SALMON RIVER WATERSHED MANAGEMENT PLAN

Phase I

2016

Prepared by Franklin County Soil and Water Conservation District

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Franklin County Soil &Water Conservation District

NEW YORK STATE DEPARTMENT OF STATE

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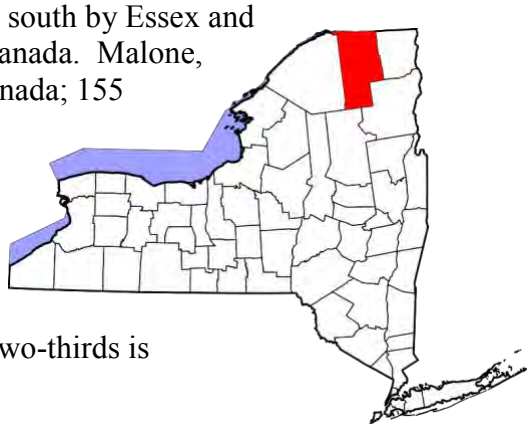
Grant # C007036- Salmon River Watershed Management Plan Phase 1 and Mill Park Improvements

New York State Department of State Division of Coastal Resources

Watershed Assessment for the Salmon River, Franklin County, NY

Purpose:
The purpose for the Salmon River Watershed Management Plan is to examine existing physical and regulatory conditions within the watershed, identify the factors that are negatively impacting the watershed and recommend strategies that focus on the protection and the improvement of the watershed.

Introduction:
Franklin County is in the northeastern part of New York State. It is bordered on the east by Clinton County, on the west by St. Lawrence County, on the south by Essex and Hamilton Counties, and on the north by Quebec Province, Canada. Malone, the county seat, is about 70 miles southwest of Montreal, Canada; 155 miles north of Albany; and 195 miles northeast of Syracuse. The total area of the county is 1,078,400 acres or 1,685 square miles.



Franklin County is in two major physiographic provinces. The northern one-third of the county, is mostly agricultural and is in the St Lawrence River Valley Plain. The southern two-thirds is within the Adirondack Park and is mainly forested.

The most dominant water feature in Franklin County is the Salmon River. The Salmon River originates in the Adirondack foothills of central Franklin County and follows a 46 mile course northward, to the U.S. and Canadian border at Dundee. The Salmon River's largest community along the river is the town and village of Malone. Other towns found within the Salmon River watershed are: Fort Covington, Bombay, Constable, Westville, Duane, Bangor, Brandon, Moira, Dickenson, Bellmont, Franklin and Brighton (Figure 1). Notably the Salmon River enters the St. Lawrence River in Canada only 3.8 miles from the U.S. border at Dundee, making the River part of the St Lawrence River Watershed. The river mouth is located just to the west of Lake St. Francis (an impoundment of the St. Lawrence River) and is bordered by segments of the Akwesasne Indian Reservation. Extensive wetlands border this area and there are no barriers to fish migration to and from the St. Lawrence. The Salmon River Watershed is 210.9 miles long and encompasses 177,221.5 AC. The river is primarily used for recreation, scenic attractions and fishing.

Headwaters of the Salmon River support wild brook trout populations; stocked and wild brown trout are common in moderate gradient reaches; while the last 8 miles of river in Fort Covington are home to warm water game fish, a wide variety of minnows, and at least one endangered fish species (the eastern sand darter). In recent years there has been additional stocking of lake sturgeon in the Salmon River by the St Regis Mohawk Tribe, NYS DEC and the US Fish and Wildlife Service.

The Salmon River as well as several streams and brooks are designated as trout habitat by the New York State Department of Environmental Conservation (NYSDEC) (Figure 2). Most of the river is classified as a class C(T) and C(TS) stream. NYSDEC classifies water bodies as AA, A, B, or C for the purposes of establishing standards for water quality and stream management. Class AA and A waters are regulated to standards suitable for water supply, swimming and fishing. Class B waters are regulated to standards suitable for swimming and fishing. Class C waters are regulated to standards suitable for fishing only. Such watercourses are classified with a (T) which indicates the ability to support a trout population or a (TS) which indicates the ability to support a trout population and trout spawning.

The water quality and aquatic habitat value of streams and rivers can be adversely impacted by development on or near the shoreline that can increase surface runoff, decrease shade, and remove the vegetation that stabilizes shorelines. Surface runoff creates erosion and contains soil particles that increase turbidity and lower water quality. It can have an especially adverse impact when heavy rainfall occurs on barren ground during the construction phase of land development projects. Excessive turbidity in streams can destroy trout spawning beds and reduce the supply of aquatic insects, a major food source for trout. Removing trees that line a stream create higher water temperatures due to more sunshine thus raising water temperature and decreasing oxygen supply required by cold water species such as trout. Removing trees and other plants that stabilize soils on the banks of streams can result in bank erosion, and add to turbidity. For these reasons it is desirable to establish stream buffers where buildings and vegetation cutting are limited. The largest area of development along the Salmon River is Malone. The Town and Village of Malone, the county seat, is located in the northern portion of the watershed area. The Salmon River enters the town at the southeastern corner and courses through the entire length of the Town, running through almost the exact center of the Village. This waterway, which falls some 600 feet in elevation in its course through the town, provided waterpower for the many early sawmills, tanneries, carding mills and other activities located along the banks. The Salmon River was an important water resource to the Village and Town, and still is.

Lake water quality, such as in Lake Titus, can be adversely affected by land use and development practices. A major source of excessive nutrients and other pollutants in lakes and ponds is storm water runoff from roads, driveways, buildings and lawns. In order to minimize the pollution load in storm water runoff best management practices should be employed. Such practices include retaining vegetation along the lakeshore to act as a filter strip; not building close to a shoreline; not constructing driveways that lead down to the lakeshore and instead designing driveways so that runoff is diverted into settling basins rather than flowing directly into the lake; and erosion control measures in general.

Lake water quality can also be impacted by inadequate or malfunctioning septic systems, and/or by not treating "gray water." (In some lakeshore areas gray water coming from sinks and showers may simply be piped out without being treated in a leach field.) Inadequate septic systems are often found on lakes where there are older camps that are served by outdated septic systems that do not meet modern standards, or that have become overloaded or otherwise malfunction over time. For the above reasons, it is desirable to protect water quality in lakes and ponds by establishing minimum shoreline frontages for building lots, to require building and septic setbacks, and to encourage the retention of native vegetation along shorelines.

History:
All of what is now Franklin County, NY, was once a part of either the Old Military Tract or Macomb's Purchase. The towns of Burke, Chateaugay, Bellmont, and Franklin were part of the Old Military Tract, created in 1786 to set aside land for veterans of the Revolutionary War. The other 15 towns were a part of Alexander Macomb's purchase from New York State of nearly four million acres of land in 1791. The land was subdivided to landowners with names now familiar by the towns named after them: William Constable, Michael Hogan, James Duane and others. As late as 1853 the map of Franklin County included unsettled townships with names such as 'Killarney' and 'Gilchrist' that later were absorbed into other towns. The county is now comprised of 19 towns and 6 villages.

Franklin County was created in 1808 from Clinton County, when it became obvious that travel to Plattsburgh from Ogdensburg/Massena to conduct legal business was too great of a burden. The county seat was set in Malone, as early settlement was primarily in the northern portion of the county. The largest period of growth in the county was between 1820 and 1830, when the population nearly tripled.

The earliest industry in the county was potash production. Potash was created by felling trees, burning them in great piles, leaching the ashes, and boiling the lye to dryness. The making of potash was also a way to dispose of the large amount of timber created when clearing land for farms, roads and houses. Once roads were carved into the great forest lands, logging became a profitable industry. Great tracts of trees were cleared and the logs hauled to rivers and floated out of the wilderness.

Other early industries included agriculture, especially the raising of hops (mainly used to brew beer) and potatoes, mills, and iron ore mining. The southern portion of the county benefited from

the founding of sanatoriums for the treatment of tuberculosis and other ailments, based on the work of Dr. E.L. Trudeau. The open-air 'rest cure' made the Adirondacks and the Saranac Lake area nationally famous. The Adirondacks, which were once a barrier to settlement, began to serve as a draw for tourists in the late 19th century, and now serve as one of Franklin County's defining features.

The Town and Village of Malone, New York is rich in history dating back to the town's inception on March 2, 1805, before the formation of the County. The Village of Malone wasn't incorporated until 1853, when it boasted of having a population of 2,039. Originally, the Town of Malone had a land area of more than three-quarters of a million acres, however presently the same land area is divided into all of Franklin County's nineteen townships. Each of these townships, excluding Bellmont, Burke, Chateaugay and Franklin, were formed directly or indirectly from Malone.

The first settlers in Malone arriving in the area were John and Nathan Wood, in 1802. Other settlers followed, many from the State of Vermont. Malone boasted of many early industries including sawmills, tanneries and carding mills mostly located along the Salmon River. Malone also had one of the regions few operating iron mines in 1815.

The Salmon River was called "Negentsiagoa" by the original Mohawk Indian inhabitants along the St. Lawrence River. This translates to "the place where we catch large fish". Historically, it has been noted that huge salmon could accumulate in enough numbers to stop the local mill's waterwheel in Fort Covington. Runs of Atlantic salmon have not occurred in the Salmon River in this century.

Built in 1913, the masonry dam at Fort Covington was 17 feet in height; has a spillway length of 90 feet; and a total length of 240 feet. This dam was utilized for hydroelectric purposes in the past, until 2011 when the dam was removed by the Town of Fort Covington. Prior to its removal it impounded a maximum of 12 acre feet of water, and though small, this structure did act as the first barrier impassable to the upstream migration of most fishes from the St. Lawrence River (American eels are an exception). The Fort Covington Dam removal process began in 2006, the dam was finally removed in 2011, there have been issues related to the removal of the dam. There was a large quantity of sediments behind the dam that was not dredged therefore when the dam was removed this sediment moved down the channel obstructing boat passage and causing ice jams. A majority of the sediment has moved out of the Fort Covington area, however water

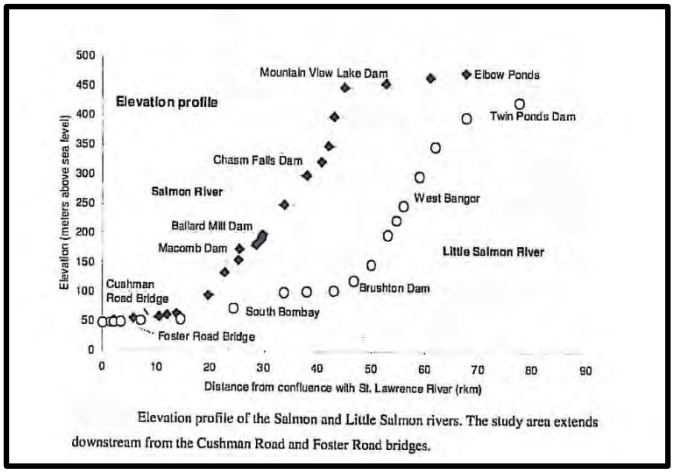
levels are lower than prior to removal and navigation is an issue. The Town of Fort Covington is working with the US Army Corps of Engineers on a dredging feasibility study for the area.

Population:
In 1950 the population of Franklin County was 44,830, 45% classified as urban. According to the most recent US Census Bureau the current population of Franklin County is approximately 52,000 (2013 Cenus). Income levels in Franklin County are $14,000 less than the rest of New York State (excluding New York City and Long Island). The median age in Franklin County is nearly 40 which is higher than the rest of the North Country but lower than the rest of Upstate NY. The lower age in the North Country could be related to the Fort Drum military base in Watertown.

Topography:
The maximum elevation in Franklin County is approximately 2000 feet, the lowest 100 feet. This area occurs at the point where the plain merges with the mountains to the south. The slope of the plain is long and gentle. It extends north and west to the St Lawrence River where the evaluation at its lowest point is about 160 feet.

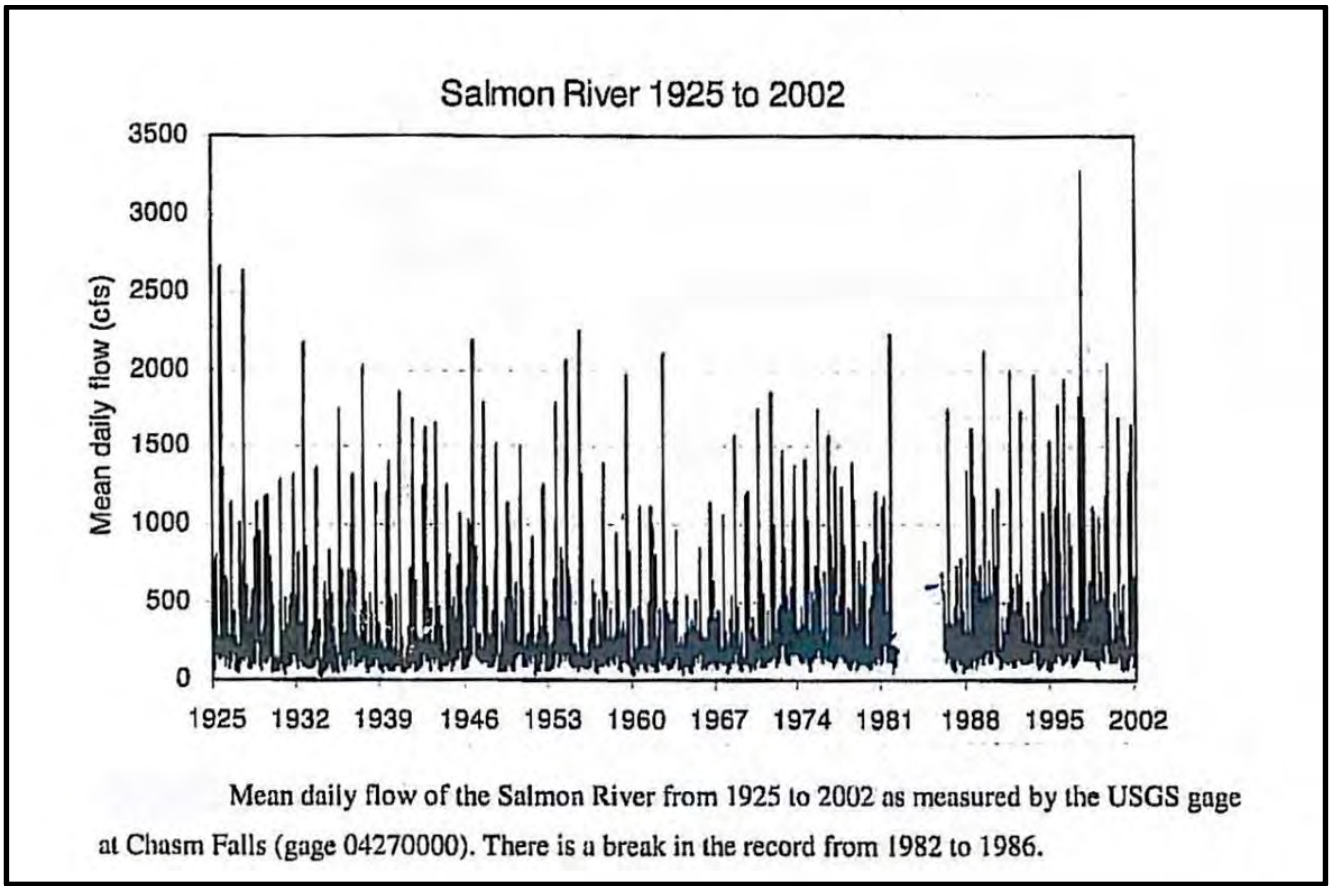
The northern two-thirds of the area is characterized by rolling terrain on gently to moderately sloped land. Slopes are generally less than 8 percent but are adequately drained. The southern section of the area is hilly and mountainous, with the sleeper terrain characteristic of fringes of the Adirondack Mountain region. Slope limits the development potential of this region. The exception is the Salmon River corridor where the river, through the ages, has carved a steep sided valley into the landscape. Slopes on the sides of the valley commonly exceed 15 or 25 percent.

Physical Characteristics:
The Salmon River itself flows from the its headwaters located in the northwest corner of the Adirondack Park in the town of Franklin to Fort Covington to the international border into Quebec, Canada to the St. Lawrence River (Figure 1). The river is approximately 917 miles long, there are 5 dams along the river and the sediment characteristics in the River are mostly sand. There is a relatively steep gradient from the headwaters to Fort Covington then it flattens out. Mean daily



Elevation profile of the Salmon and Little Salmon rivers. The study area extends downstream from the Cushman Road and Foster Road bridges.

streamflow can reach 3,300 cubic feet per second (cfs) in the Salmon River and 2,500 in the Little Salmon River. Peak flow rates and their frequency of occurrence have been estimated at 5,338 cfs every two years, 7,346 cfs every 5 years and 8,754 cfs every 10 years (Cooper, Farrell and Toner, 2004).



Mean daily flow of the Salmon River from 1925 to 2002 as measured by the USGS gage at Chasm Falls (gage 04270000). There is a break in the record from 1982 to 1986.

Main Stem- Salmon River:

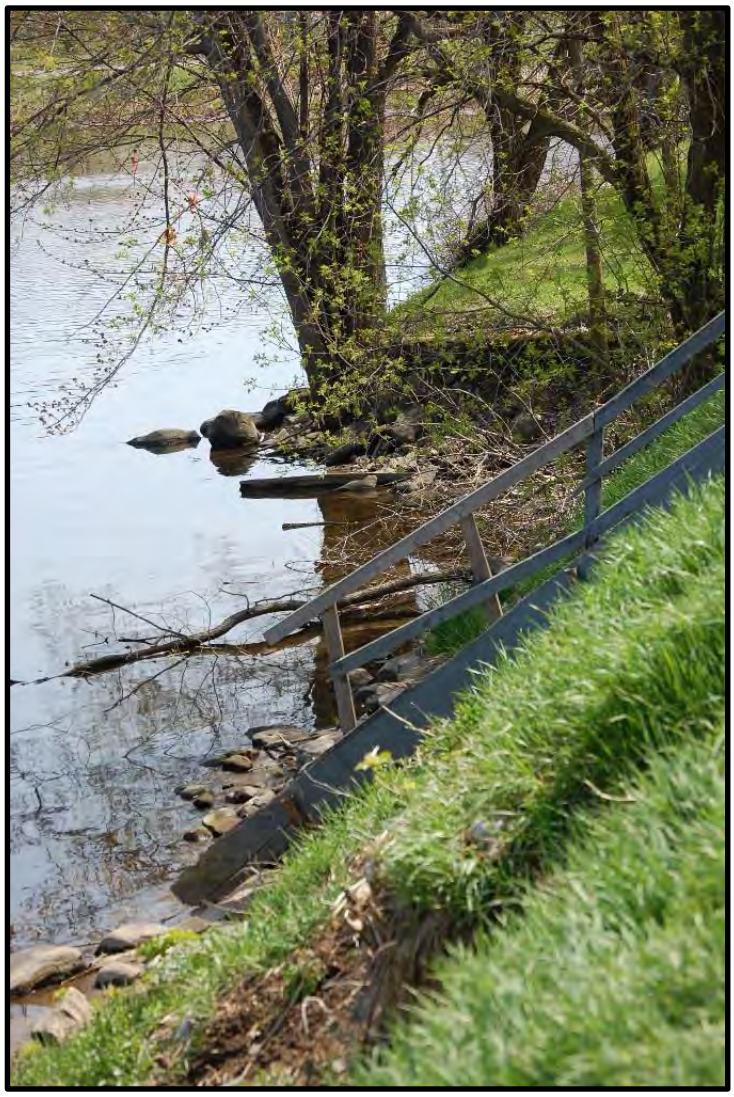
St. Lawrence River to US./Canada border at Dundee, 3.8 miles
Reach 1 - St. Lawrence River to the previous dam at Fort Covington (Main Street Bridge)
Reach 2 - Fort Covington to Westville Center
Reach 3 - Westville Center to Tributary 4a
Reach 4 – Tributary 4a to Macomb Dam
Reach 5 - Macomb Dam to Ballards Mill Dam
Reach 6 - Ballards Mill Dam to Chasm Falls Dam
Reach 7 - Chasm Falls Dam to Mountain View Lake Dam
Reach 8 - Mountain View Lake Dam to Notch Ponds

(The reach break up follows the "A Fisheries Management plan, For the Salmon River Watershed, Franklin County, New York" by Richard Preall, NYSDEC)
(See Figure 3 for geographic layout of Reaches)

Tributaries:
Pike Creek
Little Salmon River
Deer Creek
East Branch Deer Creek
West Branch Deer Creek
Plum Brook
Beaver Brook
Ingraham Brook
Bull Run Brook
Winslow Brook
Duane Stream
Hatch Brook
Branch Brook/Titus Streams
Trout Creek
Collins Brook
Farrington Brook
Roaring Brook

Lakes and Ponds:
Mountain View Lake
Indian Lake
Debar Pond
Drain Pond

Private Ponds:
Ragged Lake
Ingraham Pond
Plumadore Pond



Description of the River:
St. Lawrence River (Canada) to US/Canada border at Dundee- The Salmon River enters the St. Lawrence River in Canada only 3.8 miles from the U.S. border at Dundee. The river mouth is located just to the west of Lake St. Francis (an impoundment of the St. Lawrence River) and is bordered by segments of the Akwesasne Indian Reservation. Extensive wetlands border this area and there are no barriers to fish migration to and from the St. Lawrence. Customs officials maintain a border crossing station on the river at Dundee. Boaters are required to check in at the station. This area is a deeper slow moving section of the river. A marina located near the mouth of the Little Salmon River and the Salmon River in Fort Covington is within a half mile of the border and was the source of much of the boating activity. There is a private boat launch at that location that is utilized by motor boats.

Reach 1- U.S. border to dam at Fort Covington - A riffle stretch of the Salmon River extends from the border to where the dam was in the Town of Fort Covington. Before the dam removal

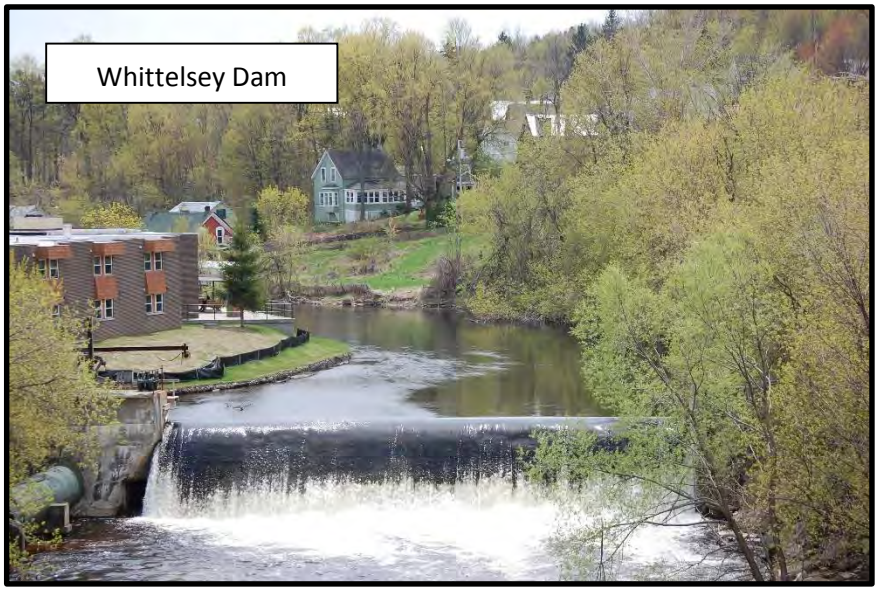
the Salmon River averaged 100 feet in width and 1-3 feet in depth. It is essentially a continuous channel with riffles and little change in elevation. Most of the substrate is sand with some cobble below the dam. In stream cover, shelter and vegetation is sparse. This area is experiencing some change due to the removal of the dam in 2010-2011. Some pools which have developed are breeding areas and have provided fish with adequate breeding areas. The dam was built in 1913 and had provided a barrier to fish migration and passage. There was a significant impoundment of 12 acre feet of water. DEC's Bureau of Watershed Assessment & Research within the Division of Water includes this reach of the Salmon River in its RIBS program (Rotating Intensive Basin Study).

Reach 2- Fort Covington to Westville Center - This reach is a 7.7 mile portion of the Salmon River between Fort Covington and Westville Center. The warm water portion of the Salmon River continues from the past location dam, at Fort Covington, to the Jewett Road (Route 19) bridge crossing at Westville Center. There are few road crossings and no dams within this reach. Flowing through agricultural and pasture lands, the river is generally wide and of even depth with few deep pools or riffles. Beds of aquatic vegetation occur in old sloughs. Sand bars are prevalent immediately upstream of Fort Covington. Cobble and gravel habitat is increasingly present near the upstream end of the reach at Westville Center. Wetted channel width averaged 120 feet with a mean depth of 3.5 feet and a maximum depth of 8 feet. Sand comprised over 90% of the bottom. A large sandbar is located about 1.0 mile upstream of Fort Covington.

Reach 3- Westville Center to Tributary 4a – Reach 3 marks the start of trout fishing opportunities on the Salmon River. A gradient increase to roughly 10.8 feet/mile results in an increase in pool/prime run habitat and velocity. The river braids somewhat in this reach and there are numerous small, gravelly islands. Homes and farms do not directly border the stream, but are located above steep embankments that demarcate the flood plain. However, the river is broad and relatively shallow with little shading or shelter, thus it is prone to warming. Deep pools exist below the Rt. 19 bridge and just downstream of the Rt 37 bridge. The substrate is mostly bedrock with some large boulders at the upper end of Reach 3 at Lower Flat Rock Road. Cobble substrate predominates with some gravel and arid boulders. The stream character was riffle with a maximum depth of 3 feet and a wetted channel width of 77 feet.

Reach 4 - Tributary 4a to Macomb Dam (Lamica Lake) - Immediately upstream of Tributary 4a, Lower Flat Rock Road, the river narrows somewhat and the gradient increases to 78.6 feet/mile. A mixed forest cover predominates along the river valley. Increasingly steep hills bound the valley walls in the approaches to Lamica Lake. Two bridges provide access to this section, beginning just upstream of the Flat Rock Road bridge. Here the river was 106 feet wide and averaged 1.5 feet in depth. Trees lining the banks provide modest cover and shading. 300 feet above the Cargin Road bridge the river was about 94 feet wide with an increase in velocity and in bedrock substrate. The lower end of Reach 4 along Lower Flat Rock Road is a relatively shallow riffle that can develop ice damming.

Reach 5 - Macomb Dam (Lamica Lake) to Ballard Mill Dam – This 3.2 mile stretch of the Salmon River bisects the Village of Malone and includes three hydroelectric dams. In the past industrial plants and mills piped their effluents into this stretch of the river for 100 years. The last three decades have seen significant improvements in water quality due to sewage treatment upgrades and closure of some industries. The gradient of Reach 5 is more moderate than Reach 4 with a drop to 11.6 feet/ mile, but artificial channelization of the stream bed produces noticeable differences in average depth and water velocity along most of Reach 5. The Macomb Dam is a hydroelectric facility that must provide a minimum flow of 125 cubic feet/second (cfs) and is allowed to pulse flows when inflow exceeds 125 cfs. Data loggers have kept stream flow records since 1996. Physically the Macomb Dam is constructed of concrete and is 32 feet high with a crest length of 77 feet. There are no fish passage modifications on the dam nor does it have a penstock or bypass channel. Lamica Lake is a 16.5 acre impoundment formed by the Macomb Dam. The Cady Road Bridge crosses the lake upstream of the dam, while Lower Park Road parallels the eastern shore. Lamica Lake is highly accessible and is a popular fishing spot; particularly with locals living on Lower Park Road. The lake has one undeveloped launch site (non-DEC) for non-motorized boats. Complaints were received since 2000 that large sandbars had formed in Lamica Lake, presumably due to sediment releases from Chasm Hydro Dam in 1997. There has been discussion on the restoration of the impoundment within the Town of Malone. The sediment basin within Lamica Lake is a catchment for most polluting materials generated by the homes and businesses in Malone, the municipal waste water treatment plant outlets to the river about 500 feet downstream. Also, the old Malone land fill borders much of the western shore on Lamica Lake and has been identified as a potential toxic waste site by DEC's Division of Environmental Quality. Spurred by reports of a disease episode, sediment testing was conducted at seven locations to determine if leakage from the Malone landfill could be causing problems. A number of chemicals and heavy metals were found at detectable levels, but all contaminants were found above and below the landfill, suggesting that leakage from the landfill was not their source. This project is identified in the Local Waterfront Restoration Plan for the Town and Village of Malone. Whittelsey Dam is easily observed from the Route 11 Bridge in downtown Malone. The concrete spillway is 79 feet long and 19 feet high. A 645 foot penstock parallels the eastern bank of the Salmon River. This is a privately owned dam that is currently being considered for hydro-electric to fuel some of the local businesses. Trash racks reduce impingement through the turbines. The impoundment behind the dam is unnamed, less than 2 acres in size, and has a storage capacity of 10 acre-feet. This dam is also within the



boundaries of the Village of Malone. There is also some consideration for some recreational areas involving the penstock at this site. Ballard Mill Dam lies just 0.8 miles upstream of Whittelsey. The dam is a concrete-capped timber crib that is 8 feet in height with a 110 foot spillway. The small impoundment behind the dam is about 10 acres in size and has a 50 acre-foot storage capacity.

