01184 (L) (1985) & 97NR01187 (L) (1997)
32.	Streets Realty Co.; Courage My Love; The Eagle Shoppe	525-527 Riverside Drive	90NR01184 (L) (1985) & 97NR01187 (L) (1997)
33.	N/A	526 Riverside Drive	90NR01184 (L) (1985) & 97NR01187 (L) (1997)
34.	N/A	527 Riverside Drive	90NR01184 (L) (1985) & 97NR01187 (L) (1997)
35.	Reinman's Decorating Center	528 Riverside Drive	90NR01184 (L) (1985) & 97NR01187 (L) (1997)
36.	"Barker Building"; Solar's Barber	530-532 Riverside Drive	90NR01184 (L) (1985) &

	Name*	Location	National Registry Ref. No. (Determination)** & (Year)***
	Shop		97NR01187 (L) (1997)
37.	N/A	537 Riverside Drive	90NR01184 (L) (1985) & 97NR01187 (L) (1997)
38.	Keybank	538 Riverside Drive	90NR01184 (L) (1985) & 97NR01187 (L) (1997)
39.	N/A	544 Riverside Drive	90NR01184 (L) (1985) & 97NR01187 (L) (1997)
40.	Heyman House	731 Beecher Street	(No Determination)
41.	N/A	740 High Street	(No Determination)
42.	Residence	402 Hugunin Street	(No Determination)
43.	Hugunin Residence	403 Hugunin Street	(No Determination)
44.	Residence	405 Hugunin Street	(No Determination)
45.	Residence	505 Hugunin Street	(No Determination)
46.	Dier Insurance & Club Rene	351 James Street	(No Determination)
47.	Kennedy Pharmacy	James Street, east side; south of Riverside Dr.	(No Determination)
48.	N/A	352 James Street	(No Determination)
49.	Angel House	410 James Street	(No Determination)
50.	Baptist Church of the 1000 Islands	511 John Street	(No Determination)
51.	Clayton United Methodist Church	324 John Street	(No Determination)
52.	Christ Episcopal Church	412 Hugunin Street	(No Determination)
53.	Hawley Memorial Library	220 John Street	(U)
54.	1000 Islands Craft School	314 John Street	(U)
55.	Residence	325 John Street	(No Determination)
56.	Residence	220 Merrick Street	(No Determination)
57.	Residence	223 Merrick Street	(No Determination)
58.	N/A	600 Riverside Drive	(No Determination)
59.	Golf Club House	State Street	(No Determination)

* Names based on the New York State Preservation Historic Preservation Network Exchange listing or current commercial name.
** Determination: L = Listed; U = Underdetermined (evaluated, but no determination made)
*** 1985 and 1997 listed properties are in a Historic District.

The historic resources of the town and village provide a significant cultural heritage that is a unique part of the waterfront's historic character. Many of these resources, which are privately owned, face the threat of deterioration or alteration. If the town and village are successful in their efforts to encourage revitalization and tourism development, the historic structures may face additional threats such as

demolition (partial or complete), wholesale alteration, or impacts from incompatible development on adjacent properties. During the preparation of the LWRP, the public identified Fairview Manor, located along the Town's mainland shoreline, and the cheese factory on Grindstone Island as at-risk historic properties worthy of preservation.

Historic structures that are not identified and protected by local historic preservation laws are subject to the desires of private owners. Local public education efforts should be fostered to increase citizen awareness of the value of historic resources and to encourage private preservation initiatives. Additionally, a historic resource guide, that identifies important historic resources and structures in the Town and Village of Clayton, could be developed for use in the tourism trade.

2.9.3 Archaeological Resources in the Town and Village

The history of human habitation in Clayton began between 6,000 to 8,000 years ago. This long history was spurred by Clayton's location near the St. Lawrence River. Although preliminary research suggests that there appear to be significant prehistoric and historic archaeological resources in the Village and Town, to date the Village or Town has not been actively engaged in activities aimed in identifying and preserving these archaeological resources.

The Town and Village require consideration of potential archaeological resources through the land development and State Environmental Quality Review (SEQR) assessment process. Development petitioners must consult with the OPRHP inventory of potential archaeologically sensitive sites before proceeding and must comply with any requirements set forth by the State. This may include various levels of investigation. If any resources are found, documentation of the findings, or in rare cases, protection of resources is required.

New York State identifies known archaeologically sensitive areas and protected buffer zones. These sites are based on current records, databases, and file information retained at the New York State Historic Preservation Office (SHPO). The buffer zones are used by SHPO to provide recommendations to state and federal agencies regarding the need for archaeological surveys. The exact locations of known or predicted archaeological sites are not specifically located since the State Historic Preservation Act of 1980 protects them from disclosure. This information can only be accessed at SHPO in accordance with SHPO's Policy on Access to Files, Data and Information. Clayton is fortunate, however, to have local professorial and vocational archaeologists and resources that may have more up-to-date and specific local information on sites and potential sites than current SHPO maps and data. These resources are available as a resource to the Town and Village.

In addition, archaeological areas include underwater resources such as shipwrecks. Many shipwrecks have become popular scuba diving destinations. The NYS DOS has initiated development of the Underwater Blueway Trail for enhancing recreational use of specific underwater locations in the state, including the Saint Lawrence River. The Clayton community should coordinate with this program to protect and promote the proper use of these dive sites, and to ensure correct marking of shipwrecks and rock formations.

2.10 Scenic Resources

The Thousand Islands region is recognized as one of the greatest landscapes and impressive scenic vistas in the United States. Protruding island and mainland outcroppings, abundant natural vegetation and wildlife habitats, and historically and culturally significant boathouses and other structures are all a part of the characteristics associated with the scenic quality of the Clayton Community and Thousand Island region.

2.10.1 Scenic Views

Impressive scenic views within the Town include views to the Saint Lawrence River from roadways and upland areas, views from shoreline locations and from the water, and views from various locations of open space and agricultural resources (see LWRP Map 7). The highway gateways and corridors along NYS Routes 12 and 12E are very important to the visual quality and image of the Town's traditional rural waterfront character. Additionally, Routes 12 and 12E through Clayton are part of the Seaway Trail, a national scenic byway along the St. Lawrence River, Lake Ontario, the Niagara River, and Lake Erie. Important scenic views from the river to a mostly natural shoreline are present along the western, northern and eastern shores of Grindstone Island and from the channel looking towards the Village. The smaller islands, such as Picton and Bluff, contribute equally significant vistas and add to the overall aesthetic quality of the Thousand Islands region.

Efforts to protect and maintain some of the most important scenic views on Grindstone and Murray islands are presently being undertaken by organizations such as the TILT, the Trust for Public Lands, and private individuals. These organizations and individuals have taken positive steps to limit development, protect scenic vistas and wetlands, and create a forest preserve through fee acquisition and conservation easements.

In the Village, shoreline properties along Riverside Drive afford exciting views of an expanse of the St. Lawrence River with islands, seaway traffic, fishing and boating activities characteristic of the Thousand Islands region. Views of the St. Lawrence River on axis with other village streets, such as James Street are also significant. Additionally, the views from the Mary Street docks and those from and in the vicinity of the Route 12E Bridge at French Creek warrant protection and enhancement.