Reach 6: Ballard Mill to Chasm Falls Dam - The gradient of the Salmon River is a moderate, 40.8 feet/mile along the first 7.6 miles of Reach 6. Upstream of the gauging station at Chasm Falls the gradient increases· sharply to 243 feet/mile in the last 0.7 mile. Most of the river valley along Reach 6 is wide and agricultural lands again become common in the watershed. The river cuts a relatively straight northeasterly path from the Titus Mountain area to Malone. There are few meanders and the channel has a few deep pools. Long wade-able runs dominate interspersed with shallow, cobble riffles. River Road parallels the eastern bank of the Salmon River between Malone and the small community of Whippleville. County Route 25 then alternates between following the eastern and western banks upstream to the cluster of housing at Chasm Falls. A hydroelectric dam at Chasm Falls marks the upstream end of Reach 6. The last 0.7 miles of Reach 6 have a distinctly different character as the river tumbles over bedrock and huge boulders along the steep terrain downstream of the Chasm Falls hydro dam. This dam is owned and operated by Brookfield Power. In late October 1997 New York State Department of Environmental Conservation received several reports from anglers and riparian landowners that large amounts of sediment had filled many of the pools and riffles for several miles downstream of the Chasm Falls dam. At that time, the Niagara Mohawk power corporation was refurbishing the dam in preparation for a prospective sale to new owners. Site visitations by the DEC personnel along with anglers familiar with river confirmed that massive amounts of sediment, mostly sand, had impacted the river between the dam and the Moon Valley Bridge. This sand was actively moving and spreading down river. Subsequent visits documented its spread to the Ballard Mill impoundment by mid-November 1998 it is estimated that 14,400 cubic yards of sediment had been released.

Reach 7: Chasm Falls Dam to Mountain View Lake Dam - Reach 7 changes little in elevation between the Chasm Falls Dam and just downstream of High Falls. In fact, the gradient is only

2.75 feet/mile along this four mile stretch. Within the one mile stretch containing High Falls, the gradient increases to 160 feet/mile, then drops to only 8 feet/mile from High Falls to the dam at Mountain View Lake. Thus, much of the river channel is meandering and slow moving with a predominantly sand bottom. Access is limited along much of the reach. The Duane Road (County Route 26) parallels up to "The Bend", but much of the bank is privately-owned. The Barnesville Road Bridge provides the only mid-reach access point.

Behind Mountain View Dam are Mountain View Lake and Indiana Lake. These lakes are used for fishing, boating and other recreation. Currently the Town of Bellmont, Mountain View Association and the Franklin County Soil and Water Conservation District are working on preparing a dredging feasibility plan for the lakes focusing on removing the invasive species, Eurasian milfoil and improving navigation.

Reach 8: Above Mountain View Lake at the headwaters, the Salmon River continues as a low gradient (8.25 feet/mile) stream, but it is much narrower and reportedly colder. Alders line the banks and the entire river flows on private lands. There are no barriers to fish migration. Major tributaries that enter the river in this reach are Ragged Lake Outlet, Plumadore Pond Outlet and Cold Brook. The headwater Notch or Elbow Ponds are shallow, interconnected, spring-fed ponds. Each is approximately five acres in area with a maximum depth of five feet.

Sub-Watershed Delineation: A hydrologic unit code is a sequence of numbers or letters that identify a hydrological feature like a river, river reach, lake, or area like a drainage basin. These numbers are created by the United States Geologic Society. New York State is divided into 17 watersheds, or drainage basins, which are the basis for management, monitoring, and assessment activities. The Salmon River watershed is found in the Saint Lawrence River Watershed. The Saint Lawrence Watershed lies at the border of New York State and Canada. The Saint Lawrence River serves as the gateway between the North Atlantic and the Great Lakes. At its most downstream point in the Unites States the Saint Lawrence drains an area of nearly 300,000 square miles. Within New York State the watershed drains the northern and western Adirondack Mountains and the

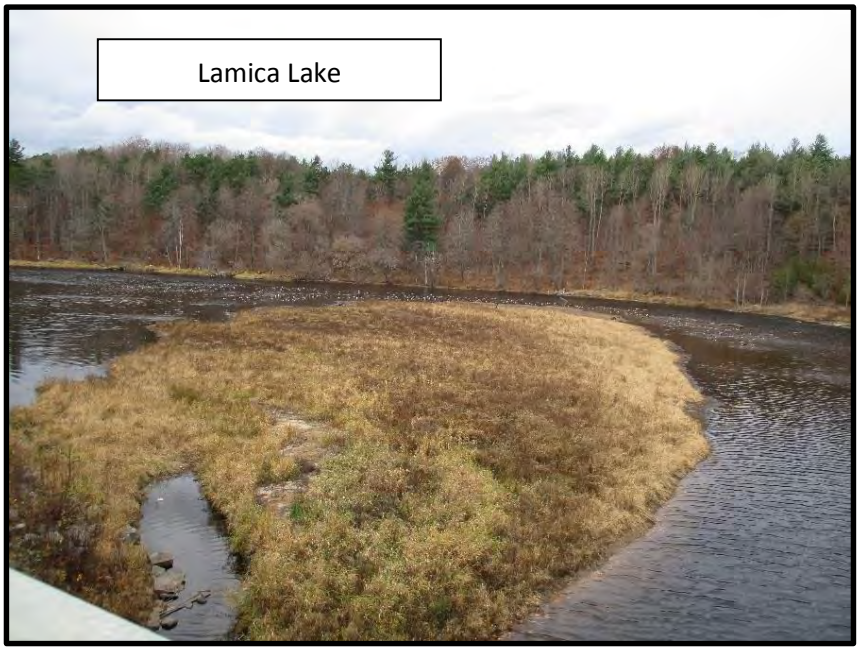
lake plain region of the Saint Lawrence Valley. The Salmon River Watershed is broken into two Hydrologic Unit Codes(HUC), the Salmon River and the Headwaters of the Salmon River. There are 15 HUC 12 sub-basins in the Salmon River Watershed (Figure 4).

SUBBASIN Name	HUC 12	ACRES
Duane Stream	041503070103	13,996
Ingraham Stream-Salmon River	041503070102	39,935
Winslow Brook-Salmon River	041503070104	23,179
Headwaters Little Salmon River	041503070201	9,824
East Branch Little Salmon River	041503070202	10,608
Branch Brook	041503070301	12,239
Pike Creek	041503070305	18,634
Town of Fort Covington-Salmon River	041503070306	10,506
West Branch Deer Creek	041503070304	21,390
Hatch Brook	041503070101	25,517
Farrington Brook	041503070204	15,341
Develin Brook-Little Salmon River	041503070203	15,393
Plum Brook-Salmon River	041503070302	19,374
Town of Bombay-Little Salmon River	041503070205	12,906
East Branch Deer Creek	041503070303	15,783

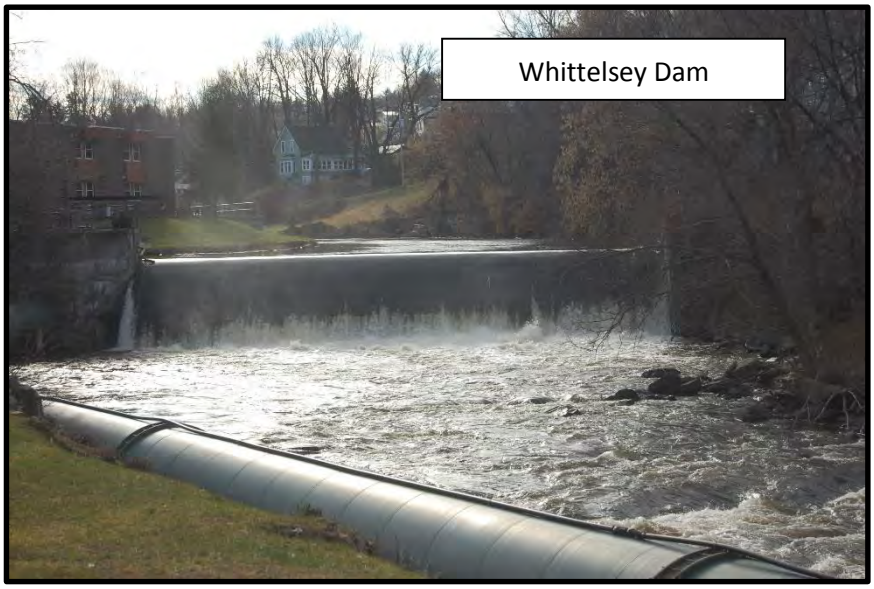
Dams/Impoundments: In Malone there are five major dams along the Salmon River: Macomb Lake Dam, Whittelsey Dam, Ballards Mill Dam, Chasm Falls Dam and Mountain View Lake Dam.

The Macomb Dam at river mile 17.3 was owned by Niagara Mohawk until a recent sale to Orion Inc. The Macomb Dam includes a 106-foot-long, 32-foot-high concrete gravity overflow-type dam that impounds the 14-acre Lamica Lake reservoir, a 38-foot-long, 25-foot-high intake structure along the left bank of the river. The penstock and powerhouse bypass about a 100-foot-long reach of the Salmon River. This hydroelectric facility must provide a minimum flow of 125 cubic feet/second (cfs) and is allowed to pulse flows when inflow exceeds 125 cfs. It can generate up to 1,000 kilowatts' of power while passing flows as high as 310 cfs. The Macomb Dam is operated under FERC (Federal Energy Regulatory Commission) license 7321. Data loggers have kept stream flow records since 1996. Niagara Mohawk generally limited drawdown’s to within 0.2 feet of crest; although a one foot drawdown is permitted by FERC. There are no fish passage modifications on the dam nor does it have a penstock or bypass channel.

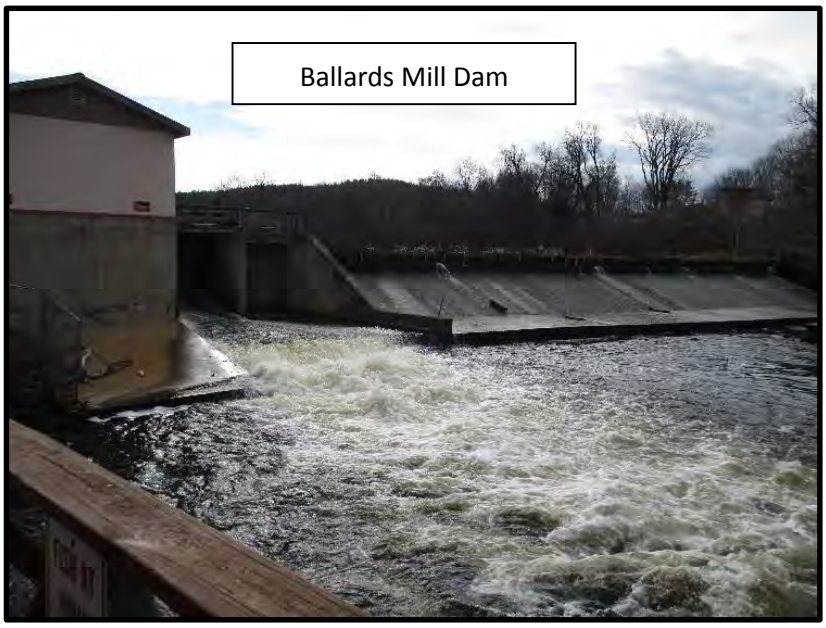
Lamica Lake is a 14 acre impoundment formed by the Macomb Dam. The Cady Road Bridge crosses the lake upstream of the dam, while Lower Park Road parallels the eastern shore. It is highly accessible and is a popular fishing spot; particularly with locals living on Lower Park Road. The lake has one undeveloped launch site for car top boats. Anglers have complained in the past few years that large sandbars have formed in Lamica Lake,presumably due to sediment releases from Chasm Falls Dam in 1997 (see Reach 6). This area is also in discussion for some remediation and improvement. In the past this area and the area upstream to the dam were very good trout fishing areas, however due to the sedimentation in the area fishing has become difficult and impaired



Whittelsey Dam is located at river mile 19.7 and is easily observed from the Route 11 Bridge in downtown Malone. The concrete spillway is 79 feet long and 19 feet high. When it was operational in the past it was owned by Franklin Hydro Inc., the dam is operated under FERC permit 10522 and generated up to 350 kilowatts. A 645 foot penstock parallels the eastern bank of the Salmon River. The Whittelsey hydroelectric project must provide a 75 cfs minimum flow to the bypass reach. Trash racks reduce impingement through the turbines. Whittelsey is a run-of-river operation. The impoundment behind the dam is unnamed, less than 2 acres in size, and has a storage capacity of 10 acre-feet. Recently the dam was sold to a private organization in hopes to re-open the dam for local power production and local business support.



Ballards Mill Dam lies just 0.8 miles upstream of Whittelsey and is owned by Bellows- Tower Hydro Inc. Bellows-Tower Hydro and Franklin Hydro are separate corporate entities, but both are owned and operated by Mr. Frank Christie. Ballards Mill has a generating capacity of 275 kilowatts. The dam is a concrete-capped timber crib that is 8 feet in height with a 110 foot spillway. FERC license 3267 specifies that two foot high flashboards can be added to the crest. Ballards Mill was originally a textile mill constructed in 1901. The old mill buildings on the eastern bank of the Salmon River were converted from powerhouse duties to a community theater in the mid-1990's. A new powerhouse was constructed about 60 feet away on the opposite side of a small island. Like Whittelsey, Ballards Mill is a run-of-river operation. The small impoundment behind the dam is about 10 acres in size and has a 50 acre-foot storage capacity. By deed covenant, motors are not permitted on the impoundment.



Chasm Falls Dam is located in the southern most portion of Malone. There is a Sediment Management Plan for the North Salmon River at the Chasm Facility and the facility at this location is maintained by Brookfield Power. The Chasm Falls hydroelectric project was put in operation in 1983 and consists of two turbine/generator sets with a combined installed capacity of 1,600 kW, a 1931-built stone constructed powerhouse, two synchronous generators, an intake structure, and a concrete gravity dam, FREC license 7320.

In late October 1997 NYSDEC received several reports from anglers and riparian landowners and large amounts of sediment had filled and muddied the pools and riffles for several miles downstream of the Chasm Dam. At that time, the Niagara Mohawk power corporation was refurbishing the dam in

preparation for a prospective sale to new owners. Site visitations by the NYSDEC personnel along with anglers familiar with river conditions in that reach earlier that autumn confirmed that massive amounts of sediment, mostly sand, had impacted the river between the dam and the Moon Valley Bridge (near Titus Mountain). This sand was actively moving and spreading down river. Subsequent visits documented its spread to the Ballards Mill impoundment by mid-November (Schoch 1998). Schoch (1997) estimated that 14,400 cubic yards of sediment had been released. This sand has also migrated down to Lamica Lake, the impoundment above the McComb Dam causing shallowing of the impoundment at that location and local flooding.

Mountain View Dam is located on the Salmon River at the community of Mountain View. The dam was originally built by New York State about 1856 for the purpose of building an impoundment to aid in the transporting of logs for the logging industry in the local area. The dam is an original crib built dam that had 3 round pipes to serve as gates at the gate house location. The length of dam, it is 56.3' plus gate house 20'. The width of the double planked crest of dam is 7.2'. These pipes were replaced with a concrete gate house containing two manual metal slide valves in the mid 1990s when sheet steel piling was driven down into the river bed in front of the dam as a method to control the leakage at the base of the dam. While the dam has had several owners since its origin it is now owned by the Town of Bellmont. This dam is classified as a Class "A" Hazard.The town's Planning Committee is investigating the use of hydropower at this location currently.

Priority Waterbodies List:
NYS DEC has a Priority Waterbodies List that identifies streams, rivers and lakes that are threatened, stressed or endangered by various environmental factors. Of the 29 waterbody segments two are categorized as being threatened, three as minor impacts, ten as no known impact and the rest needing verification of unassessed (see Appendix A). The two segments that are threatened are the main stem of the Salmon River itself, the lower and upper portions. The pollutant suspected is silt/sand as a result of hydro modification. These segments are threatened by the potential releases of sediment from behind the hydropower dams.

Soils:
Soils vary in Franklin County due to the topographical changes from the mountainous regions to the Lake Plains of the St. Lawrence River valley. Soils in the lake plains tend to be very heavy with clay, the midsection has soils that are silt and sand mixtures, and the mountainous regions has soils that are gravel and sand mixtures. All farms drain into, for the most part, the St. Lawrence River basin, with some draining into the Lake Champlain River basin. Specifically, erosion is a concern on some of the livestock and all of the vegetable production operations.

Nitrogen in the ground water is a concern in over 50% of the watersheds that support vegetables and livestock, based on a Cornell University study. See Figure 5 for regional soils.

In the watershed the significant soil types are:

Adams-Colton (AC) These soils are well drained to excessively drained loamy sands and gravelly loamy sands that were created on outwash plains and deltas formed during the glacial era. They are predominately found on level to gently undulating terrain, but there are areas of steeper slope along the Salmon River valley. They are poorly suited to crops because they are droughty, strongly acid, and low in available plant nutrients. However, they are well suited for land development provided that septic systems are designed to adequately treat sewage effluent. Due to the sandy soils percolation of sewerage effluent may be rapid and ground water could be adversely affected as a result, especially in areas of high ground water table. Adams-Colton soils occupy a large area of the Town of Malone north of the Village, including the Bare Hill area, as well as the entire Salmon River corridor from the Village south to the town line.

Moira -Brayton -Sun (MB) This association is comprised of moderately well drained loams and stony loams formed from glacial till derived from sandstone and limestone. It occurs on the broad smooth till plain north of the Adirondack Mountains. Slopes are nearly level to gently undulating, and the entire landscape slopes gently to the north. These soils provide some of the best farm land in the town. Much of this association is actively farmed and/or located within a County Agricultural District. Suitability for land development is generally good. These soils occupy large areas in the northern section of town, both east and west of the Village of Malone.

Salmon -Nicholville (SN) These soils developed on thin deposits of fine sands and very fine sands on undulating to gently sloping terrain. They underlie the Village of Malone, as well as a large area south of the Village. This association is excellent for both agriculture and land development. These soils are rated as the best for land development in the Town of Malone due to their favorable characteristics for buildings, roads and individual on-lot septic systems. Salmon -Nicholville soils underlie much of the Village of Malone, as well as a large area centered around State Route 30 south of the village that is prime farmland.

Skerry -Ridgebury (SR) This soil association is composed of stony sandy loams and stony fine sandy loams found on smooth till-covered slopes. Stoniness and wetness limit its suitability for land development and agriculture. Most of this association is forested, but there is some farmland. These soils occupy a large area in the west central portion of town, including much of Limekiln Road areas as well a portion of State Route 30.

Hermon -Becket (HB) This association occupies areas of sloping to moderately sloping relief, and consists of till deposited by glaciers. "The major soils are acid, stony, well to moderately well drained, and moderately coarse textured." Much variation exists within this association from one site to another, with suitability for land development dependent upon the slope of the land and the specific soil series found on the site. Soils tend to be suitable for development on level or gently sloping sites (1 to 8 percent), and unfavorable for development where slopes are steeper (8+ percent). Stoniness also limits development. There are also smaller areas of wet soils found intermixed within this association. This association is unsuitable for agriculture due to slope and stoniness, and is forested with scattered, low density development.

Bedrock Geology:
The St. Lawrence Valley plain is a smooth glacial plain, and has been smoothed even more by a mantle of marine clay. The entire glacial mantle rests on a peneplain that is a low-relief non-constructional area that bevels with the underlying rock at a slight angle (Franklin County Soil Survey, 1955).

The northern section of area is underlain by sandstone bedrock. Sandstone is a porous material and is therefore generally good for obtaining groundwater from wells. Groundwater aquifers for municipal water supply systems are often found in sandstone. Because of the case by which groundwater may flow through sandstone, should it become contaminated the pollution plume would lend to travel relatively rapidly. It is therefore especially important to guard against groundwater contamination over sandstone bedrock. The sandstone of Malone has played a role in the town's history, having been quarried locally and used as a building material for many of the earlier buildings in the village of Malone specifically (Franklin County Soil Survey, 1955).

Most of the southern section of town is underlain by various gneisses, a hard metamorphic rock group. Gneisses are not good for obtaining ground water due to their lack of permeability (the rate at which water can go through the material). The far southeast corner of town is underlain by a deep layer of glacial and alluvial deposits. This porous material is generally a good source of groundwater (Franklin County Soil Survey, 1955).

Surficial Geology:
Surficial geology refers to the geologic material close to the surface of the earth. It is composed of unconsolidated deposits of various types and depths, including those laid down by glaciers during the last ice age that occurred approximately 10,000 years ago. It can be quite shallow or non-existent (in the case of bedrock at the surface) or several tens of feet thick. "Soil" forms in the upper few feet of the surficial layer. Much of the southeastern portion of area is underlain by glacial till which was deposited in a sheet as the glaciers retreated. Till may vary in thickness, particle size and permeability from place. Silt is a typical particulate size, but there are also stony tills. Most of the prime farmland in Malone is located on soils derived from glacial till.

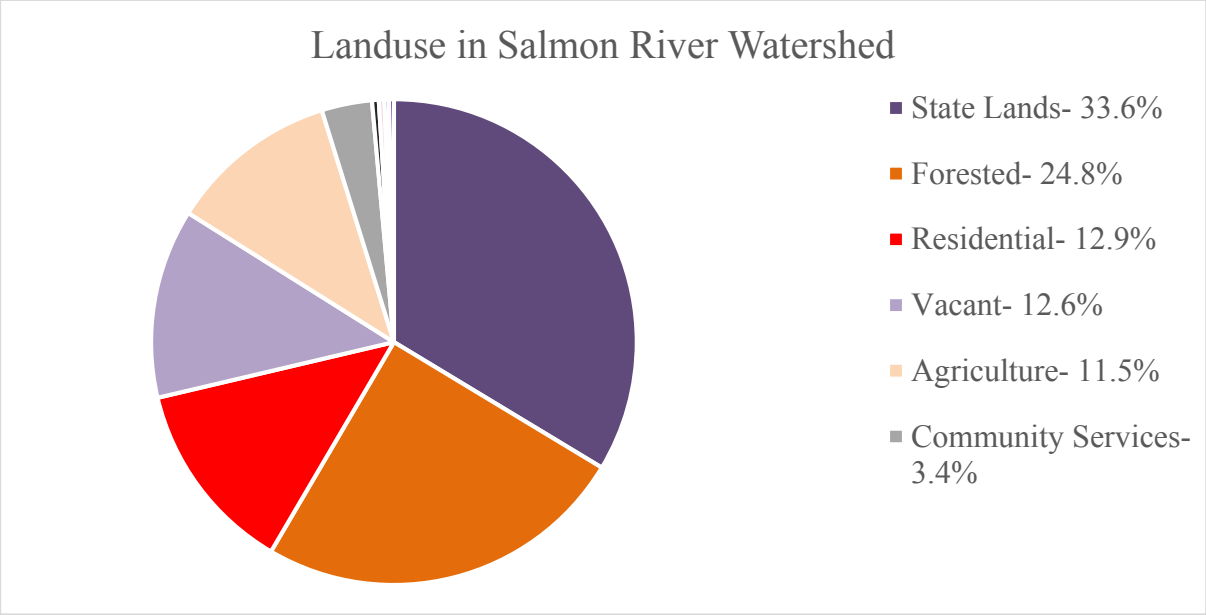
Kame deposits typically consist of a deep layer of sand or gravel. They were formed from beaches of glacial lakes, or otherwise deposited by glacial waters. Deep kame deposits are often a prime source of sand and gravel, and in many communities are used for commercial mining or by government highway departments. There is an extensive area of kame that runs from the village south through nearly the entire length of the Salmon River corridor. Smaller kame

deposits exist in scattered locations in the hilly land south of town. There are extensive areas of lacustrine delta and lacustrine sand located north of the village, centered around the Bare Hill area. There is a distinct absence of active farmland on the lacustrine delta deposits, indicating that soils formed from this material are sandy and droughty, and thus not well suited for crops. All of the sandy surficial geologic materials have the potential for being good sources of groundwater supply due to their high permeability.

Land Cover:

Franklin County is the fourth largest county in New York, and is broken up by two different geographical areas. In the northern third of the county agriculture is the dominant land use and the southern two-thirds are located within the Adirondack Park which are predominantly woodland. The agricultural land is relatively flat and ranges from ancient beach front to lake laid sediments and plains, while the southern portion within the Adirondacks are mostly glacial outwash and tills.

Forests are the dominant land cover in the Salmon River Watershed and agriculture is the second most common land-cover type. The principal types of land use within the watershed are residential, wild lands, forested conservation lands, agriculture, and vacant land. Land cover and land use follow largely similar patterns, with the forested lands in the Adirondacks to the south. Agriculture and human settlement dominate the northern area in the Salmon River and the mid-uplands along major tributaries to the north and south. There are approximately 12,200 parcels within the watershed, with the average size being 27 acres. The real property classification of these parcels are broken into the following categories:



This table indicates that a majority of the land area in the Salmon River Watershed is state lands (33.6%) followed by forested (24.8%), residential (12.9%), vacant (12.6%), agriculture (11.5%), and community services (3.4%). State lands include state owned forest lands, conservation lands/easements and public parks. Forested land is the privately owned forest land, private hunting and fishing clubs. Residential include one family, two family and three family year round residential properties, seasonal residences, mobile homes and multiple residences. Vacant land is property that is not in use, is in temporary use or lacks permanent improvement. Agriculture includes property used for the production of crops or livestock. Community services include property used for the wellbeing of the community. Public services is property used to provide services to the general public. Commercial properties are used for the sale of goods and/or services. Recreation includes recreation and entertainment used by groups for recreation, amusement or entertainment. Industrial is for property that is used for the production of and fabrication of durable and nondurable man-made goods (NYS Office of Real property Services, 2006).

In the past Franklin County was entirely covered by dense forests when the area was first settled. About three-fourths of the county is still under forest, a majority of that area falling in the Adirondack Park in the southern part of the county. There are a few large forested areas in the St. Lawrence Plains area. Much of the mountainous part of the county is the spruce-fir forest type

(northern coniferous forest), and the northern one-third of the county in the birch-beech-maple-hemlock forest type (northern hardwood) (Franklin County Soil Survey, 1958). The present forests of Franklin County vary widely in composition because of differences in soil, elevation and associated climatic differences, forest fires, and cutting. On most of the glacial till that is medium or high in lime, the forest consists of mixed hardwood, mainly maple and beech. On the better drained sites, where the till is more acid, the forests resemble those on the high-lime glacial till, except that considerable pine is mixed with the hardwoods. Where the acid tills are poorly drained, spruce, fir, and hemlock forests are predominant, and blueberries and ferns are abundant in the ground cover. On poorly drained, high-lime areas white cedar is common. Gray birch thickets cover considerable areas of the broad sand plain in the northern part of the county, and there is little or no ground cover. Excellent stands of yellow birch, maple, and beech forests grow on the well-drained northern slopes of the Adirondacks at the lower elevations, but aspen covers many of the heavily cutover areas. Spruce, fir, larch, and hemlock forests are predominant on most of the poorly drained and more acid soils of the mountainous area. Small plantings of red, white, and Scotch pine are common on well-drained sandy soils throughout the county. Many pastures and abandoned and idle fields have a shrub vegetation that is characteristic of this region.

The largest Villages in Franklin County are the Villages of Malone and Brushton. These Village areas are small and urbanized, however the populations are not larger than 15,000 people. The Village of Malone has its own water treatment plant and storm water sewer treatment facility.

Agriculture:

According to the 2012 NYS Ag Census data Franklin County has 688 farms comprising 145,023 acres of land, which is a 13.3% of the land base in the county and is an increase from 11% in the 2007 Census. There was also an increase in the number of agricultural operations in the county from 604 in 2007 to 688 in 2012. The average size of the farms decreased slightly from 217AC in 2007 to 211 AC in 2012. On average a majority of the farms are in the 50-499 AC size within the county. The farm land breakdown is as follows:

51.6% CROPLAND- down from 2007 (57%)

9.8% PASTURE- up from 2007 (8%)

29.6% WOODLAND- up from 2007 (29%)

9% OTHER- up from 2007 (6%)

Livestock production remains as one of the largest agricultural uses of land in the county.

The largest increase from 2007 to 2012 was the Market Value of Products Sold:

	2012	**2007**	**Percent Change**
Market Value of Products Sold	$84,166,000	$68,097,000	+24%
Crop Sales	$19,540,000	$10,340,000	+8%
Livestock Sales	$64,626,000	$57,757,000	-8%
Average Per Farm	$122,334	$112,743	+9%

Franklin County Livestock Inventory:

Animal	Quantity	State Rank
Cattle and Calves	31,633	18%
Layers (Chickens)	4,555	29%
Sheep and Lambs	2,056	10%
Horses and Ponies	1,414	28%
Broilers and Other Meat Type Chickens	914	36%

According to the Franklin County CEDS document agriculture accounts for 922 jobs in Franklin County, 4% of the employment industries. The employers above this are government, hospitals/medical/health services. In Franklin County and in the North Country Agriculture is considered one of the larger employers. About a third to half of the agriculture land in Franklin

County is found in the Salmon River Watershed. Within the watershed there are 48,170 acres of land in the agriculture district (Figure 6).