2.10.2 Boathouses

Boathouses are another scenic resource that significantly contributes to the Thousand Island regional character and the character of the Clayton community (see above Figure 2.5). Many cottages, camps, and homes along the shoreline commonly have some type of accessory boathouse. Each boathouse has unique architectural features that are typically residential in character and scale. Clayton community boathouses are typically one to two stories with pitched roofs and clapboard and/or masonry facades. Some boathouses have multiple slips while others are designed for one boat. These existing boathouses serve multiple functions and have been a traditional use in the area.

An inventory of existing boathouses that identifies location, architectural features, and use would benefit the Clayton community. This inventory could be used to identify and designate appropriate

areas for the construction of new boathouses and serve as a basis for the development of local design guidelines that would ensure new boathouse construction is compatible with community character and scenic resources.

Increased proliferation of boathouses and their potential cumulative impacts can present a concern to waterfront management. There is considerable evidence that over water structures such as boathouses can adversely affect aquatic habitat through shading of aquatic submerged vegetation and fragmentation of habitats, alter patterns of water flow, introduce chemicals into the marine environment, impact navigation, and restrict access to public trust resources. Therefore, building permit applications for new boathouse construction should be reviewed individually in order to carefully consider the cumulative environmental impacts of proposed construction and the potential benefits to the applicant. The construction of boathouses above the Ordinary High Water (OHW) mark is strongly encouraged in order to minimize adverse impacts.

Figure 2.6: Example of boathouses in the Clayton WRA.

In order to build a new boathouse structure along the St. Lawrence River, an applicant must not only meet Town or Village regulations but must also apply for a Joint Protection of Waters Permit from the NYS Department of Environmental Conservation and the U.S. Army Corps of Engineers, submit a completed Federal Consistency Assessment Form to NYS DOS with a copy of the Army Corps permit application, and contact the NYS Office of General Services (OGS) to ascertain if the project will require a application for an easement, lease, or license of NYS underwater lands. Dependent upon the specific project, other permits may also be required.

In efforts to streamline the permitting process, the Buffalo District of the U.S. Army Corps of Engineer (ACE) issued regional permit 79-000-3. This regional permit allows for the construction and maintenance of boathouses in waters located within the State of New York and subject to regulation by the U.S. Army Engineer Buffalo District, provided there is compliance with its general and special conditions. The regional permit stipulates that the maximum height of the boathouse does not exceed 16 feet as measured from the ordinary high water (OHW) mark to the top of the structure, the surface area of the boathouse must not exceed 1,000 square feet, the boathouse must not contain more than two bays for docking, and access docks from the OHW to the boathouse must be less than 20 feet long by four feet

wide. Proposed boathouses applications, which do not meet all the regional permit criteria, need separate authorization by the Army Corps of Engineers.

2.10.3 Overall Visual Quality

Inappropriate signage along NYS Route 12 and 12E, outdoor storage of junk, and conflicting land uses have the potential to degrade the overall quality of the waterfront area. Opportunities to restore, enhance and protect the overall aesthetic resources of the waterfront should be encouraged where possible. Several means to accomplish this include:

1. Concerted public and private revitalization efforts;
2. Revisions to the Town signage law;
3. Purchase of conservation easements that provide for the retention of the existing natural landscape and waterfront area; and
4. Encouragement of clustering and other rural site design principles.

Effective land use planning, selective management of vegetative growth, and removal of distracting impairments can upgrade and enhance the aesthetic quality of the area and benefit the natural ecosystem. Additionally, joint municipal cooperation between the Town and Village in conjunction with private developers is needed to promote, enhance and protect the aesthetic beauty and scenic resources within the waterfront area.

Wind energy development has been proposed in southern sections of the Town of Clayton, as well as in adjacent communities. The scenic qualities of Clayton may be impacted by such development, and the wind facilities will need to be properly sited in order to preserve the scenic qualities of the WRA and Thousand Islands region. Identifying and protecting scenic resources is an important component of smart growth and scenic stewardship.

2.11 Topography and Geology

In general, the topography of the WRA is generally level with some undulation (see LWRP Maps 1 and 8). There are some significant ridges that help define the WRA, including ridgelines on the north and south sides of French Creek, along the mainland shoreline west of the Village of Clayton, and along the north edge of McCarn Hill.

The geological character of the WRA consists mostly of sandstone bedrock known as Potsdam Sandstone, which dates to the Cambrian Period. The absence of sedimentary rock over it reflects a broad transition from more recently deposited limestone in the south and southwestern portions of the Village to the older gneisses and granites located in the north and northeast.

Four general types of soil are distributed throughout the Village waterfront. Silt loams are deep, fine textured, well-drained soil and are found on the eastern end of the peninsula. Silty clay loams are moderately deep and poorly draining, and are located on the western and northern portions of the Village peninsula. Under the drainage ways of French Creek and Bartlett Creek sit saprists and aquents

consisting of mixed organic and mineral materials. Highly altered soils from filling operations can be found at the western end of Mary Street.

The thin soils of the Town's waterfront are represented by five general categories. These categories include: Benson-Newstead-Galloo Outcrop, Chaumond-Galloo-Wilpoint-Guffin clayey loams, Rhinebeck Hudson Rock Outcrop, Vergennes-Kingsbury-Elmridge loams and clays, and Groton-Windsor-Alton sands. Although loams are identified within these soil categories, they represent only a small portion in physical land area. The soil categories are predominantly composed of silty clays that drain poorly and are susceptible to ponding.

2.12 Water Quality

2.12.1 Water Quality Classifications and Standards

The New York State Department of Environmental Conservation (NYS DEC) has established water quality standards pursuant to ECL Title 6, Chapter X, Part 701.19 for surface and groundwater supplies in New York State. Determinations regarding water quality are based upon measurements of coliform, P.H., total dissolved solids, dissolved oxygen and other criteria. The Water Division of the NYS DEC does not do testing specifically around Clayton. The water quality in the Saint Lawrence River is very high in general and the state considers it a Class A drinking water source meaning it is drinking water quality with treatment. This is the state's highest classification. The river is the source of drinking water for the Village and the Town.

Waters of French Creek are Class C waters and "are suitable for fishing, fish propagation and primary and secondary contact recreation even through other factors may limit the use for that purpose". Consultation with NYS DEC indicated that the water quality of French Creek is designated as Class C since its waters "are primarily used for fishing and not utilized as a drinking water source". Some areas of this watershed may be experiencing eutrophication as a result of upland erosion and fertilizer applications.

The local environmental group, Save the River, conducts periodic water quality tests for the bacteria, Enterococci (Entero) in the Clayton area. In 2008, water quality tests were conducted at Frink Dock; Potter's Beach on Grindstone Island; and near Round Island. Water quality for all locations was within the state and federal standards for swimming water quality.

Given the fact that the St. Lawrence River serves as a primary water supply for shoreline residences, and that the French Creek is important as a fishery resource, it is necessary to insure that these water sources are not impaired or impacted with regard to their water quality. The existing water use classification for the St. Lawrence River and French Creek are deemed appropriate given their respective uses.

2.12.2 End of Pipe Discharge

The discharge of pollutants, other than residential septic discharges are primarily associated with several small commercial uses located along the waterfront which have received discharge permits from NYS DEC. Treated effluent from the Village of Clayton Municipal Wastewater Treatment Plant also enters the

St. Lawrence River on the north side of Washington Island. No problems have been identified at this time regarding the discharge of pollutants within the Town's waterfront.

The Village of Clayton is dealing with two combined sewer overflows (CSOs) as required by the re-permitting of its wastewater treatment system. CSOs carry both storm and sanitary sewage directly into bodies of water when treatment facilities cannot handle flow rates, as during heavy rains. The EPA has a goal of releasing no sewage into the Saint Lawrence River and the community is taking steps to make that happen. The Village has long term Prioritized Project Plan and has already implemented a series of interim controls outlined by the state and federal government. Some of the prioritized projects include improved drainage system projects and NYSERDA energy saving projects.

2.12.3 Stormwater Runoff

As previously noted, Blind Bay, Carrier Bay, Sawmill Bay, Irwin Point, Bartlett Point, Mason Point and Grenell Island have been intensely developed with seasonal cottages, rental trailers and permanent homes. These areas have had problems associated with stormwater runoff. Additionally, draft studies released by the NYS DEC indicate that stormwater runoff in the St. Lawrence River basin is contaminated by nutrients, petroleum residuals, pathogens and sediments. Because of the health risks and environmental problems associated with these contaminants, measures are needed to control stormwater runoff. The NYS DEC Management Practices Catalogue for Nonpoint Source Pollution Prevention and Water Quality Protection in New York State may be used for technical guidance.

There are also some Best Management Practices (BMPs) which could be implemented at no or low costs such as Integrated Management Practices (IMPs), reduced use of fertilizers, pesticides, herbicides, and fungicides, road ditch maintenance, proper use and disposal of hazardous substances, buffer establishment and enhancements. Preventing pollutants from entering the storm water system is usually more efficient and cost-effective than treating stormwater runoff.

2.12.4 Discharges from Vessels

There are eight pump-out facilities located in the WRA. According to the NYS Clean Vessel Act Plan, published by the NYS DOS and NYS DEC in 1996, there was sufficient amount of pump-out facilities to meet the demand of recreational vessels at the time of the report. The development of additional pump-out facilities is contingent upon user demand. An updated plan, which is proposed by the NYS DOS and NYS DEC, will help identify the current demand. To promote appropriate removal and disposal of recreational boater septic waste, new or expanding marinas should provide adequate sewage pump-out facilities. The development of additional pump-out facilities could help the WRA become more accessible to visitors.

Other concerns related to discharges into waterfront waters involve the potential introduction of Zebra mussels and other non-native species into the St. Lawrence River and Great Lakes system as a result of ballast discharges from oceangoing vessels. Potential impacts as a result of the introduction of the mussels could be:

1. Imbalances in the aquatic food chain;

2. Disruption of native fisheries habitats; and
3. Maintenance problems at dams, municipal water intakes and other related structures.

2.12.5 Dredging

The bedrock geology of the Clayton shoreline limits the potential for dredging. Minimal dredging activity has taken place near Sawmill Bay, Carrier Bay and at Steeles Point in order to provide additional boat slips at existing marinas that are expanding.

The need for dredging is directly linked to the flow and regulation of water levels in the St. Lawrence River. Requests for dredging permits could increase as a result of drought conditions, unfavorable management of flow and river levels creating low water conditions, and increased development. These problems could severely limit boat access and dockage. Other concerns relevant to the potential increase in dredging activities include:

1. Disruption of bottom sediments;
2. Reduced water quality in areas where contaminated bottom sediments are suspended in the water strata;
3. Increased turbidity resulting in stress on aquatic and benthic organisms; and
4. Disturbance to wetland environments as a result of silt wash.

Currently, there is no scheduled dredging program maintained by the Village, state, or federal government for public and/or private dredging projects within the WRA. Uncoordinated dredging results in greater potential for irregular depth patterns, greater negative environmental impacts, and greater monetary costs than a coordinated program could provide.

2.12.6 Spills into Waterfront Waters

The St. Lawrence River channel - an international shipping corridor for freight and materials from throughout the world - runs parallel to a vast amount of the Clayton mainland and island shoreline. Substances that are transported within this corridor include explosives, petroleum products and hazardous wastes. Vessels occasionally become grounded on shoals as a result of navigational error and unfavorable weather conditions.

Resultant spills of oil or other hazardous substances pose various threats to fish and wildlife, adverse impacts on drinking water supplies, and result in significant degradation to wetland, aquatic and benthic environments. Other factors that influence the impact of spills include the quantity of substances released, existing and prevailing weather conditions, and water level and flow.

2.12.7 Nonpoint Discharges

A January 1990 Nonpoint Source Water Pollution Study, completed by the NYS DEC, identified that nonpoint nutrient contaminants from on-site waste water systems affect bay areas along the St.

Lawrence River. Problems associated with nonpoint pollution include: excessive algae and plant growth, nitrogen contamination of water supplies, and reduced recreational values.

Another factor that contributes to the degradation of water quality is soil erosion. Although no immediate concerns have been identified in areas of highly erodible soils, land use and site development practices are constrained in such locations. Any uncontrolled activity that would aggravate the erodibility of these soils enhances the potential for water quality problems, or increases sedimentation rates, which may adversely affect fish and wildlife habitats.

2.12.8 Surface and Groundwater Supplies

The surface waters of the St. Lawrence River serve as a primary source of drinking water for the entire Village of Clayton and the shoreline residents of the Town. Water studies conducted in 1968 for Jefferson County by the engineering firm of O'Brien and Gere indicate that no aquifers exist within the waterfront area. However, the presence of drilled wells in bedrock, inland from the waterfront, indicates that groundwater is available. The source of this groundwater is believed to originate by direct recharge from the St. Lawrence River and French Creek drainage basin. No current information is available regarding well yields or locations of bedrock aquifers along the Town's waterfront area.

The New York State DEC cites failing sewage disposal systems as the primary contributing factor to nutrient loading in small bays of the St. Lawrence River. It is unknown to what degree these small bays serve as a drinking water source. Left unchecked, this problem could lead to constraints on the use of existing ground and surface water supplies. The potential for increased summer home and residential development along the shoreline is another factor that could affect the quality and quantity of local ground and surface water supplies.

2.12.9 Saint Lawrence River Water Levels

The Town and Village of Clayton strongly believe the regulation of Saint Lawrence River water levels and flows should be based on criteria that mimics natural water patterns and tames the extremes of high and low water levels. The Town and Village of Clayton would support an International Joint Commission (IJC) proposal for regulation of Lake Ontario and the St. Lawrence River levels and flows through the Moses-Saunders Dam at Cornwall-Massena that would provide the following significant environmental, recreational, and economic benefits:

- Restores natural variability in water levels, which creates diversified zones of wetlands that shelter a greater variety of plants, fish, birds, mammals, and other animals.
- Protects the recreational fishing industry of Lake Ontario/St. Lawrence/Lake Erie – valued at $330 million annually – by restoring the wetlands vital to fish life cycles.
- Increases the number of recreational use days on the water, which will in turn provide increased revenue generation for small business owners, increased tax revenues for municipalities, and expansion of tourism opportunities.