In 2015 the Franklin County Soil and Water Conservation District revised the Agriculture Environmental Management Strategy from 2010/2011 for the county. The mission of the Franklin County Agricultural Environmental Management program is to inventory and develop a plan to improve agricultural land by implementing environmentally sound practices through education and outreach, as well as best management practices and strategies for water quality improvement. The long term vision of the Franklin County AEM program is to raise the awareness level of agricultural impacts on water quality and beyond within the county and to advance the environmental practices on the land. It is our intent that this will improve the quality of our farmlands as well as preserve the integrity of the lakes and streams in the county. The groups involved in this process included; Franklin County Soil & Water Conservation District, Franklin County Water Quality Coordinating Committee, New York State Department of Environmental Conservation, New York State Department of Health, United States Department of Agriculture - Natural Resources Conservation Service, United States Department of Agriculture - Farm Service Agency, Cornell Cooperative Extension, Franklin County Farm Bureau, and the St Regis Mohawk Tribe.

Important resources documents in this report identified that Franklin County has a mixture of different landscapes ranging from open farmlands in the St. Lawrence River valley in the north to the rugged terrain of the Adirondack Mountains in the south. Many of the communities in the county are dependent on agriculture. The farmland in Franklin County is subjected to a relatively short growing season (May- September). A majority of the land in the northern valley of Franklin County is good for growing field and vegetable crops. Including but not limited to corn, alfalfa, soybeans, cool season grasses, small grains, seed and table stock potatoes, vegetable crops, small berries and Christmas trees. The county is home to over 350 ponds, lakes and hundreds of creeks, streams and rivers. Luckily a significant amount of the waterbodies in Franklin County are in good health, however it is important to note that these resources need to be protected from contamination and to not wait until they are in poor health to address issues and implement best management practices. Surface water contamination from livestock production adds nutrients from the manure, silage, and other wastes produced from housing these animals. This plan identified the priority natural resource concerns for Franklin County, which are:

1) Water quality contamination of surface and ground water (including public drinking sources and recreational opportunities).
2) Erosion from some of the dairy and all of the vegetable crop operations.
3) Air quality from 12 CAFO sized operations.
4) Wildlife habitat degradation.

5) Forest management and best management practices.

Pest Management is another resource concern, especially in the southern end of the county. Insects, disease and invasive species have been on the rise in the past few years. This has become increasingly important to timber harvesters. The Emerald Ash Borer and the Asian Longhorned Beetle are presently threatening the borders of Franklin County. Aquatic invasive species have also made their way into the county and are threatening the habitat of many indigenous species.

Franklin County SWCD will be working with the WQCC to apply for grants in order to monitor and slow the spread of these invasive species. Non-certified manure storages have been a concern in the past, but EQIP and Ag Non-Point Source money has been put toward this concern. Conservation plans such as Tier 3's are also on the rise. FCSWCD will be focusing mainly on designing and implementing these conservation plans within the next five years of AEM. Alternative energy sources will also be a focus over the next five years. We have been conducting research and have found some companies that will help cost share solar and wind power for farmers. Many farmers would also like more information on net-metering, so it is important to be up to date on this information.

Wetlands:

Wetlands serve several beneficial functions in the natural ecosystem. First, they are important in flood control because they act as storm water retention basins, holding water and releasing it slowly downstream. Eliminating wetlands raises peak flood levels downstream during periods of heavy rain. Second, wetlands recharge groundwater by allowing surface water to slowly settle into the ground. Wetlands are often a significant source of water for aquifers. Third, water leaving a wetland may be considerably more pure than the water entering it. Silt, sediment, nutrients and sewage when entering a wetland through a feeder stream, become assimilated into the wetland. Silt and sediments settle out, and nutrients are used by plant life. Fourth, wetlands are rich habitat for numerous wildlife species, including waterfowl and fur bearing animals such as muskrats, beaver and others. Wetlands adjoining open surface water are especially important habitat. Wetlands are fragile environments that can be destroyed by direct dredging and filling, as well as by soil erosion in the surrounding area that can create silt that fills the wetland over a period of time. Wetlands are unsuitable for development because a seasonal high water table causes wet basements and non-functioning septic systems. Also, wetland soils have a low bearing strength due to their high organic content, and are thereby unsuited for supporting heavy structures.

The New York State Freshwater Wetland Act regulates wetlands of 14.27 acres or more in size. A wetlands permit is required for any activity that would affect the wetland, including dredging, filling, draining, and most types of construction. The regulatory area extends to encompass a 100 foot buffer area surrounding each designated wetland. Most agricultural activities are exempt from regulation. New York State regulated wetlands have been mapped, but the mapping is not accurate enough for site planning. To determine the exact location of a regulated wetland on a proposed development site a field delineation must be undertaken. The federal government also regulates wetlands. The federal definition of a regulated wetland differs somewhat from the New York State definition. (The New York State definition relates to vegetation type, whereas the federal definition relates to soil characteristics.) The federal regulation includes, but is not limited to, wetlands smaller than 12.4 acres. Field measurements and verifications must be made to map their exact area. Permits are required for any work in a wetland.

In the Salmon River Watershed:

	Acres	Square Miles
Federally Regulated Wetlands	26,745.6	41.8
State Regulated Wetlands	9,132.6	14.2
Adirondack Park Regulations	15,789	24.6

See Figure 7- Wetlands

Wetland vegetation along the Salmon River is primarily confined to narrow bands immediately adjacent to the River. In general, there are four types of wetlands found in the watershed area are: 1) palustrine forested (PFO) wetlands; 2) palustrine scrub-shrub (PSS) wetlands; 3) palustrine emergent (PEM) wetlands, and 4) palustrine unconsolidated bottom (PUB) (vegetated or unvegetated) (NWI, 2004).

Aquifers:

Aquifers are sources of groundwater found in bedrock, or in surficial geologic material such as sand or gravel, that are capable of yielding sufficient quantities of water for public water supply. The general areas where aquifers are suspected to be located in the Town of Malone are shown on the Groundwater Aquifers map. The source of this map is a highly generalized statewide map available from the NYS Department of Health. Aquifer locations on the map are estimated based upon underlying geologic structure and other available data rather than upon detailed mapping based upon groundwater yield data. Accordingly, said map is neither accurate in detail nor is it necessarily complete. See Appendix B for a listing and maps of known existing aquifers and public drinking water sources in the watershed from the NYS Department of Health.

Water Quality:
The county is home to over 350 ponds, lakes and hundreds of creeks, streams and rivers. The mean annual runoff in inches according to USGS is 20.4 inches, the seasonal maximum snow depth is 23.5 inches and the mean annual precipitation is 37.8 inches. Luckily a significant amount of the waterbodies in Franklin County are in good health, however it is important to note that these resources need to be protected from contamination and to not wait until they are in poor health to address issues and implement best management practices. Surface water contamination from livestock production adds nutrients from the manure, silage, and other wastes produced from housing these animals.

Water resources to be protected:

Priority Waterbodies
Streams, Rivers, Lakes and Ponds
Significant Wetlands
Floodplains
Ground Water
Surface Water
Recreational Opportunities and Special habitats

In 1994-1995 the Franklin County Soil and Water Conservation District, in collaboration with the WQCC and Paul Smith's College, conducted a water testing study to observe ground water contamination through leaching of nutrients in highly permeable soils and the levels of nitrates in local wells (i.e. wells, aquifers, karsts, underground springs). The study focused on agricultural areas in northern Franklin County. This project was funded through a grant from the NYSDEC. Wells with high levels of nitrates were found near heavily cropped areas. Through the AEM program, these farms have been educated on the importance of ground water contamination and Nutrient Management Plans have been completed on some of the farms. The District would like to revisit these areas within the next few years to see if there have been any significant changes in the nitrate levels of these wells. In 2015, the District completed water sampling of sub-watersheds throughout the county. At least one sample was collected from each of the 20-10 digit HUCs in the County. The samples were tested for nitrate, nitrite, total phosphorous, total nitrogen, turbidity, temperature and bacteria (*Total Coliform, and E. Coli*). A second round of samples will be collected in 2016. The information collected will be used to better plan and develop the AEM Annual Action Plans and further strategies. This information will also be able to assist with the

submission of future Ag Non-Point Source Grants. Future activities will be based on this database and ranking.

Non-point source pollution from agricultural runoff impacts the water quality of Reach 2 (Figure 3). Elevated levels of ammonia, phosphates and total dissolved solids are common in rivers draining agricultural lands and, as noted above, characteristically appear in water samples taken at Fort Covington. Negative impacts from any such runoff on the fish community of the Salmon River have not been documented. A direct and severe source of pollution is possible in Reach 2. A liquid manure spill occurred in 1991 on the West Branch of Deer Creek. This spill killed trout and other fish species for miles downstream. No direct damage to the Salmon River was noted in this incident, probably because the spill occurred nearly 12 miles from the main river.

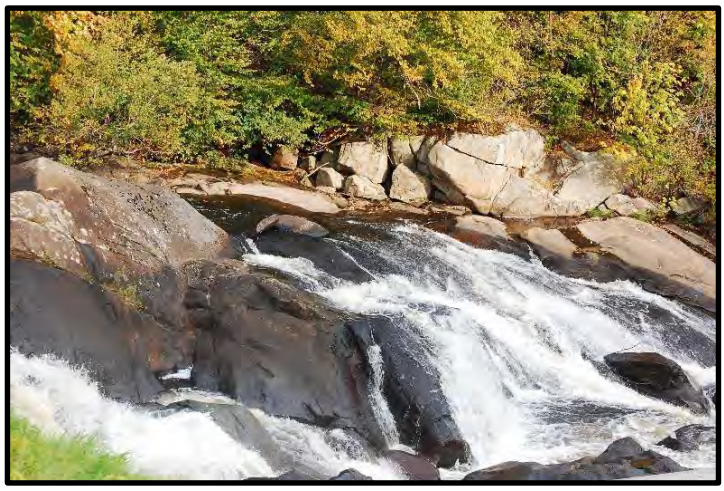
In 2012 Paul Smiths College completed a rapid bio assessment of the Salmon River using macroinvertrbrates. The objectives of the study was to evaluate the water quality along the length of the Salmon River using EPA's protocol for rapid bioassessment. The advantage of this type of assessment was using a standard protocol of assessment which identifies the overall health of the system. There were a total of seven locations sampled, the results indicated an overall decline from the headwaters of the Salmon River to the mouth of the Salmon River and the Little Salmon River. The worst water quality was centered around the Malone area and in Fort Covington where there are larger populations and concentrations of urban areas. The findings were substantial enough to indicate that the human population is having an impact on the water quality.

In 2015 The Franklin County Soil and Water conducted baseline water sampling for the county. They sampled the outlets of 20 sub-regions within the county. These results are still being tabulated and calculated at this time. A second round of sampling will be conducted in 2016.

Fisheries:
The Salmon River originates in the Adirondack foothills of central Franklin County and follows a 46 mile course northward towards the Canadian border. The headwaters of the Salmon River support wild brook trout populations; stocked and wild brown trout are common in moderate gradient reaches; while the last 8 miles of river in the U.S. jurisdiction are home to warm water

game fish, a wide variety of minnows, and at least one endangered fish species (the eastern sand darter) All fisheries data is from the 2000 NYSDEC publication- A 'Fisheries Management plan, For the Salmon River (SLC-29) Watershed, Franklin County, New York".

The head waters are characterized by Major tributaries that enter the river in this reach are Ragged Lake Outlet, Plumadore Pond Outlet and Cold Brook (Reach 8). The headwater Notch or Elbow Ponds are shallow, interconnected, spring-fed ponds. Each is approximately five acres in area with a maximum depth of five feet.



Plumadore Pond and Ragged Lake also contain brook trout with some enhancement of the population by private stocking efforts. Wolf Pond was formerly a good brook trout pond, but establishment of yellow perch in the early 1970's resulted in the demise of the trout population (Reach 8).

The establishment of largemouth bass and northern pike populations in Mountain View Lake has had a negative impact on trout populations both above and below the lake. Mountain View Lake in 1997 established that largemouth bass, smallmouth bass and northern pike are now the predominate game fish in that water body.

Brown trout were numerous at the Barnseville bridge site (Reach 7), but length data suggests all were stocked yearlings except for a single 12.1 inch fish. Other species noted were white sucker, common shiner, cutlips minnow, creek chub, bluntnose minnow, yellow perch and pumpkinseed. Other species present were golden shiner, northern redbelly dace, fathead minnow, creek chub, pearl dace, blacknose dace, white sucker and brown bullhead.

In Reach 6 a variety of cyprinids and fair numbers of brown trout were caught. Other species present were tessellated darter, slimy sculpin, longnose dace (most abundant), blacknose dace, bluntnose minnow, common shiner, white sucker, smallmouth bass, creek chub and cutlips minnow. This was the first incidence of smallmouth bass being caught upstream of Malone and may be indicative of an establishing population from Mountain View Lake.

Most of Reach 5 is channelized and the constriction of the natural river channel creates difficult survey conditions for fish. In 1995 a total of 10 brown trout were captured ranging from 4.4 to 11.2 inches in length. Three of these browns were wild fingerlings. A wild brook trout 3.7 inches long was a surprising catch. Other species captured were· creek chub, cutlips minnow, common shiner, blacknose dace, longnose dace (most abundant), fallfish, white sucker, Johnny darter, slimy sculpin, tessellated darter, bluntnose minnow, pumpkinseed, brook stickleback and smallmouth bass.

The only a few species were found in Reach 4, brown trout, American eel and longnose dace. However, this Reach was difficult to sample due to geography and access.

Reach 3 marks the start of trout fishing opportunities on the Salmon River. A gradient increase to roughly 10.8 feet/mile results in an increase in pool/riffle/run habitat and velocity that trout prefer. The river bows and bends somewhat in this reach and there are numerous small, gravelly islands. Homes and farms do not directly border the stream, but are located above steep embankments along the flood plain. Angling pressure is light due to poor access. Fish species captured were rainbow trout, white sucker, golden shiner, longnose dace, cutlips minnow, fallfish, channel catfish, fantail darter and common shiner.

The warmwater portion of the Salmon River continues from the dam at Fort Covington to the Jewett Road (Route 19) bridge crossing at Westville Center (Reach 2). Large schools of small minnows and suckers were common and easily observed. Large redhorses and white suckers were spotted and eastern sand darters were collected. Considering the predominance of sand in this section, it is likely that a good population of eastern sand darters is present. Northern pike are known to inhabit the vegetated areas of this reach.

A major tributary of the Salmon River, the Little Salmon River confluences with the Salmon River in Fort Covington (Reach 1). A large variety of fish species were captured including the endangered eastern sand darter. This area of the Salmon River is one of the few waters within the North Country that has no barriers to fish migrations to and from the St. Lawrence River. There are several species that are uncommon elsewhere in the region. Small cyprinids and suckers were common. There are panfish angling opportunities for yellow perch, rock bass, pumpkinseed and brown bullhead also. Game fish abundance is low, except during seasonal spawning runs by smallmouth bass. Northern pike were the only adult esocids present in this area.

There are multiple sections of the Salmon River that are excellent for fishing. There are locations where the NYSDEC stock fish and provide excellent habitat for trout and other desirable fish. Appendix C provides maps of Public Fishing areas. These areas are permanent easements giving anglers the right to fish and walk along the banks (usually a 33’ strip on one or both banks of the stream). There has also been stocking of American Sturgeon in the Salmon River. Since the removal of the dam in Fort Covington the migration and movement of fish up the Salmon River has increased and improved.

Recently a section of the Salmon River was designated for catch and release. The section of the Salmon River is from the Flat Rock Road Bridge to 200 yards downstream of the Cargin Road Bridge (Figure 8). The catch and release program is for trout all year long.

Pollution Sources:
Discharges from municipal sewage treatment plants and stormwater outfalls are regulated under the State Pollution Discharge Elimination System (SPDES). These pollution sources are classified as "point sources" because the discharge enters the water at a defined point (usually a pipe). Combined Sewer Overflows (CSOs), which are present in some older villages in the watershed, are also considered point sources of pollution. Combined sewers use a single piping system to convey wastewater and stormwater to a treatment facility. During times of high rainfall or snowmelt, the capacity of these pipes is exceeded, resulting in overflows of untreated sanitary waste and stormwater to regional waterways. These overflow points are designated as CSOs and regulated by NYSDEC.

Other pollution sources reach the waterways through diffuse sources; they are not conveyed by pipes and are referred to as nonpoint sources. Developed lands and agricultural lands cover the northern regions of the Salmon River Watershed and affect water quality conditions. Densely populated areas have many surfaces where rain and snowmelt cannot seep into the ground (impervious surfaces). Runoff from rooftops, driveways, parking lots and roadways carries various pollutants, and eventually this runoff finds its way into waterways. Runoff from agricultural areas containing animal waste, fertilizers, other chemicals, and eroded topsoil constitutes another important nonpoint source of pollution in the Salmon River Watershed.

The most frequently cited sources of pollution in the watershed are atmospheric deposition, agricultural activities, habitat/hydrologic modification and streambank erosion. There are areas in the watershed where water quality and/or habitat conditions do not support the designated best use of the waterways—for drinking water, recreation, and aquatic life support. These areas require active measures to reduce pollutant sources and restore the lands and waters. In addition, there are pristine areas in the watershed that require protection to ensure that they remain intact. Some of these pristine areas play an essential role in protecting and maintaining the watershed. For example, wetlands provide a buffer against flooding, woodlands help protect waterbodies from runoff, vegetation stabilizes steep slopes prone to erosion, etc. The role these natural areas play in mitigating the potential for adverse

impacts on lands and waters of the Salmon River Watershed would be costly or impossible to replace.

The sediment basin within Lamica Lake is a catchment for most polluting materials generated by the homes and businesses in Malone. The municipal waste water treatment plant outlets to the river in Malone. Also, the old Malone land fill borders much of the western shore on Lamica Lake and has been identified as a potential toxic waste site by DEC's Division of Environmental Quality. Spurred by reports of a disease episode, sediment testing was conducted at seven locations to determine if leakage from the Malone landfill could be causing problems. A number of chemicals and heavy metals were found at detectable levels, but all contaminants were found above and below the landfill suggesting that leakage from the landfill was not their source. The list of pollutants detected in one or more samples was: toulene, chloromethane, carbon disulfide, 4-methylphenol, benzoic acid, acenaphthylene, diethylphthalate, phenanthrene, anthracene, fluoranthene, benz (a) anthracene, chrysene, benzo (b) fluoranthene, benzo (k) fluoranthene, benzo (a) pyrene, indeno (1,2,3-cd) pyrene, dibenzo (a,h) anthracene, benzo (g,h,i) perylene, plus the heavy metals chromium, copper, lead and zinc. Most of the organic chemicals identified above are byproducts of coal gasification, petroleum contamination, or from asphalt deterioration. A coal gasification plant was operated in Malone until the mid-1950s. This plant generated hydrogen and methane for heating purposes from coal, but was also a significant source of air and water pollution. Chunks of asphalt were present in many of the samples due to the close proximity of several roads. Leakage of petroleum products from motor vehicles is a common pollutant found in the runoff from parking lots and highways. Levels of these petroleum based contaminants found in Salmon River sediments are typical of urban environments.

Flood Hazard Areas:

Lands along portions of the Salmon River, Branch Brook and other watercourses in the Town of Malone are classified as a flood hazard and areas pursuant to the National Flood Insurance program. There are maps that shows areas where it is estimated that there is at least a 1 percent chance of flooding in anyone year, otherwise known as the 100 year flood level. It should be noted that the official flood hazard maps are frequently not accurate in their detail, and that field investigation is necessary to determine actual flood hazard elevations. The maps in Franklin County were last updated in the 70s and 80s and can be A permit is needed to build in designated flood hazard areas. Most of the land within such zones is classified as flood hazard "fringe," as opposed to a "floodway." Development is not permitted within a floodway, which is the deep channel that carries the bulk of the water during a flood. Development is permitted in fringe areas, where water spreads out creating property damage during a flood, but it must be "flood proofed" by constructing the main floor of

dwellings above the flood level, as well as insuring that septic leach fields are also above flood level. There is sufficient groundwater yield in most areas of New York State to support individual wells for household water supply at rural development densities, although water quality may vary.

The lower end of Reach 4 along Lower Flat Rock Road is a relatively shallow riffle that can develop ice damming. A large ice dam in the spring of 1999 diverted flood stage waters of the river directly down Flat Rock Road and isolated a number of homes. Emergency requests for stream channelization and/or blasting of the ice dam were denied by DEC due to instability of the dam and the resulting safety risk to involved personnel. The flooding was short-lived, but did receive local press and television coverage. This has continued to be an increasing issue in this area. The Town of Malone and the Franklin County Legislators have been working with the United State Army Corps of Engineers and FEMA on the issues of frequent flooding at this location. Franklin County was able to secure a grant to implement a buyout program for ten (nine with structures and one vacant lot) landowners located within flood-prone area on Lower Park Street in Malone, NY. FEMA has provided grant funding through the Hazard Mitigation Grant Program to acquire and demolish the flood prone structures in the Town of Malone. Only willing participants will be acquired, the buildings will be demolished and the areas will be cleaned up and seeded. Restrictions will be placed on the deeds for the properties so no future building will be allowed.

Franklin County Emergency Services just updated its Hazard Mitigation Plan in 2015. The Franklin County Multi-Jurisdictional Hazard Mitigation Plan was prepared in response to the Disaster Mitigation Act of 2000 (DMA 2000). DMA 2000 (also known as Public Law 106-390) improves the disaster planning process by increasing hazard mitigation planning requirements for hazard events. DMA 2000 requires states and local governments to prepare hazard mitigation plans to document their hazard mitigation planning process and identify hazards, potential losses, and mitigation needs, goals, and strategies. This type of planning supplements already strong disaster response, recovery, and relief capabilities. The Franklin County Multi-Jurisdictional Hazard Mitigation Plan Update 2015 is being developed as part of an ongoing pre-disaster preparedness planning process in Franklin County. This plan updates the original Franklin County Plan developed and FEMA-approved in 2008. The 2015 plan update reflects any changes in hazard risk assessments, hazard profiles and mitigation actions within the county and addresses specific details for each of the jurisdictions and the county, and including the Saint Regis Mohawk Reservation (added subsequent to completion of the 2008 plan). The Franklin County Local Emergency Planning Committee (LEPC) is authorized to promote policies, programs and activities to reduce hazard risks in their area of responsibility. Examples of the above include:

- Encouraging municipalities to adopt comprehensive community development plans, zoning ordinances, subdivision regulations, emergency management plans, and building codes that consider and factor in the potential significant local hazard threats in and around the jurisdictions.
- Promoting compliance with, and enforcement of, existing laws, regulations and codes, especially those that are related to hazard risks, e.g. building and fire codes, flood plain regulations, zoning,

- Encouraging and assisting water and wastewater treatment plants to replace chlorine use with a safer disinfectant
- Encouraging and participating in municipal stream channel maintenance programs
- Encouraging state and local DOT's to address dangerous conditions on roads used to transport hazardous materials carriers

Stormwater:
Stormwater runoff is water from rain or melting snow that "runs off" across the land instead of seeping into the ground. This runoff usually flows into the nearest stream, creek, river, lake or pond. On its way, runoff water can pick up and carry many substances that pollute water, such as pesticides, fertilizers, oil and soap are harmful in any quantity. Others such as sediment from construction, bare soil, or agricultural land, or pet waste, grass clippings and leaves can harm streams, rivers and lakes. In addition to rain and snowmelt, various human activities like watering, car washing, agricultural activities and malfunctioning septic tank can also put water onto the land surface. Polluted runoff generally happens anywhere the land is altered or impervious.

For example, in developed areas, none of the water that falls on hard surfaces like roofs, driveways, parking lots or roads can seep into the ground. These impervious surfaces create large amounts of runoff that picks up pollutants. The runoff flows from gutters and storm drains to streams. Runoff not only pollutes but erodes streambanks. The mix of pollution and eroded sediment can create turbidity in the water and causes problems downstream. In Franklin County there are no regulated municipal stormwater systems. However, the Village of Malone, town of Bangor, Village of Brushton, and the town of Fort Covington, have some stormwater protection in place. These areas have some best management practices in place, however there is always the need for improvements, retrofits, installation and monitoring.

Invasive Species:
Invasive species are non-native species that can cause harm to the environment, the economy and to human health. Invasive species come from all around the world. As international trade increases, so does the rate of invasive species introductions. Invasive species threaten nearly every aspect of our world and are one of the greatest threats to New York's biodiversity. They cause or contribute to habitat degradation and loss, the loss of native fish, wildlife and tree species, the loss of recreational opportunities, income, crop damage and diseases in humans and

livestock. Franklin County falls into the Adirondack Park Invasive Plant Program (APIPP) region. APIPP is a cooperative effort initiated in 1998 among citizens and organizations of the Adirondacks. Their mission is to protect the Adirondack region from the negative impacts of nonnative invasive species. The APIPP serves the Adirondack Partnership for Regional Invasive Species Management, one of eight regional partnerships in New York State. The program coordinates two projects: the Aquatic Invasive Species Project and the Terrestrial Invasive Species Project.

The main invasive species potentially found in Franklin County as identified by New York Department of Environmental Conservation, APIPP and the New York Invasive Species Clearinghouse include but are not limited to:

- Garlic mustard (*Alliaria petiolata*)
- Russian and autumn olive (*Elaeagnus angustifolia* and *E. umbellata*)
- Fly and tatarian honeysuckle (*Lonicera morrowii* and *L. tatarica*)
- Purple loosestrife (*Lythrum salicaria*)
- White sweet-clover (*Melilotus alba*)
- Common reed grass (*Phragmites australis*)
- Japanese knotweed (*Polygonum cuspidatum*)
- Common and smooth buckthorn (*Rhamnus cathartica* and *R. frangula*)
- Black locust (*Robinia pseudoacacia*)
- Black swallowwort (*Vincetoxicum nigrum*)
- Japanese barberry (*Berberis thunbergii*)
- Giant Hogweed (*Heracleum mantegazzianum*)
- Oriental bittersweet (*Celastrus orbiculatus*)
- Spotted knapweed (*Centaurea maculosa*)
- Frog's-bit (*Hydrocharis morsus-ranae*)
- Curlyleaf pondweed (*Potamogeton crispus*)
- Eurasian watermilfoil (*Myriophyllum spicatum*)
- Rock Snot, Didymo (*Didymosphenia geminate*)
- Asian Carp (*Hypopthalmichthys spp.)*
- Round goby (*Neogobius melanostomus*)
- Mute Swan (*Cygnus olor*)
- Asian Longhorned Beetle (*Anoplophora glabripennis*)
- Emerald Ash Borer (*Agrilus planipennis*)
- Hemlock Woolly Adelgid (*Adelges tsugae*)
- Sirex Woodwasp (*Sirex noctilio* F.)

Spotted Wing Drosophila (*Drosophila suzukii*)
Swede midge (*Contarinia nasturtii Keiffer*)
Late Blight (*Phytophythora infestans*)
Viral Hemorrhagic Septicemia (Viral Hemorrhagic Septicemia)
Feral Swine (*Sus scrofa*)

For a complete listing from New York State Department of Environmental Consecration see Appendix D.

According to the U.S. Fish and Wildlife Service the only federally listed Threatened and Endangered Species in Franklin County is the Bald Eagle, *Haliaeetus leucocephalus* (Appendix E).

Known Significant Sediment Impacts and Issues:
In late October 1997 New York State Department of Environmental Conservation received several reports from anglers and riparian landowners and large amounts of sediment had filled and clouded the pools and riffles for several miles downstream of the Chasm Falls Dam. At that time, the Niagara Mohawk power corporation was refurbishing the dam in reparation for a prospective sale to new owners. Site visitations by the NYS DEC personnel along with anglers familiar with river conditions in that reach earlier that autumn confirmed that massive amounts of sediment, mostly sand, had impacted the river between the dam and the Moon Valley Bridge (Titus Mountain). This sand was actively moving and spreading down river. Subsequent visits documented its spread to the Ballards Mill impoundment by mid-November estimated that 14,400 cubic yards of sediment had been released (NYSDEC Fisheries, 2000). DEC law enforcement officials investigated the cause of the 1997 sediment release with the cooperation of Niagara Mohawk Corporation.

Road Bank Erosion:
To maintain safe roads for the traveling public, it is incumbent upon highway supervisors and work crews to maintain proper drainage systems. In the northern end of the county the highway departments maintain an active network of road ditches, which must be "cleaned out" of built up sediment and vegetation on a fairly regular basis. When these ditches are cleaned, the vegetative mat which stabilizes the soil is removed, exposing bare soil. Without the root structure of the vegetation, those soils become highly prone to erosion, the result of which is sediment deposition and water quality degradation of streams, rivers and lakes. The Franklin County Soil and Water Conservation District has been working with the County and municipalities to improve the implementation of best management practices within the watershed. The District has a hydroseeder that is available for rent throughout the county, for a nominal

fee. In 2016, the District was awarded a Water Quality Improvement Program grant for hydroseeding and implementing sediment and erosion reduction practices throughout the county.

Streambank Erosion:

Stream bank erosion degrades in-stream habitat by increasing the streams sediment load and changing its shape and function. When this happens the stream loses its ability to transport its sediment which causes it to become wide and shallow. Once these changes begin, the stream channel can become braided, quality habitat is lost and increased sediment can reduce overall biological productivity. There are many areas in the watershed that are undergoing stream bank erosion.

Vegetative buffer zones can play a key role in limiting negative water quality impacts from developed shoreline property. A vegetative buffer zone is an undeveloped area directly adjacent to a body of water. A buffer zone that extends 25-50 feet from shore is preferable, but even 10-15 feet provides benefit. Buffers can be comprised of existing plants and/or new plantings. Installing a mix of woody and herbaceous plants is one the most effective, least costly and aesthetically pleasing ways to reduce runoff into waterbodies. Layered plantings provide the most functional protection in absorbing and filtering runoff into any body of water. Planting grasses and flowering plants that are native to your area will diversify and enhance your shoreline and provide a seasonal show of color. Some of the benefits to buffers are:

- Trap and remove sediment
- Stabilize stream banks, decrease ice damage
- Trap and remove nutrients
- Regulate in-stream temperatures with shade
- Provide habitat for terrestrial organisms by offering food, shelter, and shade
- Improve stream aesthetics and privacy
- Low maintenance once established
- Reduce erosion from wave action
- Increase rain infiltration
- Native plants reflect the beauty and unique character of a region.
- Tall perennials and grasses may deter birds such as Canada geese from coming ashore by blocking their sightline of real or perceived predators from the water.
- Native plants are adapted to local climate conditions and insects and thus do not need fertilizers or pesticides, and after the first year seldom need watering.

Some of the disadvantages to lawns or mowing all the way to the edge of a waterbody are:

- Increased runoff/pollutant load
- Prone to erosion
- High maintenance (labor, resources)
- May require chemical additions

- Loss of wildlife habitat/corridors
- Loss of species diversity
- Lack of interesting landscape

What can the public do to establish a good riparian buffer:

- Leave existing or plant: trees, shrubs, ground covers, natural grasses or perennials
- Leave natural leaf litter as is typically found in that area
- Small pathways or pavers can be created for access to the waterfront
- Buffer strips should be a minimum of 10-20 feet wide along shorelines.
- Many plants suitable for buffer strip plantings are low growing, colorful plants that will not impede views. Using ornamental grasses, perennials and smaller woody plants will significantly reduce and filter runoff while restoring natural beauty to the shoreline.
- Let others know what you're doing is intentional
- Signs are available explaining natural landscaping
- Increases in wildlife sightings on your lakeshore property
- Creating and maintaining natural buffer zones along the shore does not mean your property has to look unkempt. Buffers and upland islands of trees, shrubs, and flowers can bring natural beauty to your yard. Additionally, tall native plants typically have deep root systems.

Preliminary Priority Projects with in the Salmon River Watershed:

LWRP the Town and Village of Malone has Dilapidated Buildings they are working on having tested and removed.

Mill Park- Park located south of the Main Street Bridge on State Route 11. NYSDOS funded for construction documents, with funding from NYSDOS for construction.

Recreation Park recent development of a Master Plan for the improvement and repair of the park located on Duane Street mostly in the Village of Malone and in the Town of Malone.

Recreational Park in the Town and Village of Malone is working on the development of an application for dredging 10AC of the Recreational Pond.

Bill King Memorial Park- currently has funding from NYS DOS for restoration and will be completed summer 2016.

Dredging of Mountain View and Indian Lakes- The Town of Bellmont and the mountain View Association are working on a Dredging Feasibility Study now for the permitting process.

Lake Titus Protective Association is working funding and the restoration of their current dam that has a breach.

Deer River Flow and Horseshow Pond- continuing to work on an extensive Eurasian Milfoil issue and are interested in the installation of a boat launch area of Cold Spring Road.

Meacham Lake- NYS DEC has proposed a boat launch and are in the process of installing in 2016

Implementation of the Town of Fort Covington Action Plan

Franklin County Recreational Trails Association, Inc. is working on developing a public multi use trail across the county.

Provide technical support and assistance to all towns and villages with in the watershed to improve the water quality resources.

Sources:

2000. NYSDEC publication- A 'Fisheries Management plan, For the Salmon River (SLC-29) Watershed, Franklin County, New York". Richard J. Preall

2004. Predicting the Effects of Dam Removal on Aquatic Communities in the Salmon River, NY Phase 1 Baseline Data- Final Report Grant 671. John E. Cooper, John M. Farrell and Jason A. Toner, State University of new York, College of Environmental Science and Forestry.

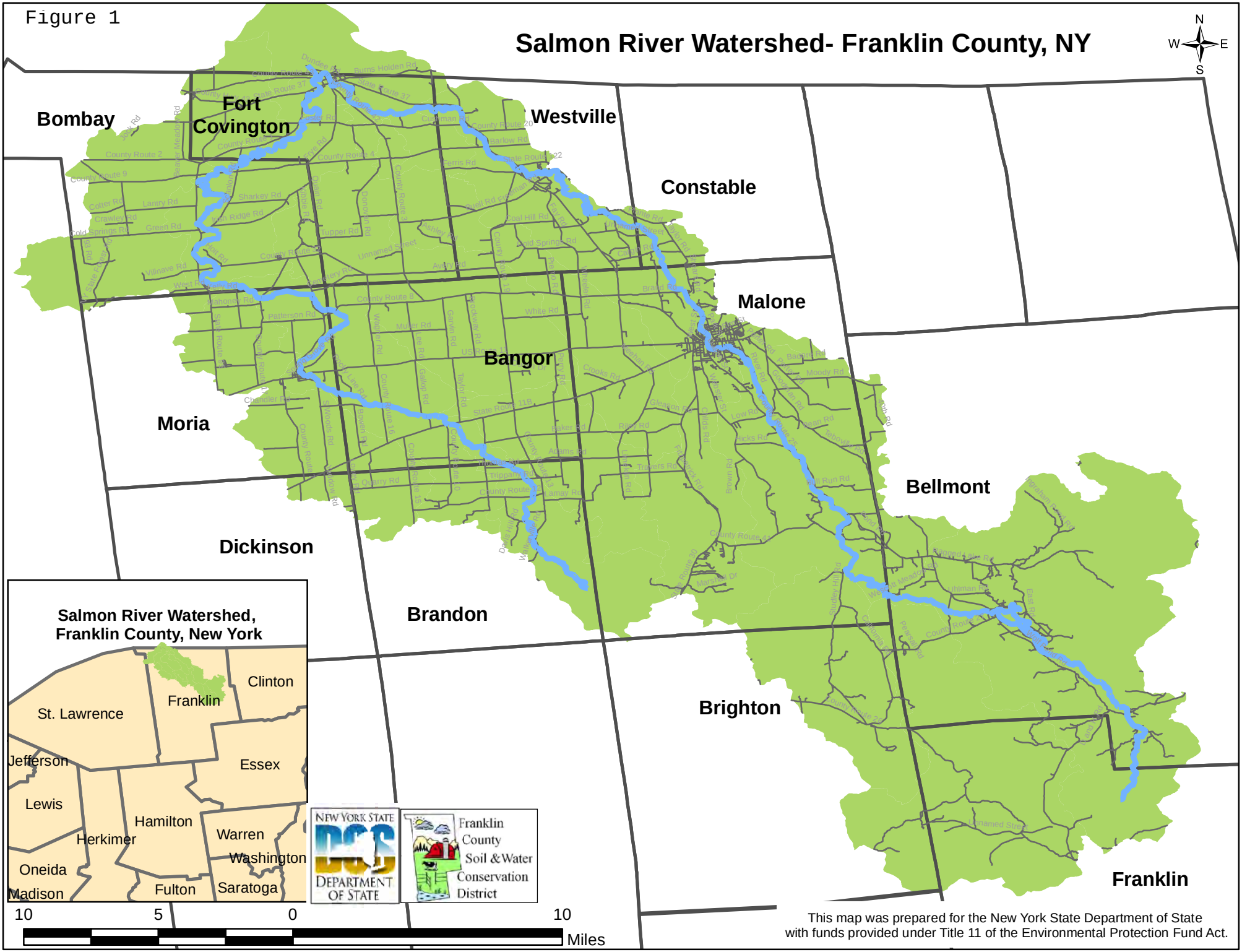
1958. Soil Survey of Franklin County, New York. United State Department of Agriculture.

2015. Franklin County Pre-Disaster Multi-Jurisdictional Hazard Mitigation Plan Five Year Update Prepared for the County of Franklin by Friends of the North Country, Inc. http://franklincony.org/content/Departments/View/9:field=documents;/content/Documents/File/5798.pdf

2006. Property Type Classification and Ownership Codes. NYS Office of Real Property Services.

Figure 1

Salmon River Watershed- Franklin County, NY



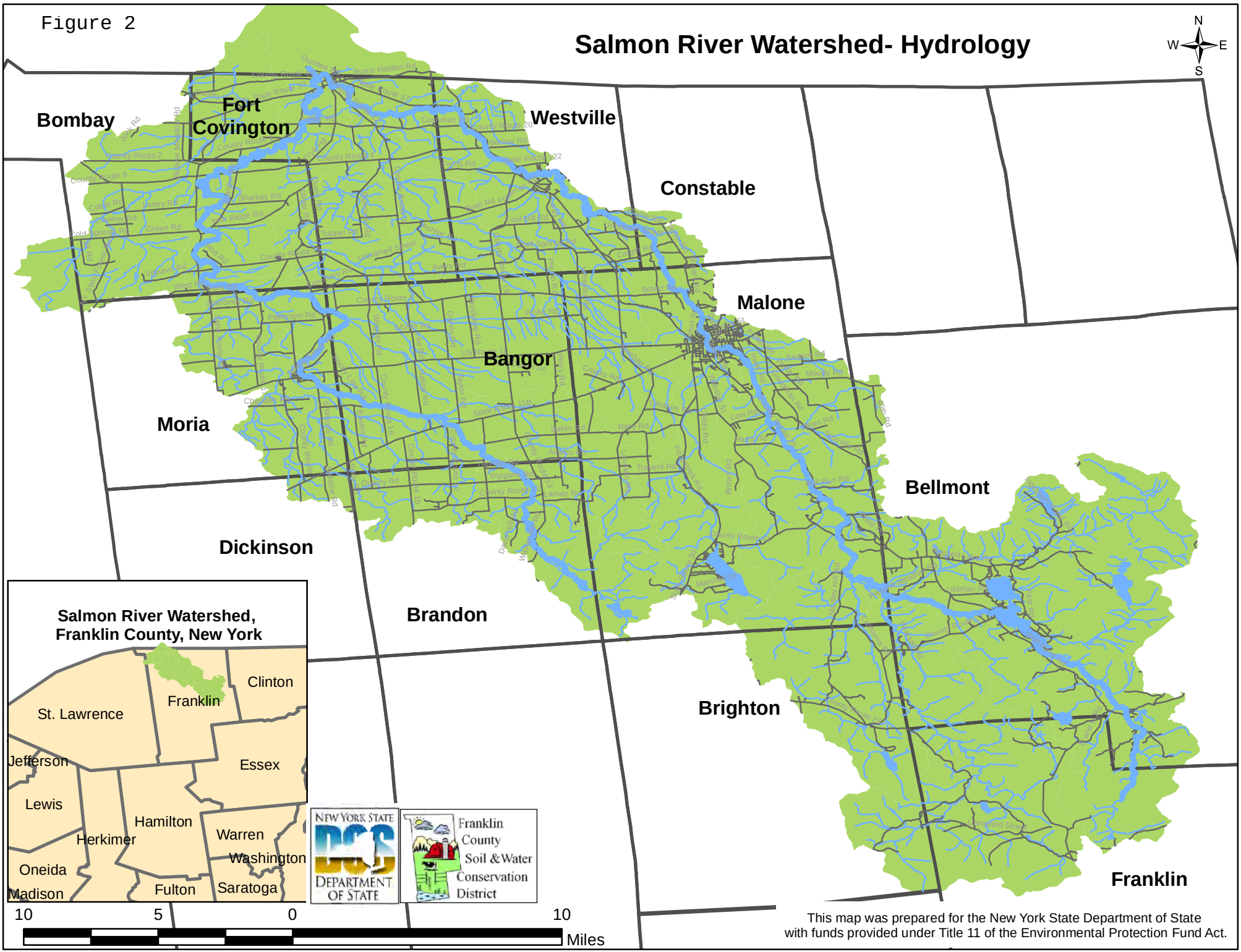
NEW YORK STATE DEPARTMENT OF STATE

Franklin County Soil & Water Conservation District

This map was prepared for the New York State Department of State with funds provided under Title 11 of the Environmental Protection Fund Act.

Figure 2

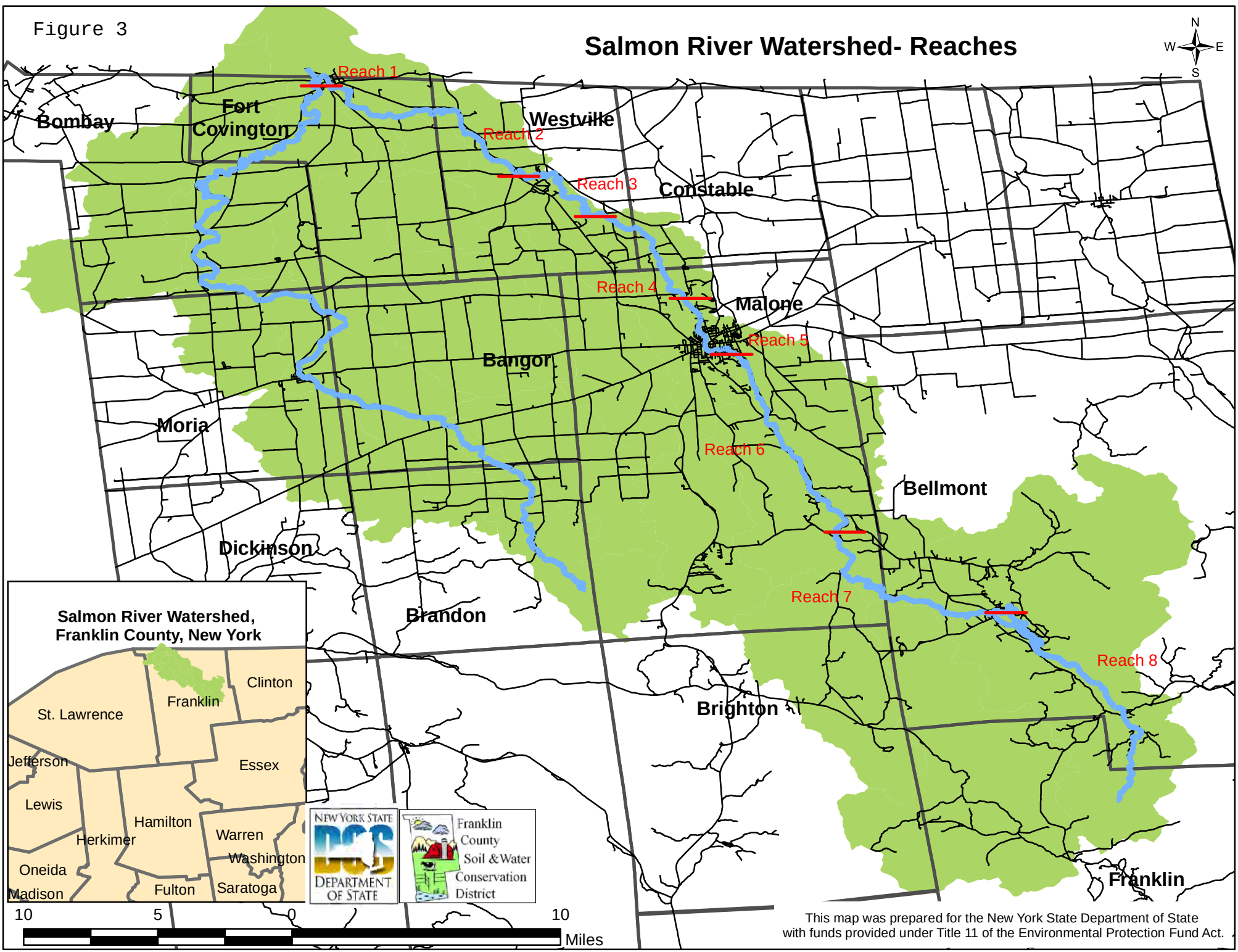
Salmon River Watershed- Hydrology



This map was prepared for the New York State Department of State with funds provided under Title 11 of the Environmental Protection Fund Act.

Figure 3

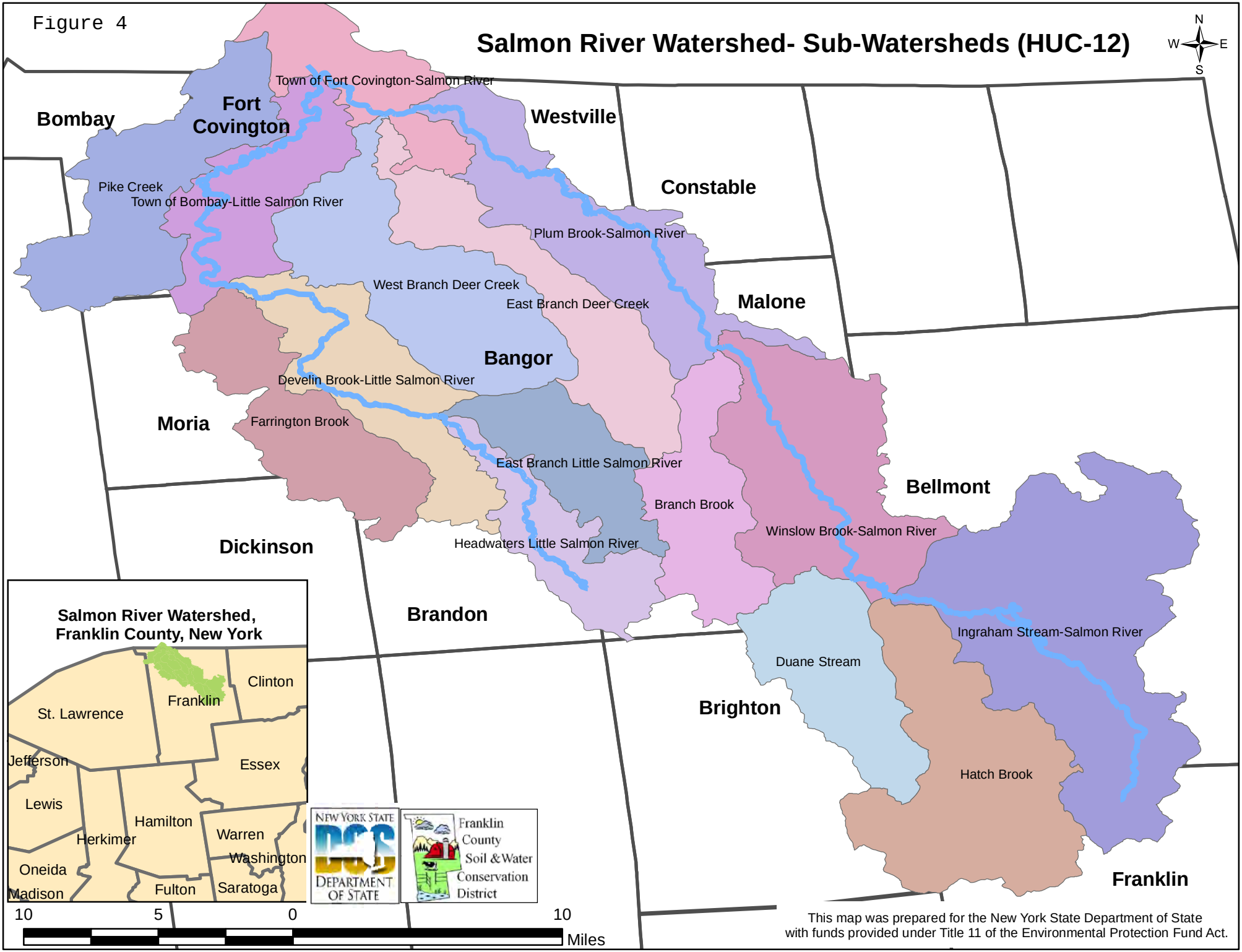
Salmon River Watershed- Reaches



This map was prepared for the New York State Department of State with funds provided under Title 11 of the Environmental Protection Fund Act.

Figure 4

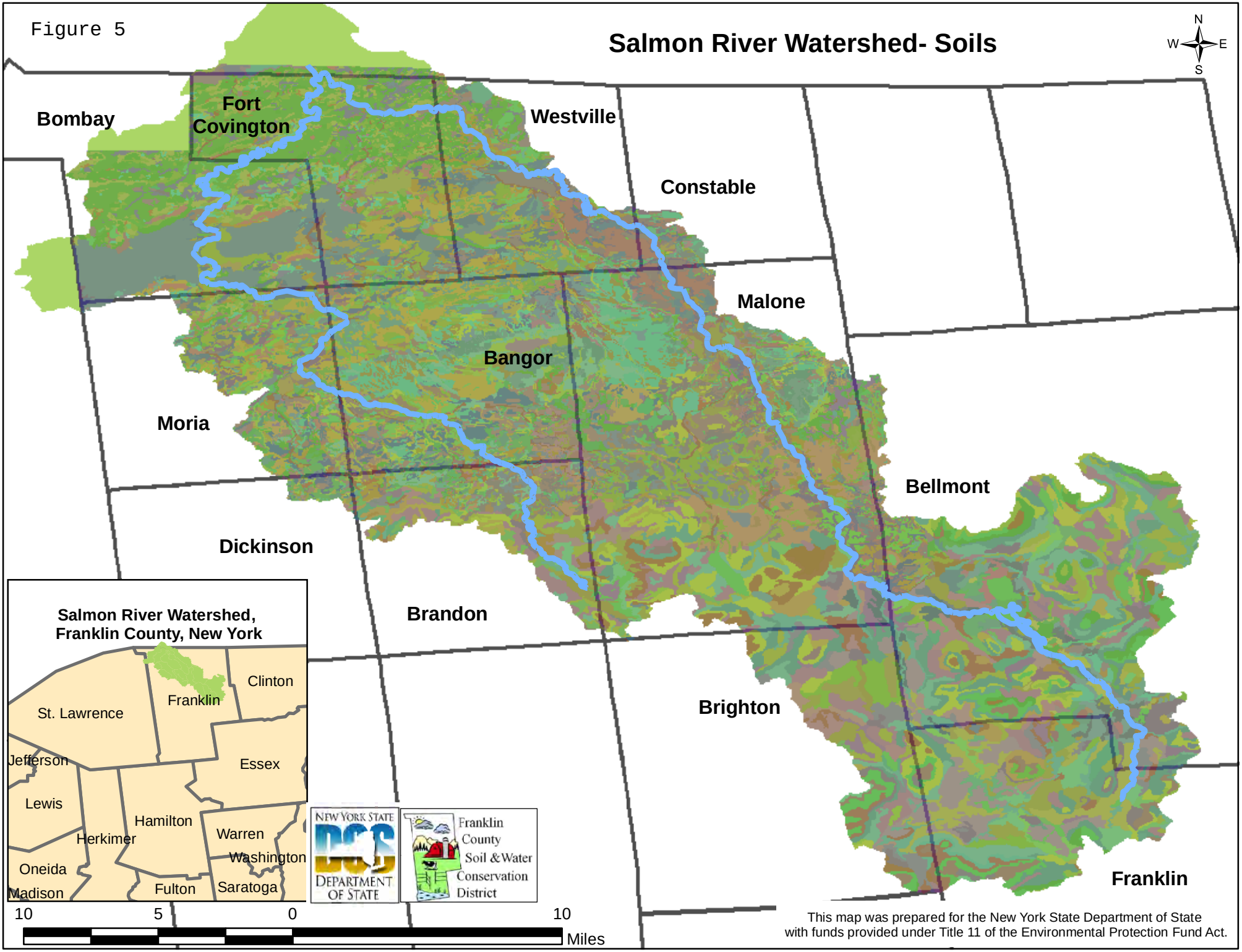
Salmon River Watershed- Sub-Watersheds (HUC-12)



This map was prepared for the New York State Department of State with funds provided under Title 11 of the Environmental Protection Fund Act.

Figure 5

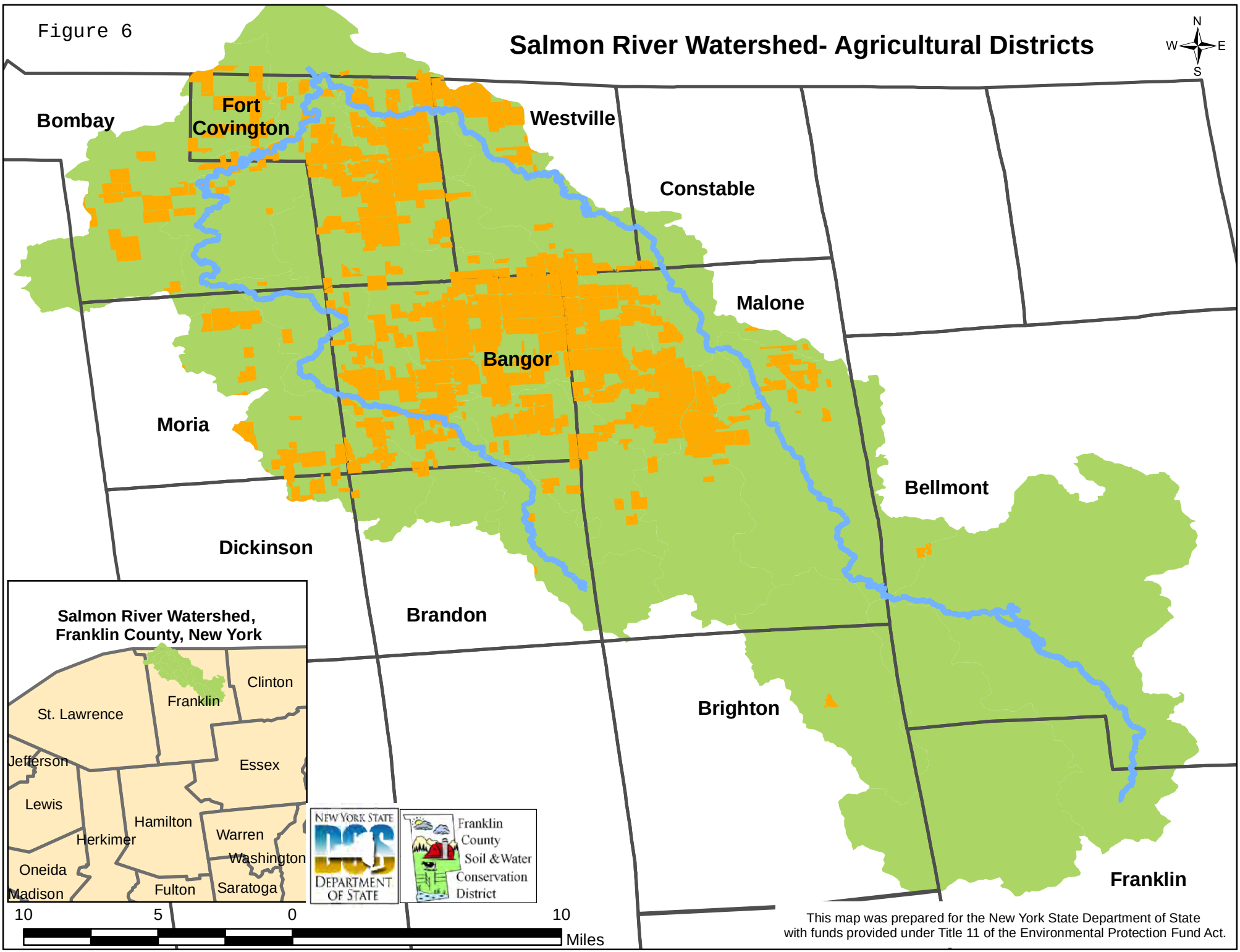
Salmon River Watershed- Soils



This map was prepared for the New York State Department of State with funds provided under Title 11 of the Environmental Protection Fund Act.