- Increase hydropower generation by over $6 million per year. Hydropower offers a cheaper, renewable energy alternative to fossil fuel power plants.

See also Harbor Management Plan in Appendix A.

2.13 Natural Resources & Environmentally Sensitive Features

This section highlights portions of the WRA that contain wetlands, steep slopes and floodplains. These natural resources can be important natural amenities. In many cases, development in or around these areas can prove to be more expensive and limited by regulation.

2.13.1 Floodplains

Most floodplains are found in low areas adjacent to streams, rivers, lakes and oceans and are prone to periodic flooding. In undeveloped areas this natural interaction restores soil fertility, recharges groundwater supplies and creates unique and diverse habitats.

The Federal Emergency Management Agency (FEMA) has designated 100-year flood zones. This designation does not mean that flooding will occur only once a century. Instead it means that, in any given year, there is a one-in-one hundred chance of flooding. Frequency of flooding is dependent on many factors including weather conditions and upstream development changes to the watershed.

Flooding is not considered a significant problem within Clayton's waterfront area. In the Village, the 100-year floodplain generally consists of a narrow band 10-100 feet wide around the edge of the village peninsula (see LWRP Map 8). In the Town, the 100-year floodplain mostly surrounds streams and bays. Specifically, areas within the 100-year floodplain on mainland include low areas at French Creek, Wheeler Creek, Blind Bay, and Goose Bay. On Grindstone Island, areas within the 100-year floodplain include low areas adjacent to Delaney Bay, Rusho Bay, Aunt Jane's Bay, and Flynn Bay.

The Town of Clayton and the Village of Clayton are in compliance with the terms of the National Flood Insurance program as administered by FEMA. Both the Town and Village of Clayton have adopted floodplain regulations to control the location and siting of new construction activities within flood zone areas in an effort to minimize damage to property, life, and natural resources.

2.13.2 Wetlands

Wetlands are among the most biologically productive ecosystems in the world. LWRP Map 9 identifies the location of National Wetland Inventory (NWI) and NYS DEC wetlands within the WRA. These wetlands provide environmental, recreational, educational, and aesthetic benefits by:

1. Protecting surface and groundwater supplies;
2. Acting as permanent retention/detention areas which aid in minimizing flooding and erosion;
3. Filtering and improving water quality;
4. Serving as open space and natural buffer areas;

5. Supporting numerous fish and wildlife habitat, as well as providing spawning and nursery areas;
6. Supplying food and organics within the food chain;
7. Providing important recreational opportunities for boating, hunting, fishing and trapping; and
8. Providing areas for biological and ecological study.

Threats to wetlands include encroachment by residential land use, over utilization and disruption of nursery and fish spawning areas by powerboats, and possible eutrophication and siltation. The area surrounding the French Creek causeway, where French Creek flows into French Creek Bay, is an important aquatic ecosystem that was significantly disturbed by the construction of the causeway which restricted natural water flow significantly altered the ecology of French Creek. The removal of the natural marsh grasses and the loss of their associated ecosystem services have caused an increase in siltation that has rendered the creek barely navigable by personal watercraft, among other environmental problems. Replacing the causeway with a bridge would help to restore this important ecosystem by restoring natural flows and sediment movement.

Proposals that encourage the protection and preservation of wetlands, such as the 1974 McCrae and Delaney Wetlands Estuarine Sanctuary, by the State University of New York College of Environmental Science and Forestry at Syracuse, have merit for the purposes of natural wetland study. The ability to preserve wetlands for study, however, may be dependent upon other factors, such as private land ownership and acquisition costs.

2.13.3 Steep Slopes and Erosion

The high costs associated with building on steep slopes make them undesirable for development. The areas are prone to erosion and instability, and are unsuitable for both traditional and alternative septic systems. The definition of a steep slope varies, but typically it includes slopes greater that 12 to 15%. LWRP Map 8 identifies the location of slopes in the WRA greater that 12%. Areas of significant slopes on the mainland include the shoreline areas west of the Village, slopes on the north side of County Road 4 (north of the French Creek Wildlife Management Area), and a ridge north of House Road. Areas of significant slopes on Grindstone Island include the shorelines surrounding Buck Bay, Aunt Jane's Bay and Rusho Bay. Islands with significant steep slopes include Bluff Island, Picton Island and Murray Island.

Erosion Hazard Areas and Natural Protective Features

There are no NYS DEC designated Waterfront Erosion Hazard Areas within the Village's or Town's waterfront. A good portion of Grindstone Island contains highly erodible soils particularly near Flynn Bay, adjacent to the Upper Town landing, at Rusho Bay, and near the intersection of Cross Island Road and Middle Road. Inland areas of highly erodible soils are evident at Sawmill Bay, Carrier Bay and, to a lesser extent, adjacent to French Creek. The areas of highly erodible soils, as noted above, generally coincide with areas of steep slopes. These steep slopes and low erodible bluffs serve as natural protective features and buffer the mainland from the erosive forces of wave and ice action. Although no

immediate concerns have been identified with regard to these erosion areas, management practices that minimize the potential for erosion should be implemented.

Erosion Protective Structures

Existing protective structures used to minimize erosion and wave impacts throughout the Clayton shoreline area include: seawalls and bulkheads, groins and jetties, and in a few locations, revetments and riprap. These protective structures provide a necessary means to control wave impacts and soil erosion along the Town and Village's shoreline. While hard controls may provide temporary relief from erosion, they are expensive to install, degrade habitat, require ongoing maintenance, and may transfer erosion problems to adjacent areas. Alternatives to structural, engineered solutions exist, and these alternatives should be considered for use in the future whenever possible as the community continues to deal with erosion protection. Possible alternatives to help protect the shoreline and the ecosystem include bioengineering techniques and planting buffers using deep-rooted vegetation such as tall grasses, shrubs and trees, and aquatic vegetation such as reeds or cattails. These alternative solutions would result in a more natural shoreline, which has aesthetic and scenic benefits. Hard structural erosion protection measures should only be used as a last alternative, where there is a documented erosion problem and where alternative measures have been proven to be inadequate to protect the principal use.

Nonstructural Measures for Damage Prevention

Minimizing flooding and erosion through nonstructural means within the WRA has been primarily accomplished through regulatory provisions in the Village and Town's zoning ordinance and floodplain regulations. Additionally, the Village and Town's floodplain regulations incorporate specific requirements for residential and commercial structures and provide the means to safeguard against potential flood damage. The Town and Village must utilize the provisions of their floodplain regulations and require new uses to locate outside of the floodplain, or provide adequate flood proofing measures, as appropriate. Regulatory provisions, as established within the Village and Town's zoning ordinance and floodplain regulations, are considered adequate at this time.

Ice Management

To date, no significant ice management problems have been experienced along the shoreline areas of the Town or the Village. Potential ice related impacts from natural climatic cycles and human manipulation of flow and water levels during winter months include the following:

1. Potential damage to shoreline structures;
2. Increased bank erosion as a result of ice movement in areas that contain soils of high erodibility;
3. Loss of feeding habitat for wintering birds due to closure of normally open water areas by broken and brash ice;

4. Ice scouring of shoreline wetlands as a result of fluctuating water and ice levels thereby stressing and, in some cases, altering viable fish and wildlife habitat in shoreline and bay areas; and

5. Instability of ice cover resulting in limited or loss of recreational use of river and bay areas for such uses as snowmobiling, skiing, and ice fishing.

The necessity of establishing a stable ice cover on the St. Lawrence River is important for environmental, economic and safety reasons. Therefore, establishing and maintaining consistent water levels that promote stable ice cover should be encouraged with regard to the shoreline areas of Clayton.

2.14 Fish and Wildlife Resources

The 700-mile long Saint Lawrence River is home to many fish species and can be divided into four hydrographic zones. The WRA is part of the Fluvial Section, which runs from Lake Ontario past Montreal to Trois Rivieres. The river life can be divided into seven categories: plants, plankton, benthic organisms, fish, amphibians, birds and mammals.

2.14.1 River Life

Plants
Thousands of species of plants inhabit the water and shorelines of the Saint Lawrence River system. In the Fluvial Section many are found in wetlands, such as marshes, wet meadows and swamps. Plants provide an important food source for other species and create habitats for many organisms.

Plankton
Plankton are tiny creatures that drift in the water with limited ability to propel themselves. They form the base of the food chain in the St. Lawrence River and include bacteria, yeast, phytoplankton and zooplankton. Like plants, the phytoplankton has a role of fixing carbon dioxide via photosynthesis. Zooplankton, on the other hand, is the animal-form of plankton, such as the larvae of fishes that drift along the length of the river.

Benthic Organisms
Benthic Organisms dwell on the river bottom and are important for recycling organic matter, particularly in deep areas where sunlight does not penetrate. They are also a food source for other species, including people. Some bottom dwellers found in the Fluvial Section include mollusks (e.g., clams), crustaceans (e.g., crabs), oligochaeta worms, diptera larvae, amphipods, gastropods (e.g., snails) and tubificids.

Fish
Freshwater fish species found in the Fluvial Section include bullhead, carp, bass, pumpkinseed, walleye, stickleback, sturgeon, pike, burbot, sucker, perch, shiner, trout, mudminnow, char, muskellunge, and redhorse.

Amphibians and reptiles
Amphibians and reptiles are important secondary consumers in the food chain eating, for example, insects or plankton. A range of amphibians can be found in and along the river including salamanders, newts, mudpuppies, turtles and frogs.

Birds
Most birds along the Saint Lawrence inhabit the wetlands in the Fluvial Section as well as the Estuaries closer to the Gulf. Many migrate to the river ecosystem during the spring in search of food and breeding grounds. The main birds in the Fluvial Section include blue heron, Canada geese, mergansers, goldeneye, snow geese, moorhen, wood duck, green heron, pied billed geese and Peregrine falcons. Less common species include eagles, redheads and yellowtails.

Mammals
Most of the area's mammal population can be found in the marshes and wetlands. Examples include mink, muskrats, otters, beavers and raccoons.

2.14.2 Significant Fish and Wildlife Habitats

The Clayton WRA encompasses a number of significant waterfront fish and wildlife habitats within the St. Lawrence River ecosystem (see LWRP Map 10). Significant fish and wildlife habitat are evaluated by the NYS DEC based on the area's wildlife population levels, species vulnerability, ecosystem rarity, human use and replaceability and based on this evaluation the NYS DOS designates significant habitats for protection, preservation, and where practical restoration so as to maintain their viability as habitats.

Significant habitats in the WRA are described below. A more detailed habitat narrative, the coastal fish and wildlife habitat rating form, fish and wildlife values, impact assessment, listing of knowledgeable contacts, and a location map is included for each designated habitat in Appendix E.

French Creek Marsh (including the French Creek Wildlife Management Area)

This fish and wildlife habitat extends inland approximately five miles from the Village of Clayton, encompassing an approximately 700-acre streamside wetland and adjacent uplands in the NYS DEC's French Creek Wildlife Management Area (WMA). French Creek is a sizeable warm water stream, with a broad floodplain occupied by extensive emergent marsh communities. The drainage area of French Creek is small, and little flow is discernible during the summer. Maximum channel depths of about 10 feet occur downstream of French Creek and Bevins Roads, but are less than 5 feet deep in the two major branches of the Creek. Water levels throughout this WMA are generally continuous with those of the St. Lawrence River, but fluctuations may be affected by the narrow channel opening under NYS Route 12E. The mouth of French Creek, at French Creek Bay, is outside of the Wildlife Management Area, and has been subject to considerable residential and commercial waterfront development, including diking and dredging of wetlands. Upland areas bordering the north, west and south sides of French Creek Marsh are largely rural in nature, including woodlots, abandoned fields, active agricultural lands, and low density residential development. Agricultural activities, including livestock grazing, extend up to the wetland at some locations, but other habitat disturbances are minimal.

The French Creek Marsh or at least that portion of the marsh located within the French Creek Wildlife Management Area represents a fish and wildlife habitat of potential statewide significance. Any significant disturbance of French Creek would be especially detrimental during fish spawning and nursery periods (March-July for most warmwater species) and wildlife breeding seasons (April-July for most species). Barriers to fish migration in the creek, whether physical or chemical, could have significant impacts on fish populations within the marsh and in French Creek Bay. Existing areas of natural vegetation bordering French Creek Marsh should be maintained for their value as cover for wildlife, perching sites, and buffer zones. Efforts should be made to reduce habitat disturbance by agricultural activities, especially grazing, through fencing and restoration of riparian vegetation. Potentially incompatible human use of the area, such as use of motorboats, waste disposal or camping should be restricted through enforcement of existing Wildlife Management Area regulations. Proposed public or private development actions must be cognizant of and compatible with the sensitivity of this habitat area. Upland and shoreline development west and east or southeast of the mouth, if not carefully guided and appropriately limited could jeopardize the habitat's viability.

Grindstone Island Wetlands

Grindstone Island is the second largest island in New York's portion of the upper St. Lawrence River and the largest island amongst the Thousand Islands, located approximately three miles northwest of the Village of Clayton. The fish and wildlife habitat consists of four large waterfront wetland and bay areas on the island. These are: Flynn Bay (approximately 270 acres), which includes adjacent Lindley Bay, located at the southern end of Grindstone Island; McCrae Bay (325 acres), which includes adjacent New Bay, located in the northwestern part of the island; Delaney Bay (200 acres), located in the northeastern part of the island; and the littoral shoreline which extends from Canoe Point south to Point Angiers (200 acres), located along the eastern part of the island. Flynn Bay is a wide-mouth bay facing the main channel of the St. Lawrence River. It has the smallest emergent wetland of the four bays, but features an extensive littoral zone. Flynn Bay is exposed to considerable current and wave action so submerged vegetation is sparse. McCrae Bay and Delaney Bay are dominated by extensive emergent marshes that extend inland up to two miles. Both of these bays are bisected into upper and lower wetland portions, by a small road crossing over McCrae Bay, and by a natural island in Delaney Bay Marsh. The marshes extending from Canoe Point south to Point Angiers consist of extensive littoral zones and shoreline marshes and coves, including Whitehouse Marsh and Plumtree Marsh.