Figure 6

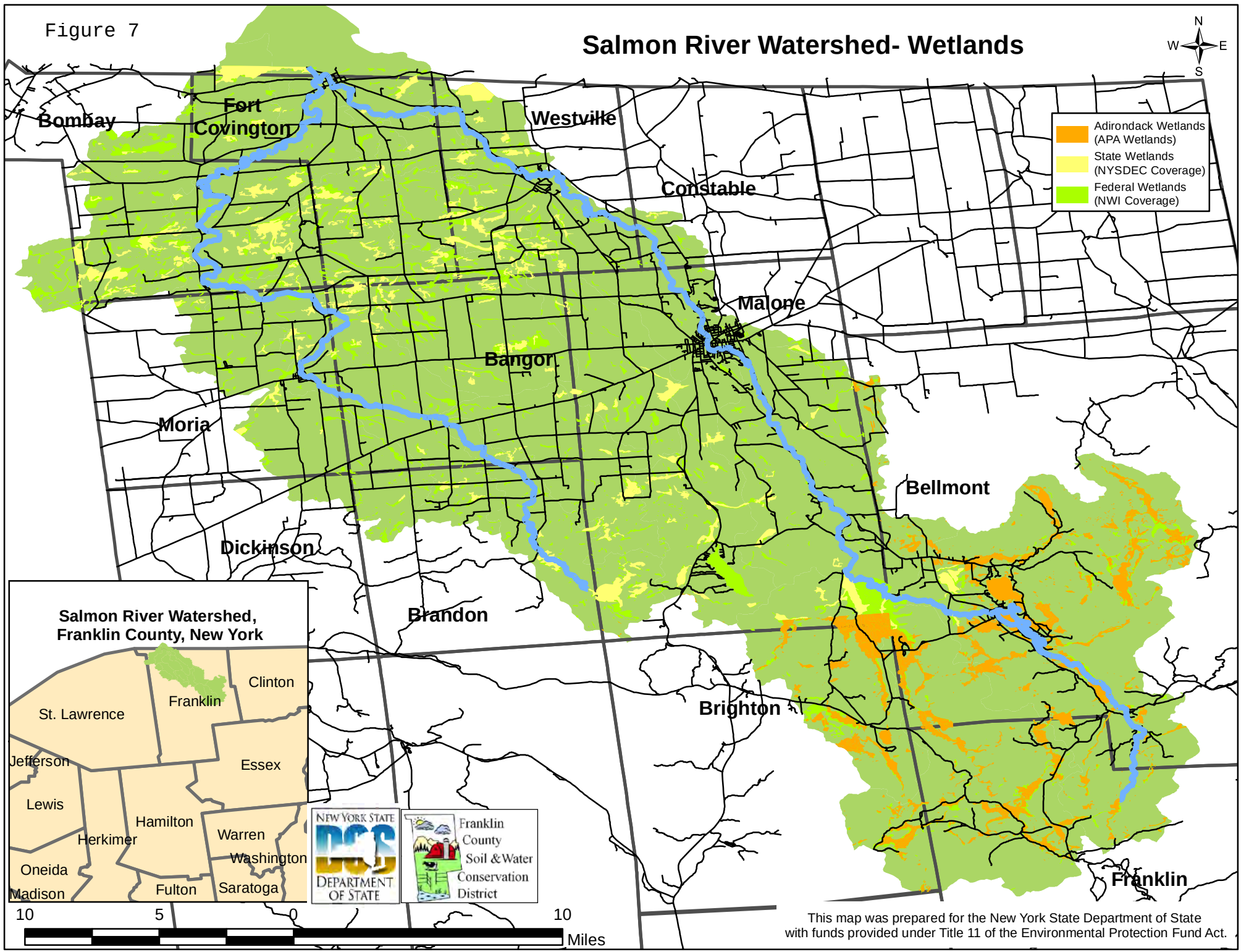
Salmon River Watershed- Agricultural Districts



This map was prepared for the New York State Department of State with funds provided under Title 11 of the Environmental Protection Fund Act.

Figure 7

Salmon River Watershed- Wetlands



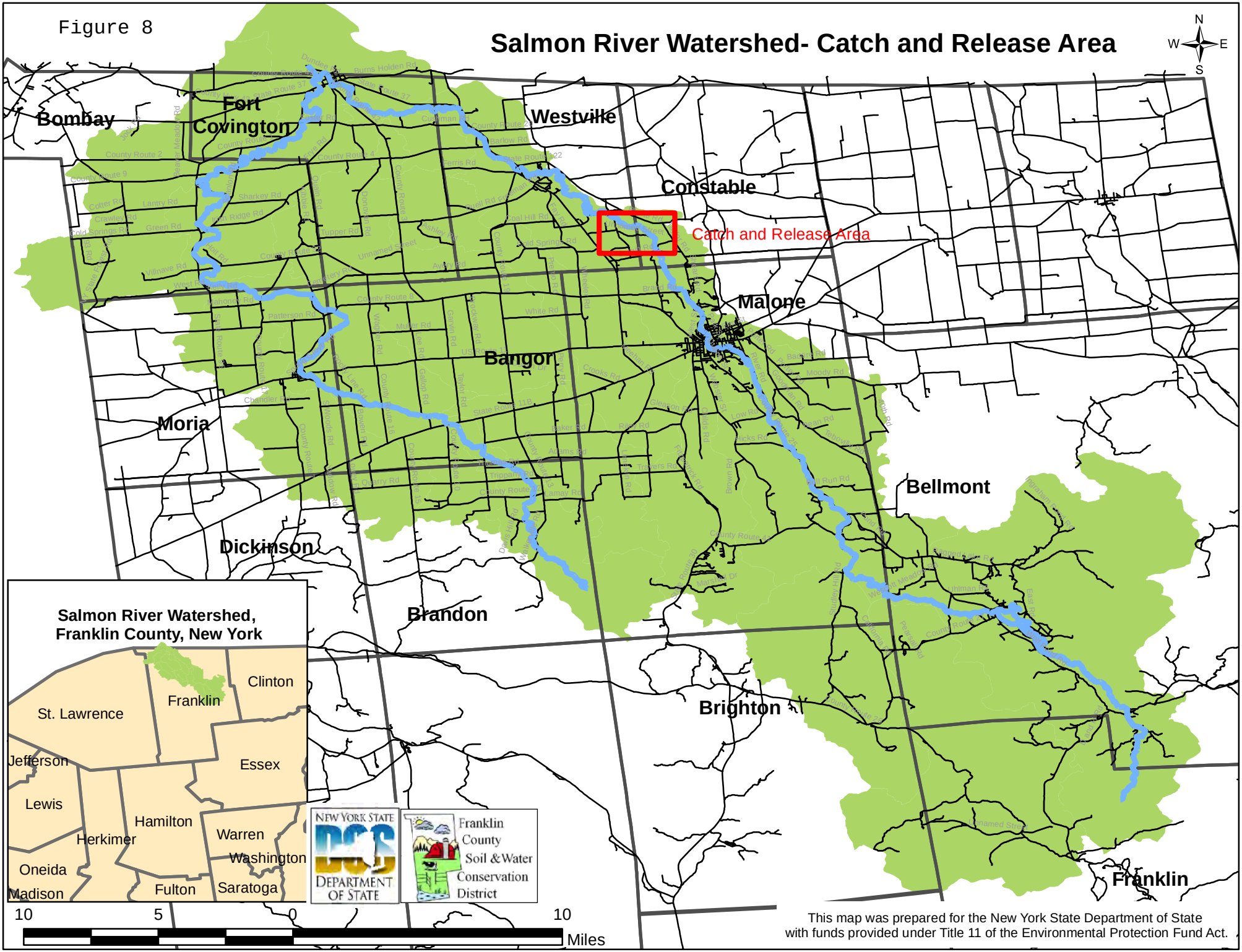
NEW YORK STATE DEPARTMENT OF STATE

Franklin County Soil & Water Conservation District

This map was prepared for the New York State Department of State with funds provided under Title 11 of the Environmental Protection Fund Act.

Figure 8

Salmon River Watershed- Catch and Release Area



This map was prepared for the New York State Department of State with funds provided under Title 11 of the Environmental Protection Fund Act.

Appendix A- New York State Priorities Waterbodies List

Waterbody Inventory
for
English/Salmon Rivers Watershed

Water Index Number	Waterbody Segment	Category
English River Watershed		
SL(C)- 4 thru 5	English River and tribs (0902-0050)	**Need Verific**
SL(C)- 6 thru 12	Minor Tribs to Canada (0902-0051)	UnAssessed
SL(C)-13 thru 17	Minor Tribs to Canada (0902-0052)	UnAssessed
SL(C)-18 thru 19	Hinchinbrook Brook and tribs (0902-0053)	UnAssessed
SL(C)-20	Collins Brook and tribs (0902-0054)	UnAssessed
Chateaugay River Watershed		
SL(C)-21 (portion 1)	Chateaugay River, Lower, and minor tribs (0902-0055)	**NoKnownImpct**
SL(C)-21 (portion 2)/P6, P6a	Lower Chateaugay Lake and Narrows (0902-0056)	**Need Verific**
SL(C)-21 (portion 3)/P2	Upper Chateaugay Lake (0902-0034)	**Impaired Seg**
SL(C)-21- 2	Marble River and tribs (0902-0025)	**NoKnownImpct**
SL(C)-21-P6/P6a-	Tribs to Lower Chateaugay Lake/Narrows (0902-0041)	UnAssessed
SL(C)-21-P6/P6b- 1 thru 13 (select)	Minor Tribs to Upper Chateaugay Lakes (0902-0057)	UnAssessed
SL(C)-21-P6b- 6	Ouleout Creek and tribs (0902-0058)	UnAssessed
SL(C)-21-P6b- 7	Separator Brook and tribs (0902-0059)	**NoKnownImpct**
SL(C)-21-P6b- 7- 3-P7	Bradley Pond (0902-0060)	**NoKnownImpct**
SL(C)-21-P6b-10	Upper Chateaugay Lake Inlet and tribs (0902-0061)	**NoKnownImpct**
SL(C)-21-P6b-10- 5	Standish Brook, Upper, and tribs (0902-0062)	**NoKnownImpct**
SL(C)-21-P6b-10- 5- 1- 1-P2a,P2b	Twin Ponds (0902-0063)	UnAssessed
SL(C)-21-P6b-11-P2c	Mountain Pond (0902-0064)	UnAssessed
Trout River Watershed		
SL(C)-22 thru 24	Minor Tribs to Canada (0902-0065)	UnAssessed
SL(C)-25	Trout River, Lower, and minor tribs (0902-0066)	**NoKnownImpct**
SL(C)-25	Trout River, Upper, and tribs (0902-0067)	UnAssessed
SL(C)-25- 4	Little Trout Creek, Lower, and tribs (0902-0068)	UnAssessed
SL(C)-25- 4	Little Trout River, Upper, and tribs (0902-0069)	UnAssessed
SL(C)-25-10	Collins Brook and tribs (0902-0070)	UnAssessed
SL(C)-26 thru 28	Minor Tribs to Canada (0902-0071)	UnAssessed
Salmon River Watershed		
SL(C)-29	Salmon River, Lower, and minor tribs (0902-0040)	**Threatened**
SL(C)-29	Salmon River, Upper, and minor tribs (0902-0031)	**Threatened**
SL(C)-29- 1	Little Salmon R, Lower, and minor tribs (0902-0044)	**NoKnownImpct**
SL(C)-29- 1	Little Salmon R, Upper, and tribs (0902-0072)	UnAssessed
SL(C)-29- 1- 3	Farrington Brook and tribs (0902-0073)	UnAssessed
SL(C)-29- 1-P22,P23,P24,P25	Twin Ponds, Little/Big Duck Ponds (0902-0074)	UnAssessed
SL(C)-29- 2- 1	East Branch Deer River and tribs (0902-0075)	**MinorImpacts**
SL(C)-29- 2- 2	West Branch Deer River and tribs (0902-0076)	**NoKnownImpct**

...English/Salmon Rivers Watershed

Water Index Number	Waterbody Segment	Category
Salmon River Watershed (con't)		
SL(C)-29- 6	Branch Brook/Titus Stream and tribs (0902-0001)	**MinorImpacts**
SL(C)-29- 6-P28	Lake Titus (0902-0036)	**Need Verific**
SL(C)-29-13,14	Roaring Brook, Salmon R Trib (0902-0077)	UnAssessed
SL(C)-29-18	Duane Stream and tribs (0902-0078)	UnAssessed
SL(C)-29-18-P38	Debar Pond (0902-0079)	**NoKnownImpct**
SL(C)-29-21	Hatch Brook and tribs (0902-0080)	**NoKnownImpct**
SL(C)-29-21- 7- 3-P40	Duck Pond (0902-0081)	UnAssessed
SL(C)-29-21- 7- 8-P41	Grass Pond (0902-0082)	**NoKnownImpct**
SL(C)-29-22- 1-P47	Owls Head Pond (0902-0083)	UnAssessed
SL(C)-29-22- 3-P48	Drain Pond (0902-0084)	UnAssessed
SL(C)-29-22- 4-P49	Ingraham Pond (0902-0085)	**NoKnownImpct**
SL(C)-29-27-P62	Plumadore Pond (0902-0086)	**NoKnownImpct**
SL(C)-29-P26	Lamica Lake (0902-0087)	UnAssessed
SL(C)-29-P50,P51	Mountain View Lake, Indian Lake, more (0902-0030)	**Need Verific**
SL(C)-29-P50,P51-	Tribs to Mountain View, Indian, Ragged L (0902-0088)	UnAssessed
SL(C)-29-P50- 3- 1-P55	Charlie Pond (0902-0089)	**NoKnownImpct**
SL(C)-29-P50- 3-P58	Ragged Lake (0902-0090)	**NoKnownImpct**
SL(C)-29-P50- 3-P58- 4-P59,P60	Figure Eight Pond, Lilypad Pond (0902-0091)	**NoKnownImpct**
SL(C)-29-P65	Wolf Pond (0902-0006)	**Impaired Seg**
SL(C)-29-P68	Catamount Pond (0902-0092)	**Impaired Seg**
SL(C)-31	Pike Creek and tribs (0902-0037)	**MinorImpacts**

Salmon River, Lower, and minor tribs (0902-0040) Threatened

Waterbody Location Information

Revised: 02/18/2009

Water Index No: SL(C)-29
Hydro Unit Code: 04150307/030 **Str Class:** C(T)
Waterbody Type: River
Waterbody Size: 88.0 Miles
Seg Description: stream and selected tribs, from mouth to Malone

Drain Basin: Saint Lawrence River
English/Salmon River
Reg/County: 5/Franklin Co. (17)
Quad Map: FORT COVINGTON (B-23-1)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Habitat/Hydrolgy	Threatened	Known

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: SILT/SEDIMENT

Source(s) of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: HYDRO MODIFICATION

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: DEC/Reg5 **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Habitat/hydrology in this portion of the Salmon River is known to be threatened by the potential releases of sediment from behind hydropower dams.

Habitat/Hydrology Issues
Free-flowing trout habitat is threatened by potential releases of sediments (sand) from dams at the head of this reach in Malone. Releases of sediments have occurred in the past and a substantial quantity of sediments are believed to have accumulated behind the Macomb Dam. Downstream of the dam the Salmon River supports a productive trout fishery. In such free-flowing habitats, high levels of embeddedness can impact natural reproduction by trout, overwinter survival of trout and invertebrates, and production of invertebrates. Moderate level of embeddedness were documented in 1995 (a mean of 27% based on two transects in the segment). The quality of the habitat and fishery downstream of the dam combined with past sediment release events and the apparent accumulation of sediments cause a concern regarding future sediment discharges. DEC Region 5 staff have notified Brookview Power, the owner/operator of both the Macomb and Chasm hydropower facilities, about DEC concerns regarding sediment issues and impact on the Salmon River. Further discussions concerning managing the situation to minimize the impact of the downstream habitat are continuing. (DEC/FWMR, Region 5, January 2009)

A Water Quality Certification for the continued operation and maintenance of the existing Macomb Hydroelectric Project located on the Salmon River in the Town of Malone, approximately 2.5 river miles north of the Village of Malone was granted by Federal Energy Regulatory Commission (FERC) in 2007. The project will be run in accordance with applicable provisions of the Macomb Project Settlement Agreement dated November 2, 2004. provisions of that settlement include the maintenance of a base flow of 125 cfs (or inflow to the Macomb impoundment, whichever is less) from the Project's tailrace, fish protection provisions and downstream fish movement provisions, sediment management, and a requirement to install a fish stocking tube in the Project's tailrace. (Malone Local Waterfront Revitalization Program, Draft, June 2007)

An aquatic habitat restoration project involving the removal of a barrier dam in Fort Covington is expected to commence in 2009. This project, which was first proposed in 2006, will open an additional 15 miles of spawning habitat to Saint Lawrence River fish. (DEC/BWP, NPS Section and Region 5, January 2009)

Water Quality Sampling

NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of Salmon River in Fort Covington, Franklin County, (at Center Street) was conducted in 2005. Intensive Network sampling typically includes macroinvertebrate community analysis, water column chemistry, sediment and invertebrate tissues analysis and toxicity evaluation. During this sampling the biological (macroinvertebrate) sampling results indicated non-impacted water quality conditions. Benthic fauna at this site was diverse and dominated by many clean-water organisms. Water column sampling revealed no parameters of concern. Macroinvertebrates collected at this site and chemically analyzed for selected PAHs, PCBs, and organochlorine pesticides found no substances to be present in concentrations above the established guidance value. Sediment screening for acute toxicity indicated no toxicity to be present, but sediments were found to contain elevated levels of PAHs. Chronic toxicity testing using water from this location showed no significant mortality or reproductive effects on the test organism. Based on the consensus of these established assessment methods, overall water quality at this site indicates that aquatic life and recreational uses are fully supported in the stream. (DEC/DOW, BWAM/RIBS, January 2009)

A biological (macroinvertebrate) assessment of the Salmon River, at Fort Covington (at Center Street) was also conducted in 2004 during the RIBS Biological Screening effort in the basin. This sample was also assessed as non-impacted. (DEC/DOW, BWAM/SBU, December 2008)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs from the Canadian border to Branch Brook/Titus Stream (-6) in Malone. The waters of this portion of the stream are Class C(T),C(TS). Tribs to this reach/segment, including Deer Creek (-2) and Plum Brook (-4), are Class C,C(T). Little Salmon River (-1), East Branch Deer Creek (-2-1), West Branch Deer Creek (-2-2) and Upper Salmon River are listed separately.

Salmon River, Upper, and minor tribs (0902-0031) Threatened

Waterbody Location Information

Revised: 02/18/2009

Water Index No: SL(C)-29
Hydro Unit Code: 04150307/030 **Str Class:** C(T)
Waterbody Type: River
Waterbody Size: 122.9 Miles
Seg Description: stream and selected tribs, above Malone

Drain Basin: Saint Lawrence River
English/Salmon River
Reg/County: 5/Franklin Co. (17)
Quad Map: MALONE (B-23-3)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Habitat/Hydrolgy	Threatened	Known

Type of Pollutant(s)

Known: - - -
Suspected: SILT/SEDIMENT (sand)
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: HYDRO MODIFICATION
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: DEC/Reg5 **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Habitat/hydrology in this portion of the Salmon River is known to be threatened by the potential releases of sediment from behind hydropower dams.

Habitat/Hydrology Issues
Free-flowing trout habitat is threatened by potential releases of sediments (sand) from dams at the head of this reach in Malone. Releases of sediments have occurred in the past and a substantial quantity of sediments are believed to have accumulated behind the Chasm Dam. Downstream of the dam the Salmon River supports a productive trout fishery. In such free-flowing habitats, high levels of embeddedness can impact natural reproduction by trout, overwinter survival of trout and invertebrates, and production of invertebrates. Embeddedness estimates for portions of this reach increased from a mean of about 15% (measured in 1995) to greater that 70% following a suspected discharge event in 1997. Some recovery of the habitat was noted by spring 1998. However the quality of the habitat and fishery downstream of the dam combined with past sediment release events and the apparent accumulation of sediments cause a concern regarding future sediment discharges. DEC Region 5 staff have notified Brookview Power, the owner/operator of both the Macomb and Chasm hydropower facilities, about DEC concerns regarding sediment issues and impact on the Salmon River. Further discussions concerning managing the situation to minimize the impact of the downstream habitat are continuing. (DEC/FWMR, Region 5, January

2009)

Segment Description
This segment includes the portion of the stream and selected/smaller tribs above Branch Brook/Titus Stream (-6) in Malone. The waters of this portion of the stream are Class C(T). Tribs to this reach/segment, including Whippleville Brook (-7), Winslow Brook (-9), Ingraham Stream (-22) and Barnes Brook (-23), are Class C,C(T). Branch Brook/Titus Stream (-6), Duane Stream (-18), Hatch Brook (-21) and Lower Salmon River are listed separately.

Little Salmon R, Lower, and minor tribs (0902-0044) NoKnownImpct

Waterbody Location Information

Revised: 12/12/2008

Water Index No: SL(C)-29- 1
Hydro Unit Code: 04150307/020 **Str Class:** B
Waterbody Type: River
Waterbody Size: 73.2 Miles
Seg Description: stream and selected tribs, from mouth to Brushton

Drain Basin: Saint Lawrence River
English/Salmon River
Reg/County: 5/Franklin Co. (17)
Quad Map: BOMBAY (B-22-2)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling
A biological (macroinvertebrate) assessment of the Little Salmon River at Fort Covington (at Foster Road) was conducted in 2004 during the RIBS Biological Screening effort in the basin. Sampling results indicated slightly impacted water quality conditions. The macroinvertebrate community was dominated by the facultative riffle beetle *Stenelmis crenata*, net spinning caddisflies *Hydropsyche leonardi* and *H. morosa*, and the mayfly genera *Serratella sp.*, and *Stenonema sp.*. The nutrient biotic index indicated mesotrophic conditions for phosphorus. Results of impact source determination identified the community as natural with some non-point source nutrient enrichment. However, nutrient biotic evaluation determined these effects on the fauna to be minor. Aquatic life support is considered to be fully supported in the stream, and there are no other apparent water quality impacts to designated uses. (DEC/DOW, BWAM/SBU, November 2008)

Previous Assessment
Previously it was thought that the fishery in the Little Salmon River may be affected by excessive silt, sediment and nutrients resulting from agricultural activity in the watershed. The county reported that near the mouth in Fort Covington the stream was greenish and opaque with high amount of suspended sediment. Insufficient stream buffer areas, access of cattle to the stream, and overland flow from agricultural fields during heavy rain and snowmelt are cited as specific problems. (Franklin Co. WQCC, February 1998)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs from the Canadian border to unnamed trib (-5a) in Brushton. The waters of this portion of the stream are Class B. Tribs to this reach/segment are Class C,C(T). Farrington Brook (-3) and Upper Little Salmon River are listed separately.

East Branch Deer River and tribs (0902-0075) MinorImpacts

Waterbody Location Information

Revised: 12/29/2008

Water Index No: SL(C)-29- 2- 1
Hydro Unit Code: 04150307/030 **Str Class:** C
Waterbody Type: River
Waterbody Size: 68.8 Miles
Seg Description: entire stream and tribs

Drain Basin: Saint Lawrence River
English/Salmon River
Reg/County: 5/Franklin Co. (17)
Quad Map: FORT COVINGTON (B-23-1)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Suspected

Type of Pollutant(s)

Known: - - -
Suspected: NUTRIENTS (phosphorus)
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: AGRICULTURE
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: ext/WQCC **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Aquatic life support in East Branch Deer Creek is thought to experience minor impacts/threats due to nutrient loadings from agricultural and other nonpoint sources.

Water Quality Sampling
A biological (macroinvertebrate) assessment of the East Branch of Deer Creek at Fort Covington (at Cushman Road) was conducted in 2004 during the RIBS Biological Screening effort in the basin. Sampling results indicated slightly impacted water quality conditions. The nutrient biotic index indicated eutrophic conditions due to phosphorus and Impact Source Determination suggested the community was typical of one impacted by non-point source nutrient enrichment. The macroinvertebrate fauna was dominated by facultative riffle beetles and filter feeding caddisflies. Slow, sandy habitat characterized the stream upstream of sampling location and may play a role in the water quality assessment of this site. This type of habitat is not conducive for colonization of more pollution intolerant organisms like stoneflies and mayflies. In spite of some/these minor impacts, aquatic life is considered to be fully supported in the stream. (DEC/DOW, BWAM/SBU, December 2004)

Segment Description
This segment includes the entire stream and all tribs. The waters of the stream are Class C. Tribs to this reach/segment, including Cold Spring Brook (-1), are Class C and D.

West Branch Deer River and tribs (0902-0076) NoKnownImpct

Waterbody Location Information

Revised: 01/15/2009

Water Index No: SL(C)-29- 2- 2
Hydro Unit Code: 04150307/030 **Str Class:** C
Waterbody Type: River
Waterbody Size: 80.2 Miles
Seg Description: entire stream and tribs

Drain Basin: Saint Lawrence River
English/Salmon River
Reg/County: 5/Franklin Co. (17)
Quad Map: FORT COVINGTON (B-23-1)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: - - -
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: - - -
Possible: - - -

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling
A biological (macroinvertebrate) assessment of the West Branch Deer Creek at Fort Covington (at CR 42) was conducted in 2004 during the RIBS Biological Screening effort in the basin. Sampling results indicated non-impacted water quality conditions. The site was host to a diversity of macroinvertebrate fauna, including many mayflies, stoneflies and caddisflies. (DEC/DOW, BWAM/SBU, December 2008)

Segment Description
This segment includes the entire stream and all tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment are Class C.

Branch Brook/Titus Stream and tribs (0902-0001) MinorImpacts

Waterbody Location Information

Revised: 01/21/2009

Water Index No: SL(C)-29- 6
Hydro Unit Code: 04150307/030 **Str Class:** C(T)*
Waterbody Type: River
Waterbody Size: 32.9 Miles
Seg Description: entire stream and tribs

Drain Basin: Saint Lawrence River
English/Salmon River
Reg/County: 5/Franklin Co. (17)
Quad Map: MALONE (B-23-3)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Public Bathing	Stressed	Suspected
Aquatic Life	Stressed	Possible
Aesthetics	Stressed	Suspected

Type of Pollutant(s)

Known: PATHOGENS, Chlorine
Suspected: Water Level/Flow, Nutrients, Silt/Sediment
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: AGRICULTURE, URBAN/STORM RUNOFF, Other Source (waterfowl)
Possible: Hydro Modification

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: DOW/Reg5 **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Recreational use in Branch Brook (formerly known as Lake Titus Stream) is thought to experience minor impacts due to pathogens from agricultural activity, urban runoff and other nonpoint sources. These impacts are have the most significant impact on recreational use in a small ponded Class B(T) reach of the stream in the Village of Malone that is used as a public swimming area.

Recreational Assessment
A village swimming area and beach in a shallow ponded reach of the stream has experienced closings due to elevated coliform levels. The swimming area and beach is located behind a dam in the village park, less than a mile from its confluence with the Salmon River. The Village of Malone uses a chlorine diffusion pipe located at the head of swimming area and beach to protect swimming use of the water to some degree. However, the chlorine bleaches the stream bottom and is could potentially have an adverse impact on aquatic life downstream. The management of this water resource to protect these two competing uses may be difficult to achieve. (DEC/DOW, Region 5, 1998)

Source Assessment

Color, clarity and odor problems from algae blooms and silt/sediment also reduce the aesthetics of the waterbody and discourage swimming. Copper sulfate, used to control the algae, could also be affecting aquatic life. Excessive aquatic weed growth is controlled by drawdown, which may impact the fishery as well. Branch Brook flows through a significant agricultural area before entering the village. Heavy fertilizer usage and high wind and water erosion of vegetable cropland as well as stream bank erosion further upstream in the watershed have been suggested as sources of nutrients and sediment which cause algae and weed problems. Increased construction of single-family homes in the area may also be a possible source of sediment. Significant water use for agricultural irrigation has also been cited as affecting the flow into the swimming area. (DEC/DOW, Region 5 and Region 5 Fisheries, Franklin Co WQCC, 1998)

Water Quality Sampling

A biological (macroinvertebrate) assessment of Branch Brook in Malone upstream of the bathing area (at Duane Road/CR 25) was conducted in 2004 during the RIBS Biological Screening effort in the basin. Sampling results indicated non-impacted water quality conditions. The nutrient biotic index indicated mesotrophic conditions due to phosphorus. The macroinvertebrate community was dominated by filter feeding caddisflies, likely a result of the slightly enriched conditions. Many clean water stoneflies and mayflies were noted in the field. However, they did not dominate the processed subsample. Impact source determination indicated a community with some non-point source nutrient enrichment. In spite of some/these minor impacts, aquatic life is considered to be fully supported in the stream. (DEC/DOW, BWAM/SBU, November 2008)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C(T) from the mouth to the Malone Municipal Bathing Beach, Class B(T) from there to unnamed trib (-1), and Class C(T) for the remainder of the reach. Tribs to this reach/segment are Class C,C(T).

Lake Titus (0902-0036) Need Verific

Waterbody Location Information

Revised: 11/13/2008

Water Index No: SL(C)-29- 6-P28
Hydro Unit Code: 04150307/030 **Str Class:** B(T)
Waterbody Type: Lake
Waterbody Size: 431.4 Acres
Seg Description: entire lake

Drain Basin: Saint Lawrence River
English/Salmon River
Reg/County: 5/Franklin Co. (17)
Quad Map: LAKE TITUS (C-23-2)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Public Bathing	Stressed	Possible
Recreation	Stressed	Possible

Type of Pollutant(s)

Known: - - -
Suspected: ALGAL/WEED GROWTH
Possible: Nutrients, Pathogens

Source(s) of Pollutant(s)

Known: - - -
Suspected: HABITAT MODIFICATION
Possible: On-Site/Septic Syst

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Public Bathing and other recreational uses in Lake Titus may experience minor impacts/threats due to excessive aquatic weed growth of invasive species.