Despite differences in vegetative cover, the Grindstone Island Wetlands share a number of ecological characteristics. Water depths in all four areas generally do not exceed six feet, and are continuous with those of the St. Lawrence River. Drainage areas of the wetlands are small, and little flow is discernible during the summer. Surrounding upland areas are essentially undeveloped, including active agricultural lands, abandoned fields, and woodlots. Habitat disturbances in Grindstone Island Bays are generally limited to occasional livestock grazing, use of motorboats in the bays, and presence of rural road crossings. All of Grindstone Island Bays are privately owned, except for the marshes adjacent to Canoe Point and Picnic Point State Park.

Elimination of wetland habitats (including submerged vegetation), or significant human disturbance of the area, through dredging, filling, construction of roads, waste disposal, or motorboat access

development, could severely reduce the value of Grindstone Island Wetlands to fish and wildlife. Activities that would subdivide these large, undisturbed areas into smaller fragments should be restricted. Channelization would reduce stream channel diversity, and result in a direct loss of valuable habitat area. However, habitat management activities, including water level management or expansion of productive littoral areas, may be designed to maintain or enhance populations of certain fish or wildlife species. Any significant disturbance of Grindstone Island Wetlands would be especially detrimental during fish spawning and nursery periods (March-July for most warmwater species) and wildlife breeding season (April-July for most species). Whether physical or chemical, the barriers to fish migration in major stream channels could have significant impacts on fish populations within the marshes, bays, and the upper St. Lawrence River. Adequate drainage of wetland areas located above road crossings should be provided through the installation and maintenance of bridges or culverts, if necessary. Existing areas of natural vegetation bordering these wetlands should be maintained for their value as cover for wildlife, perching sites, and buffer zones. Efforts should be made to reduce stream disturbance by agricultural activities, especially grazing, through fencing and restoration of riparian vegetation. Development of additional public access may be desirable to increase compatible human uses of wetlands, but must be designed to minimize disturbance of sensitive fish and wildlife species that occur in this area.

Thousand Island Tern Colonies

The Thousand Island Tern Colonies are located along the St. Lawrence Seaway navigation channel, extending from the Town of Clayton to the Town of Alexandria in Jefferson County. The fish and wildlife habitat consists of one man-made structure supporting navigation lights, located where shoals occur in close proximity to the Seaway channel, and three small rocky islands along with one small group of islands. The artificial structure is a roughly 25 foot square platform, constructed of concrete, rock, steel piping, with varying amount of soil, gravel, and vegetation on the surface. The height of the platform is approximately 8-10 feet above the water. All of the St. Lawrence River navigation lights are owned and maintained by the St. Lawrence Development Corporation, along with many other river structures not included in the habitat. The other specific sites include a small group of islands known as Eagle Wing Group, located approximately one-half mile northeast of the Village of Clayton; Gull Island, located about one mile north of Carrier Bay; Tidd Island, located one mile north of Mason Point; Light Northeast 216, located approximately one-half mile south of Thousand Islands Park; and an island known as Southeast Isle of Pines, located just north of Fishers' Landing in the Town of Alexandria.

Bird species nesting in colonies on man-made structures and islands in the St. Lawrence River are highly vulnerable to disturbance from mid-April through July. Significant human activity (e.g. boat-landing, fishing or maintenance) on or around occupied sites, including Eagle Wing Group, Gull Island, and Tidd Island, could eliminate tern colonies, and should be minimized during this period. Artificially high water during nesting season would limit use of the islands. Annual or permanent posting of the structure and the islands should be provided to help protect the nesting bird species. Habitat management activities, such as manipulation of surface substrates, control of avian predation or competition, and establishment of additional nesting colonies in the vicinity, may be desirable or necessary in the near future to ensure the survival of common tern populations in the St. Lawrence River. Other navigation

structures in the river should be monitored or enhanced for use by common terns, as part of an overall management program for these bird populations. Introduction or attraction of mammalian predators, including pet animals, would also be detrimental to the colonial bird populations at Eagle Wing Group, Gull Island, and Tidd Island.

Eel Bay

Eel Bay is located in the upper St. Lawrence River, on the west side of Wellesley Island, in the Towns of Orleans and Clayton, Jefferson County. The fish and wildlife habitat is an approximate 2,100-acre shallow bay, containing extensive beds of submerged aquatic vegetation (e.g., wild celery, pondweeds, and muskgrass), a fringe of emergent marsh vegetation, and several small islands including Big Gull and Little Gull Islands. The habitat extends southwest to the shores of Murray Isle and Picton Island. There are two sizeable emergent wetland areas, totaling about 75 acres, around the bay shoreline. The larger wetland lies between Flat Iron Island and the north shore, and the smaller one occupies the northeast corner of the bay. Average water depths in Eel Bay range from 6-10 feet, depending of water levels in the St. Lawrence River. The bay bottom is covered variously with soft silt, peat, or clay, except near the south shore, which is rocky. Eel Bay is somewhat sheltered from prevailing winds and wave action, by being situated in the lee of Grindstone Island. Water circulation is substantial with a large channel cutting from the southwest corner and continuing along the shores of Grindstone Island.

The mainland surrounding Eel Bay is almost entirely within Wellesley Island State Park, and remains in a relatively undisturbed natural condition. Private lands with seasonal camps and residences occur only at the hamlet of Grandview Park, on several small islands in the bay, and just east of the larger wetland area. Public access to the area is available from a State boat launching site on the east side of the bay, and from the Minna Anthony Nature Center located near the south shore of Eel Bay, in Wellesley Island State Park.

Any activity that would substantially degrade water quality in Eel Bay could affect the biological productivity of this area. All species of fish and wildlife may be adversely affected by water pollution, such as oil spills, excessive turbidity or sedimentation, waste disposal, and discharges of sewage or stormwater runoff containing chemical pollutants (including fertilizers, herbicides, or insecticides). Spills of oil or other hazardous substances are an especially significant threat to waterfowl concentrations in this area. Disturbance of littoral areas or wetland vegetation, through dredging, filling, bulkheading, or other shoreline construction activities (including development of motorboat access facilities) would adversely affect fish and wildlife through direct loss of habitat, and through increased human disturbance during fish spawning and nursery periods (April-July for most warmwater species). Development of additional public access opportunities to the Eel Bay area may be desirable, but should be located at existing access points to minimize potential disturbance of productive shallow areas. Significant human activity (e.g. motorboat traffic, fishing) on or around small islands used for nesting by common loons (from April through July) should be minimized during this period. Annual or permanent posting of active nesting areas may be desirable to help protect breeding loons from human disturbance. Substantial alteration of fluctuation of water levels in the St. Lawrence River could also affect fish and wildlife use of the area. Existing areas of natural vegetation bordering Eel Bay and on the

islands in the bay should be maintained to provide cover for wildlife, perching sites, soil stabilization, and buffer zones from human disturbance.

St. Lawrence River Shoreline Bays

The St. Lawrence River Shoreline Bays are located on the upper St. Lawrence River, between the Village of Clayton and Alexandria Bay, and in the Towns of Cape Vincent, Clayton, Orleans, and Alexandria. The fish and wildlife habitat consist of eight shallow bays along the River's mainland shoreline. Within the WRA, from southwest (upriver) to northeast (downriver), these bays are: Peos Bay, (20 acres); Millen Bay (35 acres); Rose Bay (30 acres); Carrier Bay (approximately 160 acres); and Blind Bay (50 acres). All of the bays are generally less than six feet deep (depending on River levels) and are somewhat sheltered from prevailing winds and wave action. Much of the land area surrounding the St. Lawrence River Shoreline Bays is privately owned, and has been developed into seasonal camps, permanent residences, and small craft harbor facilities (resulting in some habitat disturbance).

The Shoreline Bays also merit consideration as habitats with potential statewide significance, especially the shallow areas in the southeast corner of Carrier Bay, due to the spawning and rearing of Muskellunge there. Any activity that would substantially degrade water quality, increase turbidity or sedimentation, reduce water levels, or increase water level fluctuations in Carrier Bay could adversely affect fish and wildlife use of these areas. Discharges of sewage or stormwater runoff containing sediments or chemical pollutants (including fertilizers, herbicides, or insecticides) into any of the bays may result in adverse impacts on fish and wildlife resources. Spills of oil or other hazardous substances are a potentially serious threat to fish populations on the Shoreline Bays area and every effort should be made to prevent such contamination. Significant human disturbances of the area, through dredging, filling, construction of roads, waste disposal, or unlimited motorboat access development, could severely reduce the habitat's value as a spawning and nursery habitat Such disturbances would be especially detrimental during fish spawning and nursery periods (March through July for most species). Carrier Bay and all St. Lawrence River Shoreline Bays should be maintained for their value for wildlife, perching sites, and buffer zones. Proposed public or private development actions near the bay on Steeles Point or along NY Route 12 must be undertaken in a manner that will not jeopardize such spawning and rearing activity. While these areas are not targeted for special emphasis by the Town and Village for revitalization or facilitation of water-dependent uses, review of private development or expansion efforts will still be important to ensure that physical disturbances (such as dredging or filling) and contamination (from septic system leachate) are not increased.

2.14.3 Species at Risk

Species at risk currently occupying waterfront area habitats outside the bounds of designated Significant Waterfront Fish and Wildlife Habitats include, but are not limited to: the Bald Eagle (Federal and New York State Endangered); Northern Harrier and Common Tern (New York State Threatened); Common Loon (New York State Species of Special Concern); Small Skullcap (a flowering plant rated as especially vulnerable, with 5 or fewer recorded occurrences in New York State); Lake Sturgeon (New York State Threatened); and Muskellunge (status unrated, but of significant concern at local and state levels). The location and presence of these species are described below.

Bald Eagles
Bald Eagles are present in the waterfront area as spring and fall migrants and winter residents. As winter residents, they occupy open water pools in the ice cover and forested shoreline areas. Seasonally persistent open water pool habitat occurs in the vicinity of Woronoco and Basswood Islands.

Northern Harriers
Northern Harriers are present in migration, as nesting residents and as winter residents. They occupy wetlands, shorelands, shrublands and fields.

Common Terns
Common Terns are present as migrants and as colonially nesting residents. They occupy open water, shoreline and wetlands.

Common Loons
Common Loons may be present in breeding season, as well as in migration. They occupy open water, shoreline, and wetland edge habitats.

Small Skullcap
Small Skullcap has been identified as present on three small islands and one mainland site within the waterfront area.

Lake Sturgeon
Lake sturgeons are known to inhabit waters of the waterfront area. Critical habitat locations have not been identified – perhaps due to a lack of data.

Muskellunge
Muskellunge spawning/nursery habitat (occupied) has been identified in several waterfront embayment areas (Ste LaPan to SLECO: 9/28/89), including Blind Bay and two unnamed bays between McRae and Delaney Bays on Grindstone Island.

2.14.4 Other Issues Affecting Fish and Wildlife

Bioaccumulation of Pollutants
Point-specific information concerning the bioaccumulation of pollutants in the St. Lawrence River is not available for the WRA. However, the entire river has problems with heavy metal contamination in the sediments. Health advisories issued by the New York State Department of Health recommend limited consumption of sport fish and wildlife taken from the St. Lawrence River, because of a potentially harmful level of chemical contaminants in the River. The Department of Health recommends eating no American eels, channel catfish, lake trout over 25 inches, brown trout over 20 inches and Chinook salmon caught in the river. The agency recommends eating no more than one meal per month of river-caught white perch, white sucker, rainbow trout, smaller lake trout, smaller brown trout and Coho salmon over 25 inches. The chemicals of concern are PCBs, Mirex and Dioxin. As such, any effort that eliminates the actual or potential introduction of pollutants within the WRA should be encouraged.

Recreational Use of Fish and Wildlife Resources

Recreational use of Clayton's fish and wildlife resources occurs at the NYS DEC's 2,262-acre French Creek Wildlife Management Area. Hunting, fishing and trapping opportunities are available on the marsh and adjacent uplands. "Pheasants are stocked occasionally to augment a small population of Ringnecks, while waterfowl and furbearers find suitable homes in the cattail marsh which borders the open water." Access to this marsh is provided via unpaved roads within this area, although travel by foot is the primary means of passage through the uplands. Additionally, recreational use of fish and wildlife resources is notable throughout the shoreline and island areas, where sport fishing and small game opportunities can be enjoyed.

Commercial Fishing Activities

At this time, there are no commercial fishing activities or uses within the waterfront area. The potential for the location of such uses in the future is a possibility, since the St. Lawrence River contains a number of game and bait fish species. Other commercial fishing activities such as netting, rigging or on-shore processing may prove to be counterproductive with regard to leisure and guide fishing opportunities presently in existence.

2.15 Infrastructure

2.15.1 Sanitary Waste Systems

Local concerns regarding the discharge of sewage effluent into the St. Lawrence River have been raised as a result of failing or inadequate residential septic systems along the Clayton shoreline. Accordingly, the Town has adopted NYS Department of Health regulations and inspection practices, which establish septic system requirements for all new uses to minimize the potential of ground or surface water contamination. The criteria, as contained in Jefferson County's sanitary regulations, establish standards for septic systems based upon individual site conditions, and are considered adequate at present. In addition, the use of alternative septic systems is strongly encouraged to protect water quality and lessen the potential health risks associated with contaminated ground and surface water from failed septic systems within the waterfront area.

A significant impediment to adequate disposal of sewage effluent throughout the Town's waterfront area is the presence of thin soils and steep slopes. Thin soils place severe limitations on the use of traditional septic systems. This factor is especially relevant to the islands and immediate shoreline areas where soils are sparse and bedrock is exposed to the ground surface. The soils are predominantly composed of silty clays that drain poorly, are susceptible to ponding, and are inadequate to effectively treat and dispose of effluent from traditional septic systems. Traditional or alternative septic systems also should not be located in areas where slopes exceed 12 to 15 percent.

A local organization known as Save the River is currently promoting the use of alternative septic systems in the Clayton and Thousand Islands region. Through its Kingfisher Program, this organization offers free septic system inspection and advisement on alternative septic systems. The Program has encouraged

numerous shoreline property owners to upgrade their individual wastewater treatment systems. Public funding for this Program should be continued.