Water Quality Sampling
Lake Titus was been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1985 and 1999. An Interpretive Summary report of the findings of this sampling was published in 2000. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately unproductive. Phosphorus levels in the lake occasionally exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements typically meet the recommended minimum for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5. The lake water is moderately colored, and may at times impact water transparency. However lake color is thought to be reflective of natural soil and vegetation characteristics in the watershed. (DEC/DOW, BWAM/CSLAP, 2000)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be generally favorable. The recreational suitability of the lake ranges between "excellent" and "slightly" impacted. The lake itself is most often described as "not quite crystal clear." Assessments have noted that aquatic plants grow to the lake surface, but are not typically cited as having an impact on recreational uses. Aquatic plants are dominated by a mix of native and non-native (Eurasian milfoil) species. (DEC/DOW, BWAM/CSLAP, 2000)

Lake Uses

This lake waterbody is designated class B(T), suitable for use as a public bathing beach, general recreation and aquatic life support, but not as a drinking water supply. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments. Previous Assessments

Presence and proliferation of Eurasian milfoil restrict bathing and boating uses of the Lake Titus. Failing and/or inadequate on-site septic systems have been cited as a source of nutrients and pathogens. Septic problems including grey water inputs have been documented and some improvements have begun. (Franklin County WQCC, 1993).

The lake has been the subject of study by NYS DEC CSLAP Program and Adirondack Ecologists since the mid 1980s. The problems outlined above have been noted in these studies. There is a state owned access to the lake that has never been developed due, in part, to concerns of residents/private land owners.

Debar Pond (0902-0079) NoKnownImpct

Waterbody Location Information

Revised: 01/23/2009

Water Index No: SL(C)-29-18-P38
Hydro Unit Code: 04150307/030 **Str Class:** B
Waterbody Type: Lake
Waterbody Size: 87.5 Acres
Seg Description: entire lake

Drain Basin: Saint Lawrence River
English/Salmon River
Reg/County: 5/Franklin Co. (17)
Quad Map: OWLS HEAD (C-24-1)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling
Monitoring of Debar Pond was included in the Adirondack Lake Survey Corporation (ALSC) lake monitoring and assessment effort conducted in the mid-1980s (1984-86). Generally these were one-time samples analyzed for variety of parameters, including total phosphorus, pH and water color. These data revealed no indication of impacts to aquatic life support or recreational at the time. Because the data is limited to single samples and collected more than 20 years ago, this assessment is considered to be evaluated, rather than monitored. (DEC, DOW, BWAM/WQAS, January 2009 and ALSC, 1984-86)

Hatch Brook and tribs (0902-0080) NoKnownImpct

Waterbody Location Information

Revised: 12/12/2008

Water Index No: SL(C)-29-21
Hydro Unit Code: 04150307/030 **Str Class:** C(T)
Waterbody Type: River
Waterbody Size: 83.0 Miles
Seg Description: entire stream and tribs

Drain Basin: Saint Lawrence River
English/Salmon River
Reg/County: 5/Franklin Co. (17)
Quad Map: OWLS HEAD (C-24-1)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: - - -
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: - - -
Possible: - - -

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Overview
Most recent sampling reveals a stream fully supporting aquatic life and recreational uses. There are some concerns regarding acid rain. However available data indicating such impacts is limited to two small ponds within this segment and is more than 20 years old. Until data on the larger waterbody is available, this segment will be considered to be assessed based on the more recent sampling.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Hatch Brook at Porcaville (at County Route 27) was conducted in 2004 during the RIBS Biological Screening effort in the basin. Sampling results indicated non-impacted water quality conditions. The nutrient biotic index suggested oligotrophic conditions. Impact source determination identified the community as natural. The macroinvertebrate fauna was dominated by clean water riffle beetles, caddisflies, and mayflies. (DEC/DOW, BWAM/SBU, November 2008)

Historical surveys of two small ponds in this segment indicate that low pH due to acid deposition is limiting the fishery. Monitoring by ALSC (1986) revealed pH to be between 5.0 and 6.0 in Middle and Upper Notch Ponds. Fish were not present in either pond. (DEC/DOW, BWAM, 2008)

Water Quality Management/TMDL

In 2006, NYSDEC established and USEPA approved a TMDL to address acid rain impairment to 143 Adirondack lakes that are located in NYS Forest Preserve lands, including Middle and Upper Notch Ponds. Recognizing that the available pH data for many of these lakes is 20-30 years old, the TMDL outlines a phased/adaptive management approach, that initially relies heavily on monitoring and assessment to determine current conditions, modeling refinements to estimate future conditions, and the implementation of statewide, regional and national efforts to reduce atmospheric loadings causing the impairment. (Impaired Water Restoration Plan/TMDL for Acid Rain Lakes in NYS Forest Preserve, DEC/DOW, BWAM, August 2006)

Efforts are underway on a national level to address problems caused by acid rain by reducing pollutant emissions, as required by the Clean Air Act. New York State (and other northeastern states) have taken legal action against USEPA to accelerate implementation of controls. Monitoring of these waters will continue, in order to assess changes in water quality resulting from implementation of the Clean Air Act. However, these changes are expected to occur only slowly over time.

Section 303(d) Listing

Middle and Upper Notch Ponds were included on previous Section 303(d) Lists, but were delisting in 2006 due to the completion of an Acid Rain TMDL. (DEC/DOW, BWAM, 2008)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C(T). Tribs to this reach/segment are Class C,C(T),C(TS) and D. This segment also includes Middle and Upper Notch Ponds (-9-P45, -9-P46).

Grass Pond (0902-0082) NoKnownImpct

Waterbody Location Information

Revised: 01/23/2009

Water Index No: SL(C)-29-21- 7- 8-P41
Hydro Unit Code: 04150307/030 **Str Class:** C(T)
Waterbody Type: Lake
Waterbody Size: 18.4 Acres
Seg Description: entire lake

Drain Basin: Saint Lawrence River
English/Salmon River
Reg/County: 5/Franklin Co. (17)
Quad Map: LOON LAKE (C-24-3)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: - - -
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: - - -
Possible: - - -

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling
Monitoring of Grass Pond was included in the Adirondack Lake Survey Corporation (ALSC) lake monitoring and assessment effort conducted in the mid-1980s (1984-86). Generally these were one-time samples analyzed for variety of parameters, including total phosphorus, pH and water color. These data revealed no indication of impacts to aquatic life support or recreational at the time. Because the data is limited to single samples and collected more than 20 years ago, this assessment is considered to be evaluated, rather than monitored. (DEC, DOW, BWAM/WQAS, January 2009 and ALSC, 1984-86)

Ingraham Pond (0902-0085) NoKnownImpct

Waterbody Location Information

Revised: 01/23/2009

Water Index No: SL(C)-29-22- 4-P49
Hydro Unit Code: 04150307/030 **Str Class:** C(T)
Waterbody Type: Lake
Waterbody Size: 131.9 Acres
Seg Description: entire lake

Drain Basin: Saint Lawrence River
English/Salmon River
Reg/County: 5/Franklin Co. (17)
Quad Map: BRAINARDSVILLE (B-24-3)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling
Monitoring of Ingraham Pond was included in the Adirondack Lake Survey Corporation (ALSC) lake monitoring and assessment effort conducted in the mid-1980s (1984-86). Generally these were one-time samples analyzed for variety of parameters, including total phosphorus, pH and water color. These data revealed no indication of impacts to aquatic life support or recreational at the time. Because the data is limited to single samples and collected more than 20 years ago, this assessment is considered to be evaluated, rather than monitored. (DEC, DOW, BWAM/WQAS, January 2009 and ALSC, 1984-86)

Plumadore Pond (0902-0086) NoKnownImpct

Waterbody Location Information

Revised: 01/23/2009

Water Index No: SL(C)-29-27-P62
Hydro Unit Code: 04150307/030 **Str Class:** C(T)
Waterbody Type: Lake
Waterbody Size: 108.9 Acres
Seg Description: entire lake

Drain Basin: Saint Lawrence River
English/Salmon River
Reg/County: 5/Franklin Co. (17)
Quad Map: RAGGED LAKE (C-24-2)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling
Monitoring of Plumadore Pond was included in the Adirondack Lake Survey Corporation (ALSC) lake monitoring and assessment effort conducted in the mid-1980s (1984-86). Generally these were one-time samples analyzed for variety of parameters, including total phosphorus, pH and water color. These data revealed no indication of impacts to aquatic life support or recreational at the time. Because the data is limited to single samples and collected more than 20 years ago, this assessment is considered to be evaluated, rather than monitored. (DEC, DOW, BWAM/WQAS, January 2009 and ALSC, 1984-86)

Mountain View Lake, Indian Lake, more (0902-0030) Need Verific

Waterbody Location Information

Revised: 12/05/2008

Water Index No: SL(C)-29-P50,P51
Hydro Unit Code: 04150307/030 **Str Class:** B(T)
Waterbody Type: Lake
Waterbody Size: 234.7 Acres
Seg Description: total area of both lakes

Drain Basin: Saint Lawrence River
English/Salmon River
Reg/County: 5/Franklin Co. (17)
Quad Map: OWLS HEAD (C-24-1)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Possible
Recreation	Stressed	Possible

Type of Pollutant(s)

Known: - - -
Suspected: ALGAL/WEED GROWTH, ACID/BASE (PH)
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: ATMOSPH. DEPOSITION, HABITAT MODIFICATION
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Recreational uses in Mountain View and Indian Lakes may experience impacts due to excessive aquatic weed growth. Possible Impacts to aquatic life due to acid rain effects should also be monitored.

Previous Assessment
Both Mountain View and Indian Lakes were sampled through the CSLAP program in the early 1990s. It was reported at that time that excessive weed growth along the lake shore limited accessibility and recreational uses, including boating. Older camps around lakes with failing and/or inadequate on-site septic systems were considered a likely source of nutrients to the lakes. Some camps along the lake are thought to use the lake as a water supply, although the lake is not classified for such use. A 1991 Aquatic Plant Survey and 1991-92 Limnological Information gathering by Adirondack Ecologists found that except for the aquatic weed problems, water quality as a whole was quite good in these lakes. (Franklin County WQCC and DEC/DOW, BWAM, 1993)

Section 303(d) Listing
Historical surveys of a small pond within this segment indicate that low pH due to acid deposition is limiting the fishery.

Monitoring by ALSC (1986) revealed pH <5.0 and no fish in an South Duck Pond (P57). It is possible that aquatic life support in this, and perhaps other, small ponds included in this segment may be limited due to low pH, a result of atmospheric deposition (acid rain). Since available data indicate such impacts do not affect Mountain View and Indian Lakes and since data suggesting impacts is limited to a small pond within this segment and is more than 20 years old, the assessment of this segment is more reflective of the more recent data collect in the larger lakes. (DEC/DOW, BWAM, 2008)

Section 303(d) Listing

South Duck Pond is included on the NYS 2008 Section 303(d) List of Impaired Waters in Appendix A as a Smaller Lake Impaired by Acid Rain. (DEC/DOW, BWAM, 2008)

Segment Description

This segment includes the total area of Mountain View Lake (P50) and Indian Lake (P51), as well as the smaller Deerily Pond (P53), Duck Pond (P54), South Duck Pond (P57) and unnamed ponds (P52, P56).

Charlie Pond (0902-0089) NoKnownImpct

Waterbody Location Information

Revised: 01/23/2009

Water Index No: SL(C)-29-P50- 3- 1-P55
Hydro Unit Code: 04150307/030 **Str Class:** D
Waterbody Type: Lake
Waterbody Size: 10.4 Acres
Seg Description: entire lake

Drain Basin: Saint Lawrence River
English/Salmon River
Reg/County: 5/Franklin Co. (17)
Quad Map: RAGGED LAKE (C-24-2)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling
Monitoring of Charlie Pond was included in the Adirondack Lake Survey Corporation (ALSC) lake monitoring and assessment effort conducted in the mid-1980s (1984-86). Generally these were one-time samples analyzed for variety of parameters, including total phosphorus, pH and water color. These data revealed no indication of impacts to aquatic life support or recreational at the time. Because the data is limited to single samples and collected more than 20 years ago, this assessment is considered to be evaluated, rather than monitored. (DEC, DOW, BWAM/WQAS, January 2009 and ALSC, 1984-86)

Ragged Lake (0902-0090) NoKnownImpct

Waterbody Location Information

Revised: 01/23/2009

Water Index No: SL(C)-29-P50- 3-P58
Hydro Unit Code: 04150307/030 **Str Class:** C(T)
Waterbody Type: Lake
Waterbody Size: 273.4 Acres
Seg Description: entire lake

Drain Basin: Saint Lawrence River
English/Salmon River
Reg/County: 5/Franklin Co. (17)
Quad Map: RAGGED LAKE (C-24-2)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling
Monitoring of Ragged Lake was included in the Adirondack Lake Survey Corporation (ALSC) lake monitoring and assessment effort conducted in the mid-1980s (1984-86). Generally these were one-time samples analyzed for variety of parameters, including total phosphorus, pH and water color. These data revealed no indication of impacts to aquatic life support or recreational at the time. Because the data is limited to single samples and collected more than 20 years ago, this assessment is considered to be evaluated, rather than monitored. (DEC, DOW, BWAM/WQAS, January 2009 and ALSC, 1984-86)

Figure Eight Pond, Lilypad Pond (0902-0091) NoKnownImpct

Waterbody Location Information

Revised: 01/23/2009

Water Index No: SL(C)-29-P50- 3-P58- 4-P59,P60
Hydro Unit Code: 04150307/030 **Str Class:** C(T)
Waterbody Type: Lake
Waterbody Size: 36.2 Acres
Seg Description: entire lake

Drain Basin: Saint Lawrence River
English/Salmon River
Reg/County: 5/Franklin Co. (17)
Quad Map: BRAINARDSVILLE (B-24-3)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling
Monitoring of Figure Eight Pond was included in the Adirondack Lake Survey Corporation (ALSC) lake monitoring and assessment effort conducted in the mid-1980s (1984-86). Generally these were one-time samples analyzed for variety of parameters, including total phosphorus, pH and water color. These data revealed no indication of impacts to aquatic life support or recreational at the time. Because the data is limited to single samples and collected more than 20 years ago, this assessment is considered to be evaluated, rather than monitored. (DEC, DOW, BWAM/WQAS, January 2009 and ALSC, 1984-86)

Wolf Pond (0902-0006) Impaired Seg

Waterbody Location Information

Revised: 09/05/2008

Water Index No: SL(C)-29-P65
Hydro Unit Code: 04150307/030 **Str Class:** B
Waterbody Type: Lake
Waterbody Size: 41.1 Acres
Seg Description: entire lake

Drain Basin: Saint Lawrence River
English/Salmon River
Reg/County: 5/Franklin Co. (17)
Quad Map: RAGGED LAKE (C-24-2)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
AQUATIC LIFE	Precluded	Known

Type of Pollutant(s)
Known: ACID/BASE (PH)
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)
Known: ATMOSPH. DEPOSITION
Suspected: - - -
Possible: - - -

Resolution/Management Information

Issue Resolvability: ()
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: ext/EPA **Resolution Potential:** n/a
TMDL/303d Status: 2a (Multiple Segment/Categorical Water, Atmosph Dep)

Further Details

Overview
Aquatic life support in Wolf Pond are known to be impaired by low pH, a result of atmospheric deposition (acid rain).

Water Quality Sampling
Historical surveys of these waters indicate that low pH due to acid deposition is limiting the fishery. Monitoring by NYSDEC DFWMR (1981) revealed a pH <5.0. Aquatic life in this segment is considered to be impaired. (DEC/DOW, BWAM, 2008)

Water Quality Management
Efforts are underway on a national level to address problems caused by acid rain by reducing pollutant emissions, as required by the Clean Air Act. New York State (and other northeastern states) have taken legal action against USEPA to accelerate implementation of controls. Monitoring of these waters will continue, in order to assess changes in water quality resulting from implementation of the Clean Air Act. However, these changes are expected to occur only slowly over time.

Section 303(d) Listing
The waters of this segment are included on the NYS 2008 Section 303(d) List of Impaired Waters. Wolf Pond is included on Part 2a of the List as an Atmospheric Deposition (Acid Rain) Water. (DEC/DOW, BWAM, 2008)

Catamount Pond (0902-0092) Impaired Seg

Waterbody Location Information

Revised: 01/14/2009

Water Index No: SL(C)-29-P68
Hydro Unit Code: 04150307/030 **Str Class:** C(T)
Waterbody Type: Lake
Waterbody Size: 13.3 Acres
Seg Description: entire lake

Drain Basin: Saint Lawrence River
English/Salmon River
Reg/County: 5/Franklin Co. (17)
Quad Map: LOON LAKE (C-24-3)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
AQUATIC LIFE	Impaired	Known

Type of Pollutant(s)
Known: ACID/BASE (PH)
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)
Known: ATMOSPH. DEPOSITION
Suspected: - - -
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: ext/EPA **Resolution Potential:** Medium
TMDL/303d Status: n/a->2a*

Further Details

Overview
Aquatic life support in Catamount Pond is known to be impaired by low pH, a result of atmospheric deposition (acid rain).

Water Quality Sampling
Historical surveys of these waters indicate that low pH due to acid deposition is limiting the fishery. Monitoring by DFWMR (1979) revealed a pH <5.0 and no presence of fish. Aquatic life in this segment is considered to be impaired. (DEC/DOW, BWAM, 2008)

Water Quality Management
Efforts are underway on a national level to address problems caused by acid rain by reducing pollutant emissions, as required by the Clean Air Act. New York State (and other northeastern states) have taken legal action against USEPA to accelerate implementation of controls. Monitoring of these waters will continue, in order to assess changes in water quality resulting from implementation of the Clean Air Act. However, these changes are expected to occur only slowly over time.

Section 303(d) Listing
The waters of this segment are included on the NYS 2008 Section 303(d) List of Impaired Waters. Catamount Pond is

included on Part 2a of the List as an Atmospheric Deposition (Acid Rain) Water. (DEC/DOW, BWAM, 2008)

Segment Description
This segment includes the entire lake. This waterbody was previously and erroneously reported to be in the Lake Champlain Basin and appeared as segment 1003-0002. The pond also appears in older stream classification listings as P65c.

Pike Creek and tribs (0902-0037) MinorImpacts

Waterbody Location Information

Revised: 02/17/2009

Water Index No: SL(C)-31
Hydro Unit Code: 04150307/010 **Str Class:** C
Waterbody Type: River
Waterbody Size: 52.7 Miles
Seg Description: entire stream and tribs

Drain Basin: Saint Lawrence River
English/Salmon River
Reg/County: 5/Franklin Co. (17)
Quad Map: BOMBAY (B-22-2)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Suspected

Type of Pollutant(s)

Known: - - -
Suspected: NUTRIENTS, Silt/Sediment
Possible: Thermal Changes

Source(s) of Pollutant(s)

Known: - - -
Suspected: AGRICULTURE, Streambank Erosion
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: ext/WQCC **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Aquatic life support in Pike Creek is thought to experience minor impacts due to nutrient and silt/sediment loadings from agricultural and other nonpoint sources.

Water Quality Sampling
NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of Pike Creek in Fort Covington, Franklin County, (at Route 43) was conducted in 2005. Intensive Network sampling typically includes macroinvertebrate community analysis, water column chemistry, sediment and invertebrate tissues analysis and toxicity evaluation. During this sampling the biological (macroinvertebrate) sampling results indicated slightly impacted quality conditions. Water column chemistry found iron and water temperature to be the only substances that constituted parameters of concern. Macroinvertebrates collected at this site and chemically analyzed for selected metals, PAHs, PCBs, and organochlorine pesticides found no contaminants present in concentrations above established assessment criteria. Sediment screening for acute toxicity indicated toxicity could be present, but sediments were not found to contain any contaminants at levels of concern and, based on sediment quality guidelines developed for freshwater ecosystems, overall sediment quality is not likely to cause chronic toxicity to sediment-dwelling organisms. Chronic toxicity testing using water from this location showed no significant mortality or reproductive effects on the test organism. Based on the consensus of these established assessment methods,

overall water quality at this site shows that in spite of some concerns that should continue to be monitored (eutrophication), aquatic life is considered to be fully supported in the stream. (DEC/DOW, BWAM/SWMS, December 2008).

A biological (macroinvertebrate) assessment of Pike Creek, at Fort Covington, (at Route 43) was also conducted in 2004 during the RIBS Biological Screening effort in the basin. Sampling results also revealed slightly impacted conditions. (DEC/DOW, BWAM/SBU, December 2008)

Previous Assessment

The Franklin County SWCD reported water quality issues in the creek. Sediment and nutrient inputs from considerable agricultural activity in the area (cropland erosion, daily manure spreading, livestock in stream and removal of riparian vegetation) are listed as possible causes/sources. In some instances, some farmers have been known to stockpile manure along stream during winter and then dispose of it by bulldozing it into the stream during spring runoff. The creek is generally slow-moving through clay soils and there is some degree of bank erosion exacerbated by livestock in stream. High turbidity and thermal changes from the loss of riparian vegetation are likely stressing the survival of resident warmwater fish populations. (Franklin County WQCC, 1993)

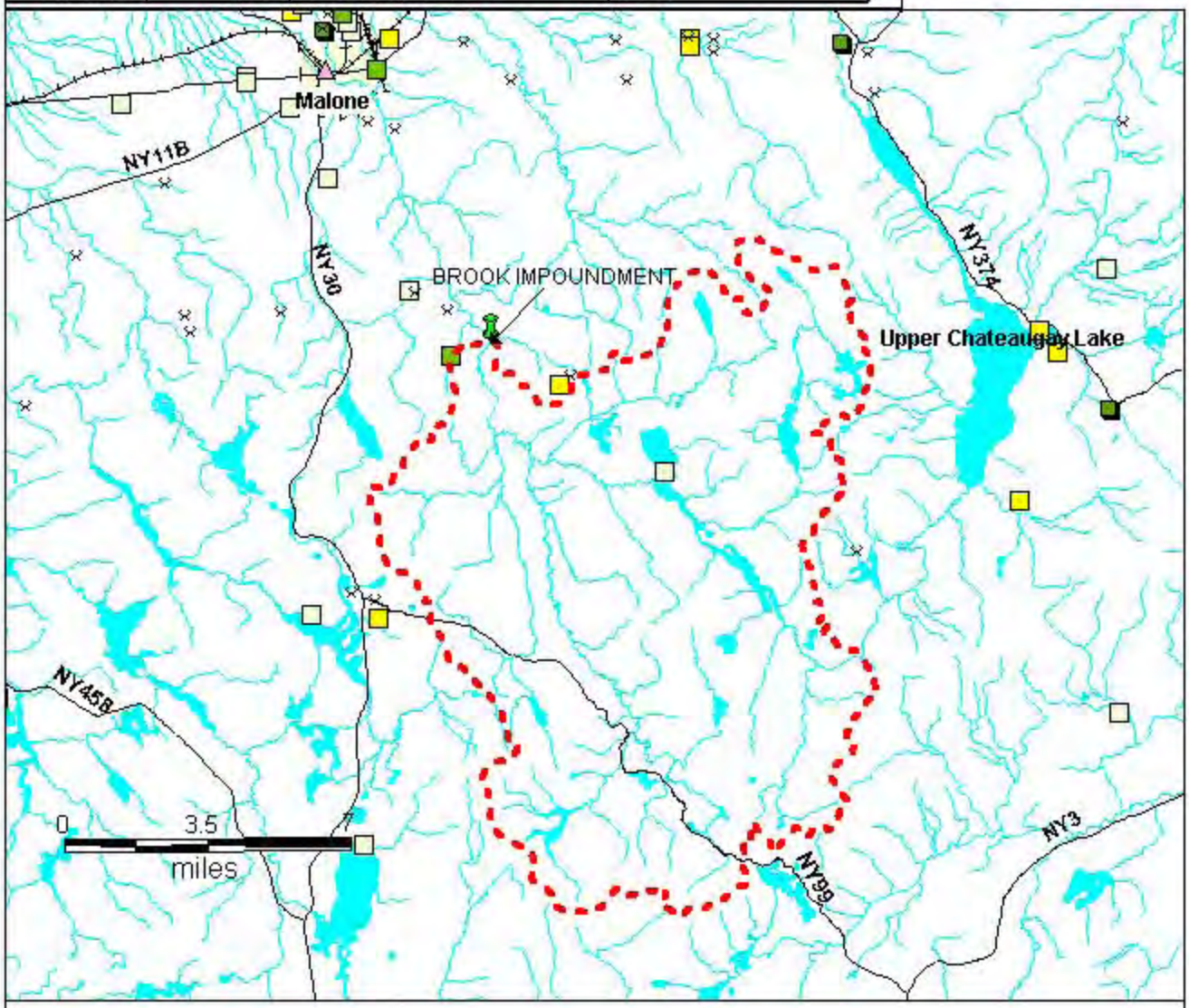
Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C. Tribs to this reach/segment are also Class C.

Appendix B- New York State Department of Health Source Water Assessment Program

System_#	System_Name	County_Served
NY1600008	MALONE V	FRANKLIN

Report_ID#	External_#	Source_Name	Waterbody_type
2,570,992	47,279	BROOK IMPOUNDMENT	RIVER



Railroads

Petroleum Pipelines

Major Roads

Surface Waters

Watersheds

Urban Areas

PWS intake

Permitted Discharge Potential Contaminant Sources

- Surface Water Sanitary Waste Discharge
- Non-Sanitary Waste Discharge
- Groundwater Sanitary Discharge

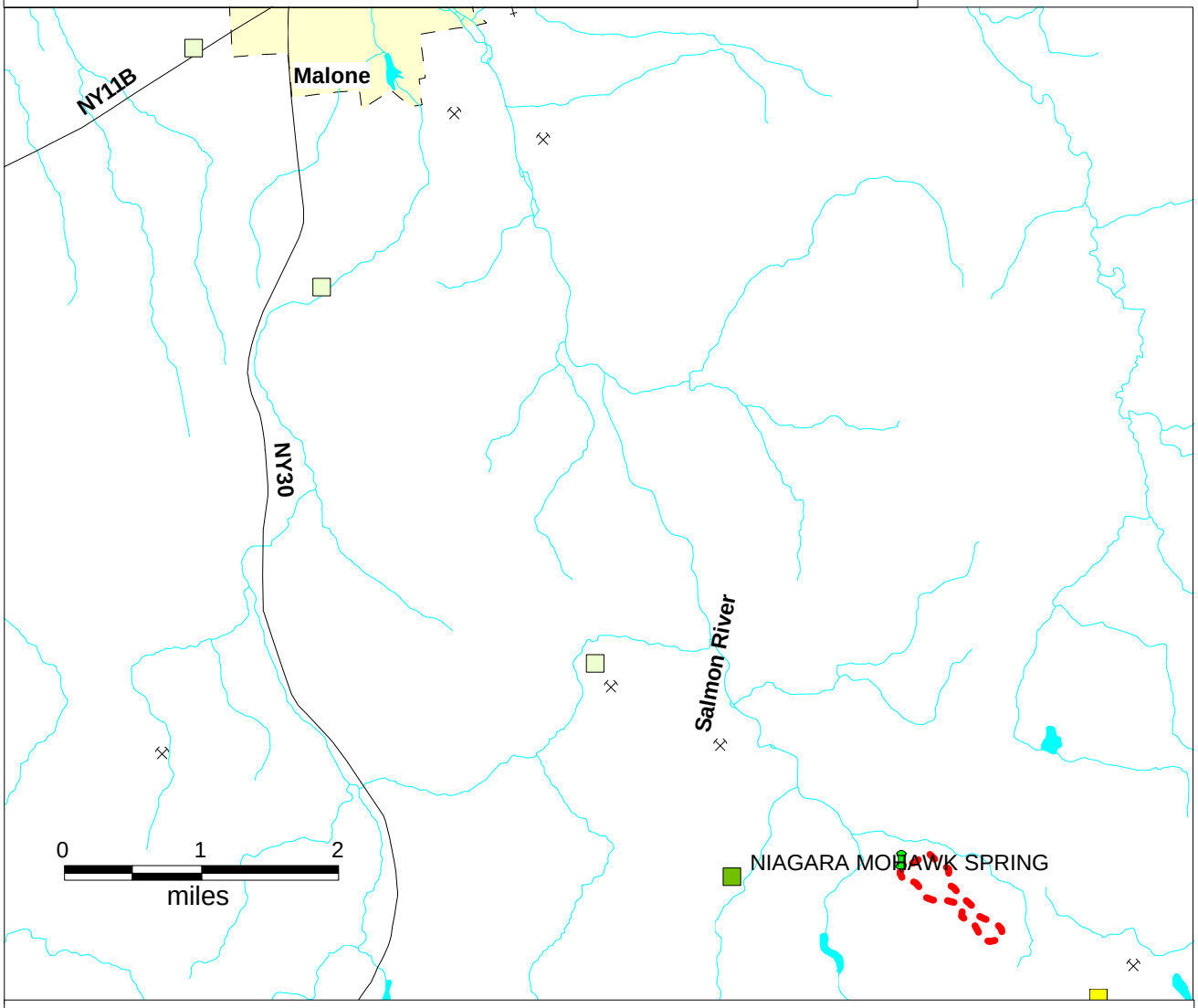
Other GIS Potential Contaminant Sources

- Chemical Bulk Storage
- Cerclis Sites
- Hazardous Subtance Spills
- Hasardous Waste Sites
- Landfills
- Mines
- Petroleum Bulk Storage
- Oil and Gas Wells
- RCRA facilities
- TRI facilities

STATE OF NEW YORK
DEPARTMENT OF HEALTH

System_#	System_Name	County_Served
NY1600008	MALONE V	FRANKLIN COUNTY

Report_ID#	External_#	Source_Name	Waterbody_type
2,593,291	73,994	NIAGARA MOHAWK SPRING	Spring



Railroads

Petroleum Pipelines

Major Roads

Surface Waters

Drainage Area

Urban Areas

Spring Collector

Permitted Discharge Potential Contaminant Sources

- Surface Water Sanitary Waste Discharge
- Non-Sanitary Waste Discharge
- Groundwater Sanitary Discharge

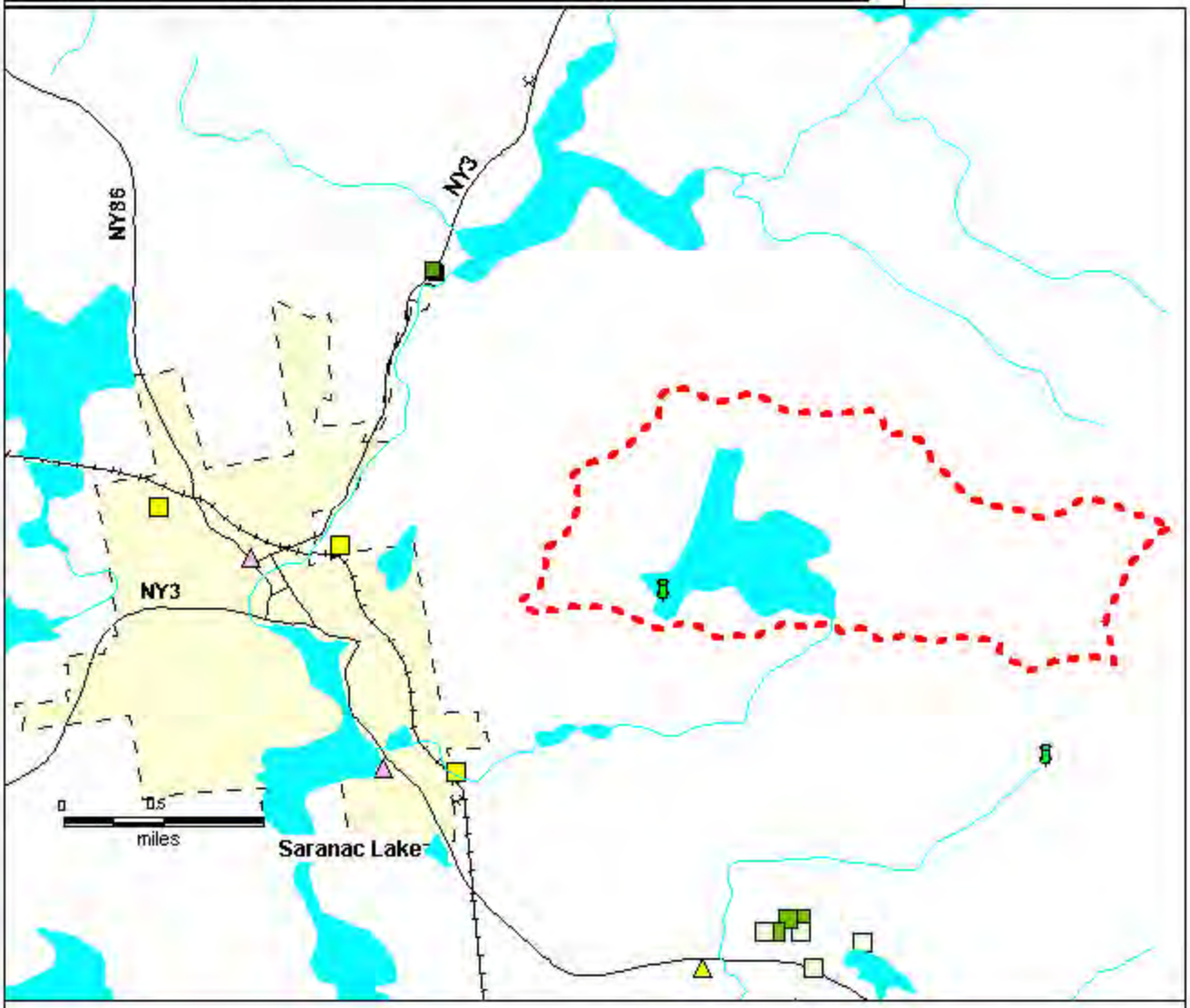
Other GIS Potential Contaminant Sources

- Chemical Bulk Storage
- Cerclis Sites
- Hazardous Subtance Spills
- Hasardous Waste Sites
- Landfills
- Mines
- Petroleum Bulk Storage
- Oil and Gas Wells
- RCRA facilities
- TRI facilities

STATE OF NEW YORK
DEPARTMENT OF HEALTH

System_#	System_Name	County_Served
NY1600011	SARANAC LAKE V	FRANKLIN

Report_ID#	External_#	Source_Name	Waterbody_type
2,570,994	47,281	MCKENZIE POND	SMALL LAKE



Railroads

Petroleum Pipelines

Major Roads

Surface Waters

Watersheds

Urban Areas

PWS intake

Permitted Discharge Potential Contaminant Sources

- Surface Water Sanitary Waste Discharge
- Non-Sanitary Waste Discharge
- Groundwater Sanitary Discharge

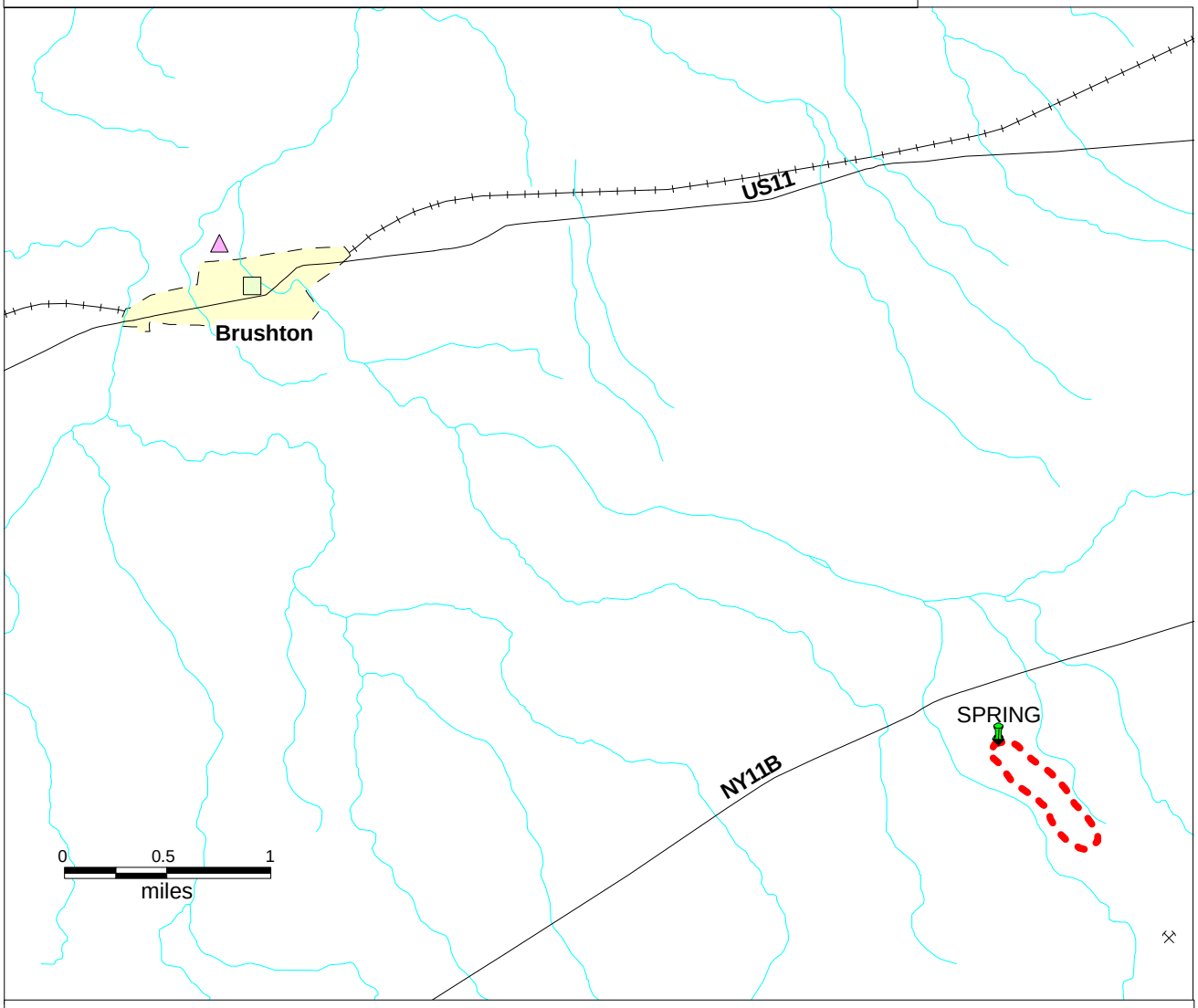
Other GIS Potential Contaminant Sources

- Chemical Bulk Storage
- Cerclis Sites
- Hazardous Subtance Spills
- Hasardous Waste Sites
- Landfills
- Mines
- Petroleum Bulk Storage
- Oil and Gas Wells
- RCRA facilities
- TRI facilities

STATE OF NEW YORK
DEPARTMENT OF HEALTH

System_#	System_Name	County_Served
NY1610892	FREE METHODIST CHURCH CAN	FRANKLIN COUNTY

Report_ID#	External_#	Source_Name	Waterbody_type
2,593,117	73,786	SPRING	Spring



Railroads

Petroleum Pipelines

Major Roads

Surface Waters

Drainage Area

Urban Areas

Spring Collector

Permitted Discharge Potential Contaminant Sources

- Surface Water Sanitary Waste Discharge
- Non-Sanitary Waste Discharge
- Groundwater Sanitary Discharge

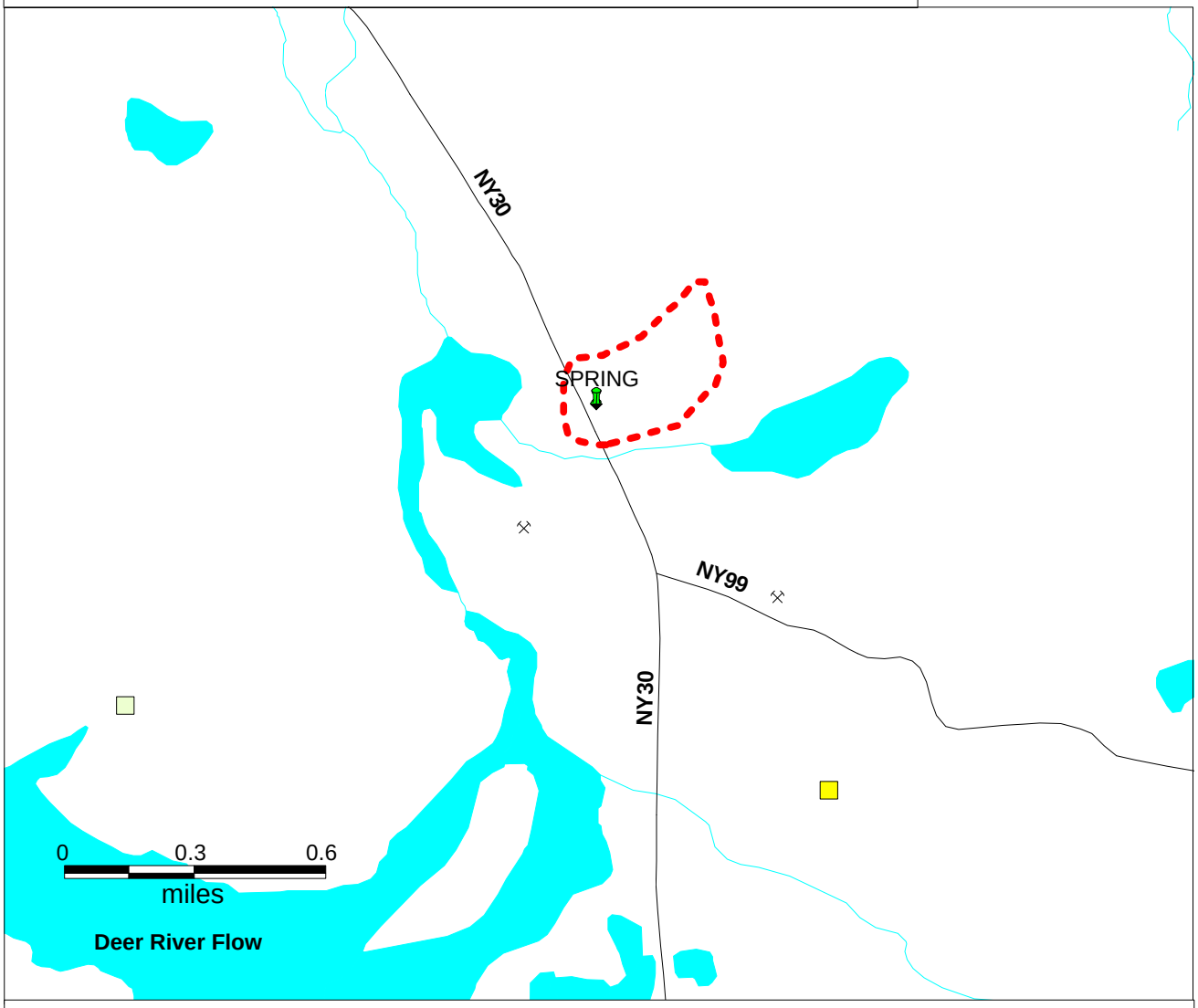
Other GIS Potential Contaminant Sources

- Chemical Bulk Storage
- Cerclis Sites
- Hazardous Subtance Spills
- Hasardous Waste Sites
- Landfills
- Mines
- Petroleum Bulk Storage
- Oil and Gas Wells
- RCRA facilities
- TRI facilities

STATE OF NEW YORK
DEPARTMENT OF HEALTH

System_#	System_Name	County_Served
NY1611074	TAMARACK INN	FRANKLIN COUNTY

Report_ID#	External_#	Source_Name	Waterbody_type
2,593,294	73,997	SPRING	Spring



Railroads

Petroleum Pipelines

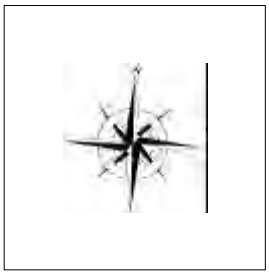
Major Roads

Surface Waters

Drainage Area

Urban Areas

Spring Collector



Permitted Discharge Potential Contaminant Sources

- Surface Water Sanitary Waste Discharge
- Non-Sanitary Waste Discharge
- Groundwater Sanitary Discharge

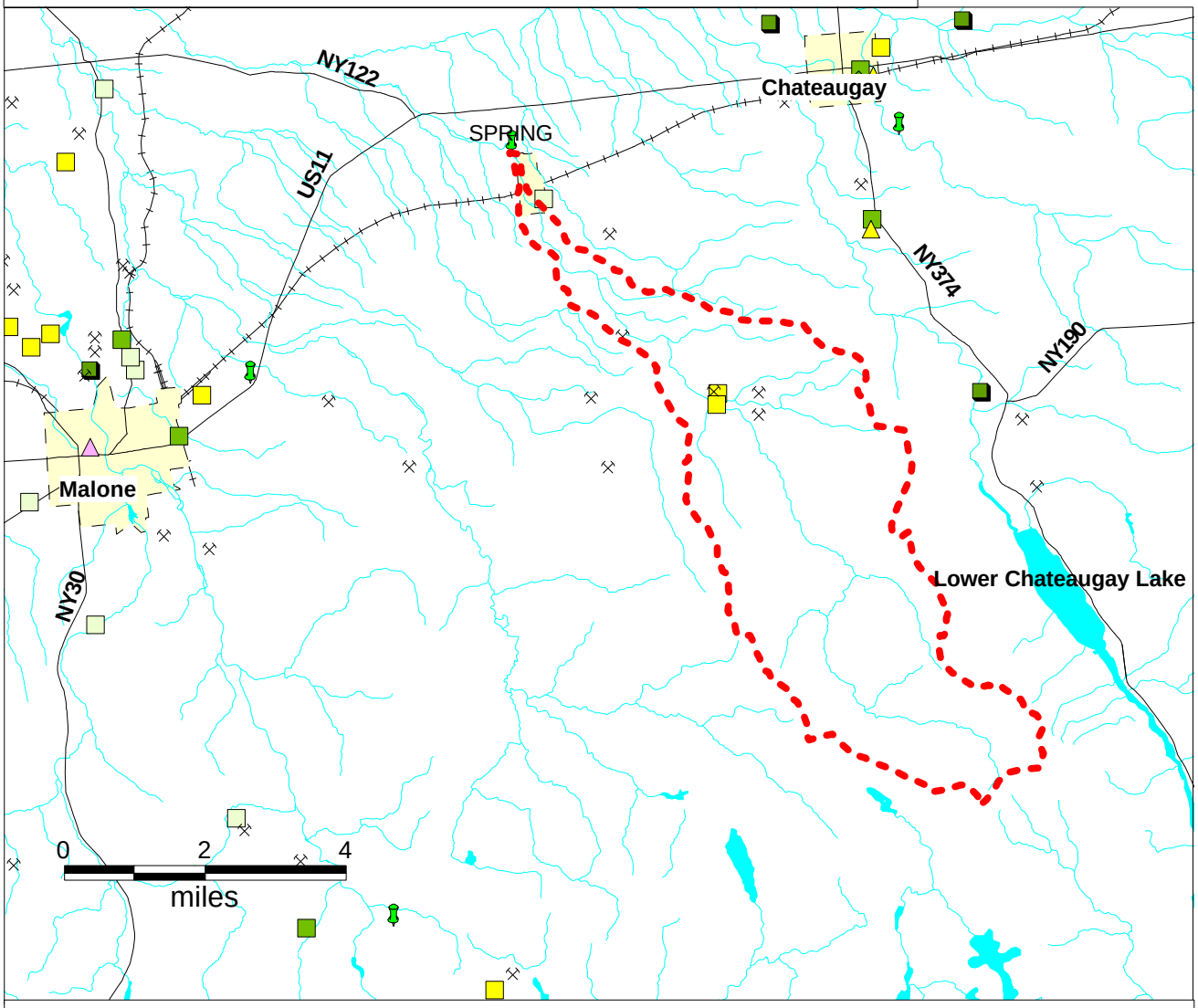
Other GIS Potential Contaminant Sources

- Chemical Bulk Storage
- Cerclis Sites
- Hazardous Subtance Spills
- Hasardous Waste Sites
- Landfills
- Mines
- Petroleum Bulk Storage
- Oil and Gas Wells
- RCRA facilities
- TRI facilities

STATE OF NEW YORK
DEPARTMENT OF HEALTH

System_#	System_Name	County_Served
NY1613559	GREEN BOWL	FRANKLIN COUNTY

Report_ID#	External_#	Source_Name	Waterbody_type
2,593,296	73,999	SPRING	Spring



Railroads

Petroleum Pipelines

Major Roads

Surface Waters

Drainage Area

Urban Areas

Spring Collector

Permitted Discharge Potential Contaminant Sources

- Surface Water Sanitary Waste Discharge
- Non-Sanitary Waste Discharge
- Groundwater Sanitary Discharge

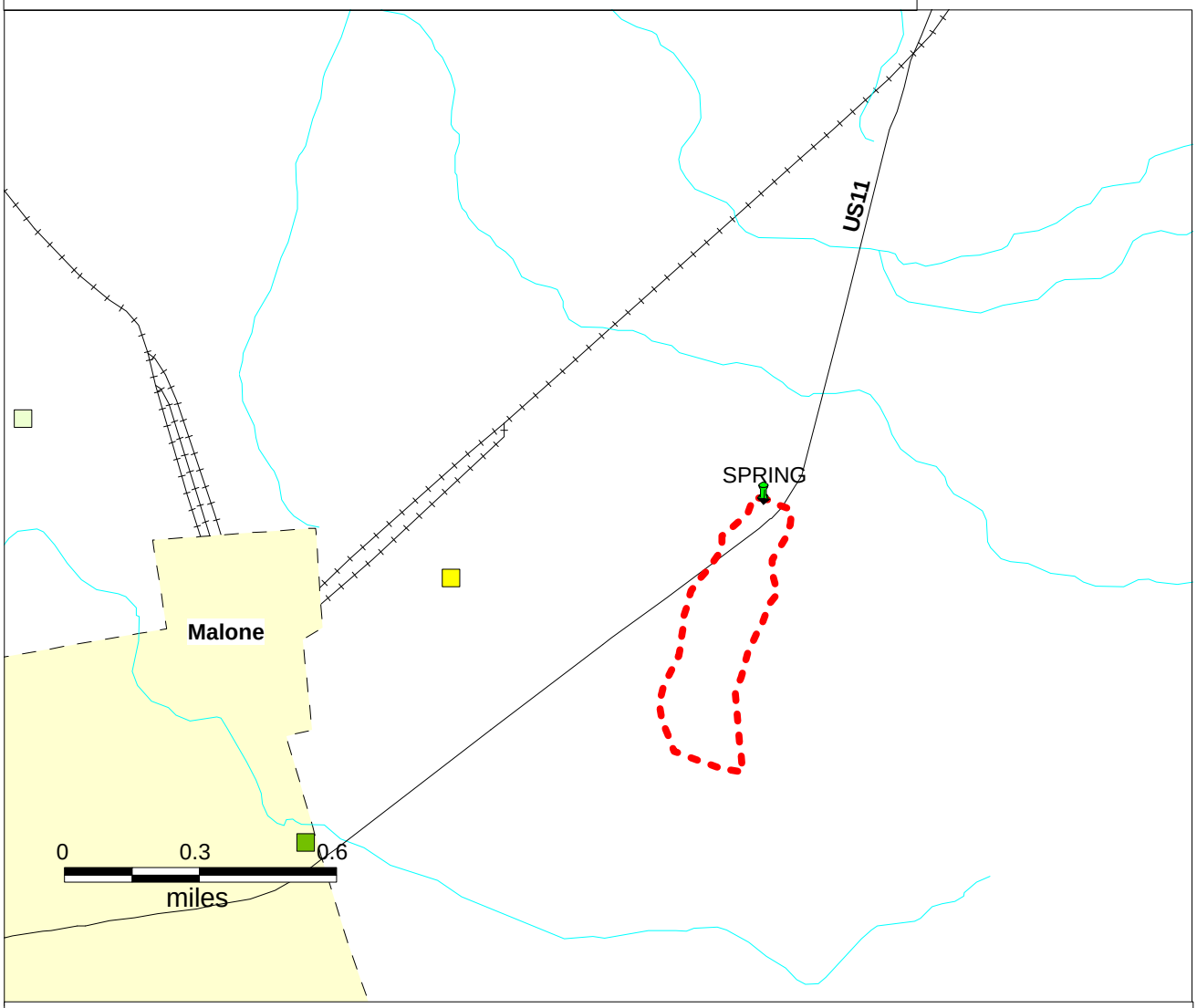
Other GIS Potential Contaminant Sources

- Chemical Bulk Storage
- Cerclis Sites
- Hazardous Subtance Spills
- Hasardous Waste Sites
- Landfills
- Mines
- Petroleum Bulk Storage
- Oil and Gas Wells
- RCRA facilities
- TRI facilities

STATE OF NEW YORK
DEPARTMENT OF HEALTH

System_#	System_Name	County_Served
NY1616483	MALONE MOOSE LODGE #1479	FRANKLIN COUNTY

Report_ID#	External_#	Source_Name	Waterbody_type
2,593,298	74,001	SPRING	Spring



Railroads

Petroleum Pipelines

Major Roads

Surface Waters

Drainage Area

Urban Areas

Spring Collector

Permitted Discharge Potential Contaminant Sources

- Surface Water Sanitary Waste Discharge
- Non-Sanitary Waste Discharge
- Groundwater Sanitary Discharge

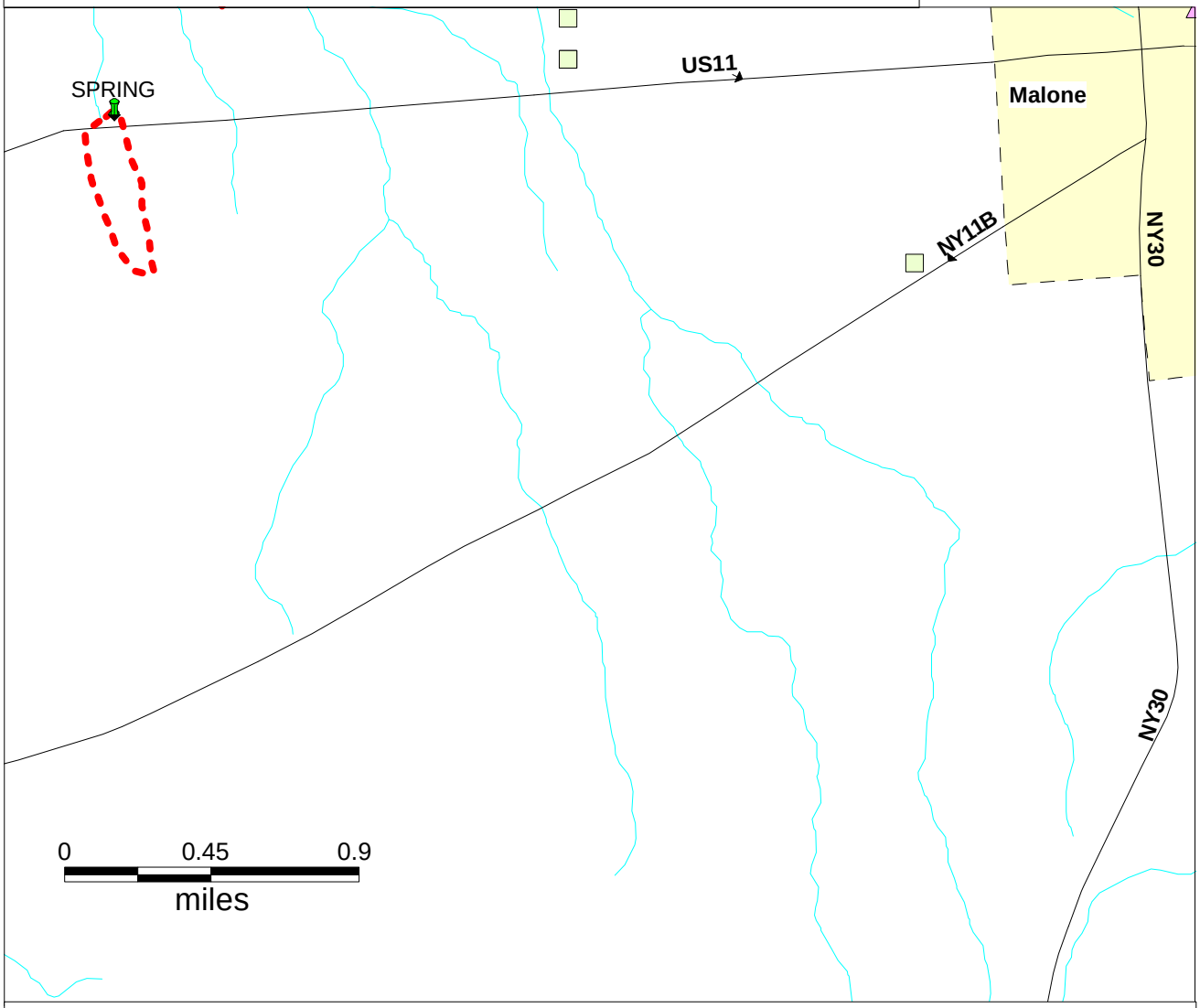
Other GIS Potential Contaminant Sources

- Chemical Bulk Storage
- Cerclis Sites
- Hazardous Subtance Spills
- Hasardous Waste Sites
- Landfills
- Mines
- Petroleum Bulk Storage
- Oil and Gas Wells
- RCRA facilities
- TRI facilities

STATE OF NEW YORK
DEPARTMENT OF HEALTH

System_#	System_Name	County_Served
NY1630027	NORTH BANGOR WS	FRANKLIN COUNTY

Report_ID#	External_#	Source_Name	Waterbody_type
2,593,300	74,003	SPRING	Spring



Railroads

Petroleum Pipelines

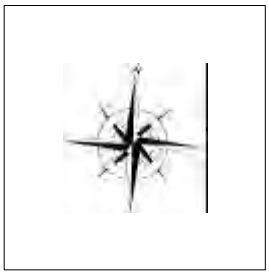
Major Roads

Surface Waters

Drainage Area

Urban Areas

Spring Collector



Permitted Discharge Potential Contaminant Sources

- Surface Water Sanitary Waste Discharge
- Non-Sanitary Waste Discharge
- Groundwater Sanitary Discharge