Additionally, information on alternative septic systems for residential use is available from the NYS Department of Health, Jefferson County Planning Department, and the Tug Hill Commission. These agencies can provide excellent source material regarding replacement of inadequate sewage disposal systems.

2.15.2 Solid Waste Management

The Town's transfer station, located on the waterside of County Route 4, approximately 1.5 miles northeast of the Town of Clayton/Town of Cape Vincent municipal boundary, is used for the disposal of the Town's solid waste. Disposal of solid or hazardous wastes from the Town's transfer station is not known to pose any threats to the water quality within the local waterfront area.

The lack of effective transportation and disposal of solid waste from the island areas has the greatest potential to impact the surface waters of the St. Lawrence River. To date, this has not been identified as a serious problem within the waterfront area.

2.15.3 Major Electric and Industrial Facilities

At this time, no major electric or industrial facilities exist along the waterfront area. The Town and Village of Clayton Zoning Ordinances adequately address the potential for the location of these types of uses. The Town has established an industrial district approximately one mile south of the WRA. The Village's Industrial District is less than one mile from the waterfront edge and falls within the WRA. It is unlikely that discharges from any potential electrical or industrial use in this district would affect the natural resources of the St. Lawrence River or French Creek, since the district is located substantially inland from these bodies of water.

2.16 Transportation

The transportation network in a community determines how easily people and goods can move into, out of, and within a community and the WRA. The access and circulation systems inventory includes an investigation of the existing transportation systems including roads, air, and pedestrian/bicycle access. Clayton does not have public transit, such as rail or bus service.

2.16.1 Roads

The road system within the Clayton WRA includes NY State Routes, arterial roads, and town roads.

Major Roadways

The major arterial road providing regional access to the Town and Village of Clayton is Interstate 81. Interstate 81 runs through the adjacent towns of Pamelia and Orleans in a north/south direction. Interstate Route 81, a four lane limited access highway, directly connects Jefferson County to Ontario,

Canada and the US Interstate system. No portion of Interstate 81 is located in the WRA, but it serves as a key access route to Clayton via State Routes 12 and 12E.

NYS Routes

Two New York State Roadways are located within the Town and Village of Clayton, providing a means of vehicle access around the community and into neighboring areas. NYS Route 12 enters from the southeast corner of the Town, travels generally in a north-south direction into the Village of Clayton, where it makes a 90-degree turn and continues in a northeasterly direction along the waterfront to the Town of Orleans. In the Town of Orleans, Route 12 intersects with Interstate 81 near the Thousand Islands Bridge, and continues on through several shoreline communities, to the vicinity of Morristown.

At the intersection where Route 12 makes a 90-degree turn, NYS Route 12E begins and runs in a southwesterly direction from the Village of Clayton through the Town of Clayton and into the Town of Cape Vincent. Route 12E continues on along the waterfront of Lake Ontario through Chaumont, before ending in Limerick. Significant portions of Route 12 and 12E are located within the WRA, and act as key gateways into the Clayton WRA. Both routes provide adequate vehicular access and safety, but lack safe access for bicycling and/or walking. Also of particular note, are pedestrian and vehicular safety concerns related to the NYS Route 12E Bridge at French Creek. The bridge's narrow shoulders limit pedestrian access and safety. Due to its location on a curve, driver line of sight conditions are limited.

Local Roads

The remaining roads in the WRA, excluding those discussed above, are considered local roads. The roads located on the Village peninsula are organized in a grid pattern and provide adequate circulation. There is an opportunity to extend the grid pattern as part of the Frink America property redevelopment to make a seamless connection to the commercial core and adjacent neighborhoods. Riverside Drive could benefit from traffic calming techniques and pedestrian improvements. In the Town of Clayton and in the outskirts of the Village, local roads generally run perpendicular to Route 12 and Route 12E and are in good condition.

2.16.2 Air Service

The Watertown International Airport, located approximately 6 miles west of the City of Watertown, provides the nearest air service to the Clayton community. Jefferson County owns and operates the airport. The airport provides both general aviation and commercial air services. Cape Air Airways provides daily commercial passenger flights. Tom Brouty Aircraft Service, Inc. provides general aviation services, including fuel sales, aircraft engine repair, handicap accessible restrooms, and charter flights. The airport provides free parking and quick boarding, as well as free wireless Internet.

2.16.3 Pedestrian and Bicycle Circulation

The Village core and the neighborhoods immediately surrounding this area have adequate sidewalk systems that allow for safe travel over short distances within the immediate vicinity. The Village should repair and maintain sidewalks that link residential areas to downtown, and strive to improve crosswalk

conditions. Constructing a median on Riverside Drive is a potential opportunity to improved pedestrian safety in the Village's commercial core. Although traffic in the Village is not as intimidating as on major roadways, bicycle lanes have been suggested for local roads in the Village core to provide safer access throughout this area.

Pedestrian and bicycle circulation systems are limited or non-existent along NYS Routes 12 and 12E. In these areas, walking is dangerous, as road shoulders are not wide enough to ensure an adequate comfort level alongside the high speed and frequency of vehicles. Experienced cyclists may be more comfortable traveling on roadways in the WRA, as they tend to be more at ease sharing the road and interacting with motorists. However, inexperienced or recreational cyclists would likely find the same roadways to be dangerous and unnerving. Walking and biking trails/lanes along Routes 12 and 12E would greatly improve pedestrian and bicycle access and safety.

Existing trails in the WRA include the Grindstone Island Nature Trail, Sissy Danforth Rivergate Trail, and Zenda Farm Preserve Trail. The Grindstone Island Nature Trail is three miles long and links Canoe Point and Picnic Point State Parks. Hikers, mountain bikers, skiers, ATV riders and snowmobilers use the 24-mile Sissy Danforth Rivergate Trail. This trail links sections of abandoned New York Central Railroad beds in the Towns of Philadelphia, LaFargeville, Theresa, and Redwood. The Zenda Farm Preserve Trail was completed in 2009 and is used by hikers and cross-country skiers.

The Town and Village of Clayton have opportunities to develop additional trails in the French Creek Wildlife Management Area, on Grindstone Island, along Routes 12 and 12E, and along additional sections of abandoned railroad right-of-ways. Improving trail linkages to the Clayton RiverWalk would improve regional pedestrian and bicycle access to the waterfront and Village commercial district. The reconstruction of the Route 12E Bridge at French Creek also could provide an excellent opportunity to improve pedestrian and bicycle circulation and safety.

2.16.4 Alternative Transportation

The Town and Village of Clayton currently have few transportation options for residents and visitors. The community is not served by local or regional bus service, or by railway. The closest ferry service is in Cape Vincent, with trips to Wolfe Island. Boat tours are available, but have limited access when compared with a ferry or water taxi. The community would benefit from alternative transportation options, such as a local trolley, or small ferries and/or water taxis that provide access to a variety of islands, parks and historic sites. Visitors in particular might benefit from the opportunity to rent a golf cart, scooter, bicycle or segway as a means to get around the community. A small bus/trolley system that could carry visitors from satellite parking areas to Town and Village waterfront destinations would also improve transportation challenges.