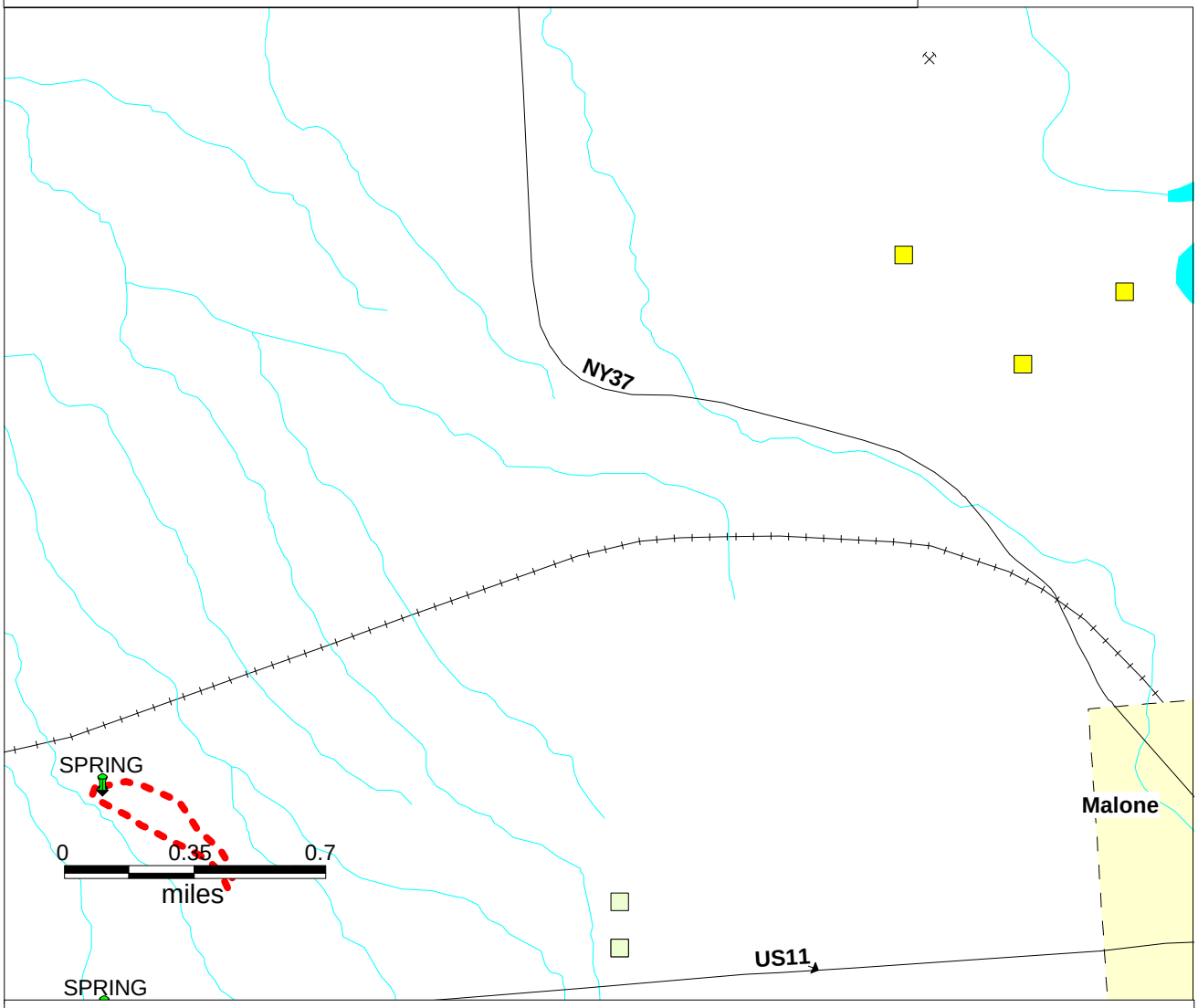
Other GIS Potential Contaminant Sources

- Chemical Bulk Storage
- Cerclis Sites
- Hazardous Subtance Spills
- Hasardous Waste Sites
- Landfills
- Mines
- Petroleum Bulk Storage
- Oil and Gas Wells
- RCRA facilities
- TRI facilities

STATE OF NEW YORK
DEPARTMENT OF HEALTH

System_#	System_Name	County_Served
NY1640007	MARTIN'S II	FRANKLIN COUNTY

Report_ID#	External_#	Source_Name	Waterbody_type
2,594,487	75,377	SPRING	Spring



Railroads

Petroleum Pipelines

Major Roads

Surface Waters

Drainage Area

Urban Areas

Spring Collector

Permitted Discharge Potential Contaminant Sources

- Surface Water Sanitary Waste Discharge
- Non-Sanitary Waste Discharge
- Groundwater Sanitary Discharge

Other GIS Potential Contaminant Sources

- Chemical Bulk Storage
- Cerclis Sites
- Hazardous Subtance Spills
- Hasardous Waste Sites
- Landfills
- Mines
- Petroleum Bulk Storage
- Oil and Gas Wells
- RCRA facilities
- TRI facilities

STATE OF NEW YORK
DEPARTMENT OF HEALTH

1.0 Executive Summary

Based on the analysis of available information for this spring source, there are no water quality concerns found in the assessment area. No land cover water quality concerns, permitted discharges, or other discrete facilities were identified in the assessment area using GIS. However, other potential threats to water quality noted during site inspections may be listed in Appendix 1.

2.0 Introduction

This report was completed under the NYS DOH's Source Water Assessment Program (SWAP). The purpose of this program is to compile, organize, and evaluate information regarding possible and actual threats to the quality of public drinking water sources (PWSs). The information contained in assessment reports will assist the State in overseeing public water systems and help local authorities in protecting their source water quality. It is important to note that source water assessment reports estimate the potential for untreated drinking water sources to be impacted by contamination. These reports do not address the safety or quality of treated finished tap water.

The source water assessment reports are based on reasonably available information, primarily from statewide databases. Although efforts have been made to check these reports for accuracy, the nature of the available data makes the elimination of all error from these reports nearly impossible.

The following steps were performed for each assessment of each drinking water source:

Delineation of the source water assessment area(s) – A topographic assessment area border was created defining the land area that contributes water to the drinking water source. In most cases the overall assessment area contains only one zone. However, a second zone was created where flow barriers and/or large geographic distances decrease the likelihood of contaminants in portions of the overall assessment area from impacting drinking water quality at the intake. A drinking water source's natural sensitivity ratings are also assigned during the delineation phase. These rating are conceptually based on water body size and flow characteristics, along with general fate and transport characteristics of contaminant categories. Ultimately, natural sensitivity ratings are used along with contaminant prevalence ratings (described below) to define a drinking water source's susceptibility to contamination.

Inventory of Potential Contaminant Sources (PCSs) – This inventory compiles the areal land cover percentages and a listing of specific facilities, (e.g. landfills, Superfund sites) within the assessment area(s). In additions to data on specific facilities, the contaminant inventory includes SWAP rating values (i.e. Major/Minor/NP ratings). Information contained in contaminant inventories is used to create Contaminant Prevalence ratings in the next step.

Susceptibility Determination – SWAP susceptibility ratings are defined using the drinking water source's sensitivity and contaminant prevalence ratings. Sensitivity is defined using the water body type classification during the delineation phase. Contaminant prevalence values are assigned based on the nature of the potential contaminant sources (i.e. Major/Minor/NP ratings described in Appendix 3) present in the assessment area and the location (Zone1 Vs Zone 2) of these potential contaminant sources relative to the drinking water intake.

3.0 The Assessment Area

3.1 Delineation and Basic Assessment Area Attributes

The topographic assessment area delineation for this drinking water source is presented in Figure 1. Details on the overall SWAP delineation methodology is presented in Appendix 3. Some additional identification information and general assessment area information is presented in Table 1.

It is important to note that a topographic drainage boundary may not accurately depict a spring's actual recharge area. While the SWAP delineations are a good starting point, it is recommended that more advanced hydrogeologic delineation methods should be considered.

One the biggest dangers of using springs as source of drinking water is that they have a relatively high likelihood of being ground water under the direct influence of surface water (GWUDI). Basically, this means they collect water that has not passed though enough fine grained soil to filter out the large diameter pathogens that are commonly found in surface waters. Springs have a tendency to be GWUDI because they generally collect water from shallow depths that has not spent much time in the ground.

While making GWUDI determinations is beyond the scope of SWAP, all spring sources need to undergo a formal evaluation to determine if they are under the direct influence of surface water. In some cases the topographic assessment area delineations used in SWAP includes stream watersheds. This is not intended to suggest this drinking water source is under the direct influence of surface water.

Ongoing spring recharge area protection programs are the best way to identify, understand, manage, and control water quality problems. While the SWAP program is useful in identifying and describing potential threats to drinking water quality, it cannot replace a local management program. It is also important to state that all management programs are not equal, active programs with regulatory authority are generally best at protecting water quality.

Additional information on this water system and sources is contained in the NYS DOH SWAP Database in Appendix 1. In addition to information on local protection efforts, The NYS DOH SWAP Database may contains information and contamination concerns noted during sanitary surveys of public water systems, and in some cases, information provided by the public water system. Furthermore, the water supplier and/or the local health unit may have additional information not contained the NYS DOH SWAP database.

3.2 Assessment area SWAP Sensitivity Rating

This drinking water source's water body type and SWAP natural sensitivity rating are presented in Table 2.

SWAP natural sensitivity rating are assigned using the table presented in Appendix 3. The rationale for these ratings are based on the size and flow characteristics of the water body types, along with the fate and transport characteristics of the contaminant categories in each contaminant type classification.

Springs have SWAP natural sensitivity ratings of medium for all contaminant types. However, these ratings assume that the spring is not under the direct influence of surface water. If this spring is determined to be GWUDI , this drinking water source should be re-evaluated using the natural sensitivity ratings of the influencing surface water body.

4.0 Contaminant Inventories and Susceptibility

Once an assessment area for a particular water supply has been delineated and natural sensitivity ratings are assigned, contaminant inventories and contaminant prevalence and susceptibility ratings are created. To simplify these analyses and the presentation of results, these tasks are treated separately for the different types of available data.

The overall contaminant inventory task in the assessment for surface drinking water sources consists of the compilation of land cover and discrete facilities within delineated assessment area(s). First, the percentages of land cover types within the assessment area(s) are calculated. Next, contaminant inventories are created separately for those facilities with permitted discharges (Permitted Discharge PCSs) and other potential contaminant sources (Other GIS PCSs). This distinction was made because facilities with permitted discharges tend to be more important potential sources of contamination for surface waters, and these facilities have more useful information contained in their GIS databases. Additional PCSs are the final category of potential contaminants included in this report. This category includes potential sources of contamination that are depicted as lines in GIS (e.g. roads, pipelines) and those potential sources of contamination in the NYS DOH SWAP Database (or other available data, e.g. AEM data, PWL list, etc) that are not accounted for in the Other GIS PCSs inventories.

In order to simplify the process, and allow for the clear presentation of results, contaminant inventories utilize contaminant categories, rather than individual contaminant names. These contaminant categories are based on similarities in origin, fate and transport in the environment, and consequences in drinking water. The contaminant categories that have been identified as important to surface drinking water sources are presented in the Glossary in Appendix 4.

Once contaminant inventories are compiled, Susceptibility ratings are separately created for each of the above mentioned data types. This is done by first creating contaminant prevalence ratings for each contaminant category based on the types of land cover discrete PCSs present in the assessment area. These values are then used along with natural sensitivity ratings to assign susceptibility ratings for each contaminant category.

4.1 Land Cover

Land cover within the assessment area is inventoried and compiled to calculate contaminant prevalence ratings, and these ratings are used along with the assessment area’s natural sensitivity ratings to create the drinking water source’s susceptibility ratings. More details on this methodology are presented in the SWAP plan and Appendix 3.

The MRLC data set is used to obtain land cover data in the SWAP. This data set was derived using Landsat images obtained between 1988 and 1993. The images used were primarily collected during the spring leaves-off period, but fall leaves-off images, and various leaves-on images were also used. While this data set is generally considered to be a very good general land cover classification product, some inaccuracies still exist. The major problem with this data set’s use in SWAP is that it sometimes does not make accurate distinctions between row crops and pasture.

4.1.1 Contaminant Inventory

Land cover percentages within this assessment area are presented in Table 3. These percentages were compiled using the MRLC land cover data, and specific details on the SWAP Landuse methodology is presented in Appendix 3.

4.1.2 Contaminant Prevalence and Susceptibility

Based on the analysis of available information for this spring source, there are no water quality concerns found in the assessment area. No land cover water quality concerns, permitted discharges, or other discrete

facilities were identified in the assessment area using GIS. However, other potential threats to water quality noted during site inspections may be listed in Appendix 1.

4.2 Discrete Potential Contaminant Sources (PCSs)

The purpose of this section of the SWAP report is to describe and rate potential sources of contamination associated with individual facilities, rather than land cover. There are no permitted discharges or other GIS PCSs located in this assessment area. Additional information on PCSs may be listed in the NYS DOH SWAP Database (see Appendix 1).

5.0 Overall Susceptibility Discussion

Based on the analysis of available information for this spring source, there are no water quality concerns found in the assessment area. No land cover water quality concerns, permitted discharges, or other discrete facilities were identified in the assessment area using GIS. However, other potential threats to water quality noted during site inspections may be listed in Appendix 1.

SUMMARY SIGNIFICANT FINDINGS		
Potential Sources of Contamination	Potenial Impacts to Water Source	Contaminants of Concern
None found using GIS	NA	NA

NY1600008	MALONE V	Community	FRANKLIN
Spring	NIAGARA MOHAWK		2593291

Table 1: System and Source Information

System Information

System Name:	MALONE V		
Federal ID	NY1600008	System Type	Community
County Served	FRANKLIN		

Source Information

TINWSF Number:	2593291	
External System Number	73994	
Source Name	NIAGARA MOHAWK	
Assessment Area Size*	0.12	(Sqr. miles)
	77.6	(Acres)
Source Water Body Size*	-99.0	(Acres)

* -99 means area could not be calculated in GIS

Table 2: Natural Sensitivity Ratings

Waterbody Type **Spring**

Contaminant Types and Categories	Sensitivity Ratings
Organics =	**High**
Halogenated Solvents	
Petroleum Products	
Other Industrial Organics	
Other Chemicals =	**Medium**
Pesticides Herbicides	
Metals	
Nitrates	
Sediments Turbidity	
Disinfection Byproduct Precursors	
Phosphorus =	**Low**
Phosphorus	
Microbials =	**Medium**
Protozoa	
Enteric Bacteria	
Enteric Viruses	

Table 3: Land Cover Percentages

Land Use Class	Zone 1	Zone 2
Water	0.00	0.00
Low Intensity Residential	0.00	0.00
High Intensity Residential	0.00	0.00
High Intensity Commercial	0.00	0.00
Pasture	0.00	0.00
Row Crops	0.00	0.00
Other Grasses	0.00	0.00
Evergreen Forest	0.00	0.00
Mixed Forest	91.67	0.00
Deciduous Forest	8.33	0.00
Woody Wetland	0.00	0.00
Emergent Wetland	0.00	0.00
Barren; Quarries, Strip Mines, and Gravel Pits	0.00	0.00
Barren; Bare Rock and Sand	0.00	0.00
Barren; Transitional_including clear cut areas	0.00	0.00

Table 4: Land Use Susceptibility Analysis Summary

Contaminant Categories	CP Rating	Dominant land cover causing rating Z1	Dominant land cover causing rating Z2	Land cover notes	Susceptibility Rating
Organics					
rptSWAP_AddOn Halogenated Solvents	**NEGLIGIBLE**				
Petroleum Products	**NEGLIGIBLE**				
Other Industrial Organics	**NEGLIGIBLE**				
Other Chemicals					
Pesticides Herbicides	**NEGLIGIBLE**				
Metals	**NEGLIGIBLE**				
Nitrates	**NEGLIGIBLE**				
Sediments Turbidity	**NEGLIGIBLE**				
Cations/Anions Salts, Sulfate	**NEGLIGIBLE**				
DBP Precursors	**NEGLIGIBLE**				
Phosphorus					
Phosphorus	**NEGLIGIBLE**				
Microbials					
Protozoa	**LOW**				
Enteric Bacteria	**LOW**				
Enteric Viruses	**LOW**				

Appendix 1

NYS DOH SWAP Database

NY1600008 MALONE V NIAGARA MOHAWK SPRING

I. System Level Info

A. Protection

1. Watershed Rules and Regulations? No ***Details:*** WR&R finalized but never approved by DOH.

2. Existing Protection Description Watershed encompasses 500 acres, over 200 acres owned by the village.

3. Jurisdiction of Source? Approx. 200 acres of the watershed area owned by the village.

B. Water Quality Concerns

1. Concerns of LHU No

2. SWTR/DBP Issues No Avoidance system.

3. S ystem Treatment Concerns No

4. Significant Public Concern - Water Quality No

5. Significant Public Concern - Contaminants No

C. Other Info Available

1. The village is presently meeting all the conditions of the filtration avoidance.

II. Source Information

A. Delineation

1. Delineation Description

2. Zones

3. Date 12/21/2000

4. Intake to Shore ***Depth*** ***Units***

B. Potential Contamination

1. Significant Sum Survey Findings No nearby sources of contamination.

2. Water Quality Concerns No

3. Existing Contaminant Inventory Date 12/21/2000

4. Surface Water Body Influence No ***Distance*** 200

Description Salmon River

5. Waterbody Quality

6. Source Structural or Locational Concerns Concrete construction, good cover.

1.0 Executive Summary

Based on the analysis of available information, this spring source is rated as having a medium susceptibility to pesticides. This rating is due primarily to the high percentage of row crop land cover within the assessment area. No permitted discharges or other regulated facilities have been identified in the assessment area using GIS, however, other potential threats to water quality noted during site inspections may be listed in Appendix 1.

2.0 Introduction

This report was completed under the NYS DOH's Source Water Assessment Program (SWAP). The purpose of this program is to compile, organize, and evaluate information regarding possible and actual threats to the quality of public drinking water sources (PWSs). The information contained in assessment reports will assist the State in overseeing public water systems and help local authorities in protecting their source water quality. It is important to note that source water assessment reports estimate the potential for untreated drinking water sources to be impacted by contamination. These reports do not address the safety or quality of treated finished tap water.

The source water assessment reports are based on reasonably available information, primarily from statewide databases. Although efforts have been made to check these reports for accuracy, the nature of the available data makes the elimination of all error from these reports nearly impossible.

The following steps were performed for each assessment of each drinking water source:

Delineation of the source water assessment area(s) – A topographic assessment area border was created defining the land area that contributes water to the drinking water source. In most cases the overall assessment area contains only one zone. However, a second zone was created where flow barriers and/or large geographic distances decrease the likelihood of contaminants in portions of the overall assessment area from impacting drinking water quality at the intake. A drinking water source's natural sensitivity ratings are also assigned during the delineation phase. These rating are conceptually based on water body size and flow characteristics, along with general fate and transport characteristics of contaminant categories. Ultimately, natural sensitivity ratings are used along with contaminant prevalence ratings (described below) to define a drinking water source's susceptibility to contamination.

Inventory of Potential Contaminant Sources (PCSs) – This inventory compiles the areal land cover percentages and a listing of specific facilities, (e.g. landfills, Superfund sites) within the assessment area(s). In additions to data on specific facilities, the contaminant inventory includes SWAP rating values (i.e. Major/Minor/NP ratings). Information contained in contaminant inventories is used to create Contaminant Prevalence ratings in the next step.

Susceptibility Determination – SWAP susceptibility ratings are defined using the drinking water source's sensitivity and contaminant prevalence ratings. Sensitivity is defined using the water body type classification during the delineation phase. Contaminant prevalence values are assigned based on the nature of the potential contaminant sources (i.e. Major/Minor/NP ratings described in Appendix 3) present in the assessment area and the location (Zone1 Vs Zone 2) of these potential contaminant sources relative to the drinking water intake.

3.0 The Assessment Area

3.1 Delineation and Basic Assessment Area Attributes

The topographic assessment area delineation for this drinking water source is presented in Figure 1. Details

on the overall SWAP delineation methodology is presented in Appendix 3. Some additional identification information and general assessment area information is presented in Table 1.

It is important to note that a topographic drainage boundary may not accurately depict a spring's actual recharge area. While the SWAP delineations are a good starting point, it is recommended that more advanced hydrogeologic delineation methods should be considered.

One the biggest dangers of using springs as source of drinking water is that they have a relatively high likelihood of being ground water under the direct influence of surface water (GWUDI). Basically, this means they collect water that has not passed though enough fine grained soil to filter out the large diameter pathogens that are commonly found in surface waters. Springs have a tendency to be GWUDI because they generally collect water from shallow depths that has not spent much time in the ground.

While making GWUDI determinations is beyond the scope of SWAP, all spring sources need to undergo a formal evaluation to determine if they are under the direct influence of surface water. In some cases the topographic assessment area delineations used in SWAP includes stream watersheds. This is not intended to suggest this drinking water source is under the direct influence of surface water.

Ongoing spring recharge area protection programs are the best way to identify, understand, manage, and control water quality problems. While the SWAP program is useful in identifying and describing potential threats to drinking water quality, it cannot replace a local management program. It is also important to state that all management programs are not equal, active programs with regulatory authority are generally best at protecting water quality.

Additional information on this water system and sources is contained in the NYS DOH SWAP Database in Appendix 1. In addition to information on local protection efforts, The NYS DOH SWAP Database may contains information and contamination concerns noted during sanitary surveys of public water systems, and in some cases, information provided by the public water system. Furthermore, the water supplier and/or the local health unit may have additional information not contained the NYS DOH SWAP database.

3.2 Assessment area SWAP Sensitivity Rating

This drinking water source's water body type and SWAP natural sensitivity rating are presented in Table 2.

SWAP natural sensitivity rating are assigned using the table presented in Appendix 3. The rationale for these ratings are based on the size and flow characteristics of the water body types, along with the fate and transport characteristics of the contaminant categories in each contaminant type classification.

Springs have SWAP natural sensitivity rating of medium for all contaminant types. However, these ratings assume that the spring is not under the direct influence of surface water. If this spring is determined to be GWUDI , this drinking water source should be re-evaluated using the natural sensitivity ratings of the influencing surface water body.

4.0 Contaminant Inventories and Susceptibility

Once an assessment area for a particular water supply has been delineated and natural sensitivity ratings are assigned, contaminant inventories and contaminant prevalence and susceptibility ratings are created. To simplify these analyses and the presentation of results, these tasks are treated separately for the different types of available data.

The overall contaminant inventory task in the assessment for surface drinking water sources consists of the

compilation of land cover and discrete facilities within delineated assessment area(s). First, the percentages of land cover types within the assessment area(s) are calculated. Next, contaminant inventories are created separately for those facilities with permitted discharges (Permitted Discharge PCSs) and other potential contaminant sources (Other GIS PCSs). This distinction was made because facilities with permitted discharges tend to be more important potential sources of contamination for surface waters, and these facilities have more useful information contained in their GIS databases. Additional PCSs are the final category of potential contaminants included in this report. This category includes potential sources of contamination that are depicted as lines in GIS (e.g. roads, pipelines) and those potential sources of contamination in the NYS DOH SWAP Database (or other available data, e.g. AEM data, PWL list, etc) that are not accounted for in the Other GIS PCSs inventories.

In order to simplify the process, and allow for the clear presentation of results, contaminant inventories utilize contaminant categories, rather than individual contaminant names. These contaminant categories are based on similarities in origin, fate and transport in the environment, and consequences in drinking water. The contaminant categories that have been identified as important to surface drinking water sources are presented in the Glossary in Appendix 4.

Once contaminant inventories are compiled, Susceptibility ratings are separately created for each of the above mentioned data types. This is done by first creating contaminant prevalence ratings for each contaminant category based on the types of land cover discrete PCSs present in the assessment area. These values are then used along with natural sensitivity ratings to assign susceptibility ratings for each contaminant category.

4.1 Land Cover

Land cover within the assessment area is inventoried and compiled to calculate contaminant prevalence ratings, and these ratings are used along with the assessment area’s natural sensitivity ratings to create the drinking water source’s susceptibility ratings. More details on this methodology are presented in the SWAP plan and Appendix 3.

The MRLC data set is used to obtain land cover data in the SWAP. This data set was derived using Landsat images obtained between 1988 and 1993. The images used were primarily collected during the spring leaves-off period, but fall leaves-off images, and various leaves-on images were also used. While this data set is generally considered to be a very good general land cover classification product, some inaccuracies still exist. The major problem with this data set’s use in SWAP is that it sometimes does not make accurate distinctions between row crops and pasture.

4.1.1 Contaminant Inventory

Land cover percentages within this assessment area are presented in Table 3. These percentages were compiled using the MRLC land cover data, and specific details on the SWAP Landuse methodology is presented in Appendix 3.

4.1.2 Contaminant Prevalence and Susceptibility

Contaminant prevalence and susceptibility ratings based on land cover are presented in Table 4. The contaminant prevalence and susceptibility ratings for this assessment area have been rated medium for pesticides due to the high percentage row crop land cover in the assessment area.

4.2 Discrete Potential Contaminant Sources (PCSs)

The purpose of this section of the SWAP report is to describe and rate potential sources of contamination

associated with individual facilities, rather than land cover. There are no permitted discharges or other GIS PCSs located in this assessment area. Additional information on PCSs may be listed in the NYS DOH SWAP Database (see Appendix 1).

5.0 Overall Susceptibility Discussion

Based on the analysis of available information, this spring source is rated as having a medium susceptibility to pesticides. This rating is due primarily to the high percentage of row crop land cover within the assessment area. No permitted discharges or other regulated facilities have been identified in the assessment area using GIS, however, other potential threats to water quality noted during site inspections may be listed in Appendix 1.

SUMMARY SIGNIFICANT FINDINGS		
Potential Sources of Contamination	Potenial Impacts to Water Source	Contaminants of Concern
Agricultural Land Cover - row crops	Medium	Pesticides

Table 1: System and Source Information

System Information

System Name:	FREE METHODIST CHURCH CAMP		
Federal ID	NY1610892	System Type	Non-community
County Served	FRANKLIN		

Source Information

TINWSF Number:	2593117	
External System Number	73786	
Source Name	SPRING	
Assessment Area Size*	0.09	(Sqr. miles)
	56.8	(Acres)
Source Water Body Size*	-99.0	(Acres)

* -99 means area could not be calculated in GIS

Table 2: Natural Sensitivity Ratings

Waterbody Type **Spring**

Contaminant Types and Categories	Sensitivity Ratings
Organics =	**High**
Halogenated Solvents	
Petroleum Products	
Other Industrial Organics	
Other Chemicals =	**Medium**
Pesticides Herbicides	
Metals	
Nitrates	
Sediments Turbidity	
Disinfection Byproduct Precursors	
Phosphorus =	**Low**
Phosphorus	
Microbials =	**Medium**
Protozoa	
Enteric Bacteria	
Enteric Viruses	

Table 3: Land Cover Percentages

Land Use Class	Zone 1	Zone 2
Water	0.00	0.00
Low Intensity Residential	0.00	0.00
High Intensity Residential	0.00	0.00
High Intensity Commercial	0.00	0.00
Pasture	0.00	0.00
Row Crops	33.33	0.00
Other Grasses	0.00	0.00
Evergreen Forest	0.00	0.00
Mixed Forest	16.67	0.00
Deciduous Forest	50.00	0.00
Woody Wetland	0.00	0.00
Emergent Wetland	0.00	0.00
Barren; Quarries, Strip Mines, and Gravel Pits	0.00	0.00
Barren; Bare Rock and Sand	0.00	0.00
Barren; Transitional_including clear cut areas	0.00	0.00

Table 4: Land Use Susceptibility Analysis Summary

Contaminant Categories	CP Rating	Dominant land cover causing rating Z1	Dominant land cover causing rating Z2	Land cover notes	Susceptibility Rating
Organics					
rptSWAP_AddOn Halogenated Solvents	**NEGLIGIBLE**				
Petroleum Products	**NEGLIGIBLE**				
Other Industrial Organics	**NEGLIGIBLE**				
Other Chemicals					
Pesticides Herbicides	**MEDIUM**	Row Crops			**MEDIUM**
Metals	**NEGLIGIBLE**				
Nitrates	**LOW**				
Sediments Turbidity	**NEGLIGIBLE**				
Cations/Anions Salts, Sulfate	**NEGLIGIBLE**				
DBP Precursors	**LOW**				
Phosphorus					
Phosphorus	**LOW**				
Microbials					
Protozoa	**LOW**				
Enteric Bacteria	**LOW**				
Enteric Viruses	**LOW**				

Appendix 1

NYS DOH SWAP Database

NY1610892 FREE METHODIST CHURCH CAMP SPRING

I. System Level Info

A. Protection

1. Watershed Rules and Regulations? No ***Details:***

2. Existing Protection Description

3. Jurisdiction of Source?

B. Water Quality Concerns

1. Concerns of LHU No

2. SWTR/DBP Issues No

3. S ystem Treatment Concerns No

4. Significant Public Concern - Water Quality No

5. Significant Public Concern - Contaminants No

C. Other Info Available

1. Spring source w/chlorination.

II. Source Information

A. Delineation

1. Delineation Description

2. Zones

3. Date 7/30/2001

4. Intake to Shore ***Depth*** ***Units***

B. Potential Contamination

1. Significant Sum Survey Findings Septic system.

2. Water Quality Concerns No

3. Existing Contaminant Inventory Date 7/30/2001

4. Surface Water Body Influence No ***Distance***

Description No surface water nearby.

5. Waterbody Quality

6. Source Structural or Locational Concerns

1.0 Executive Summary

Based on the analysis of available information, this spring source is rated as having a medium susceptibility to microbial contamination. This rating is due primarily to the high percentage of residential land cover in the assessment area and the associated potential for contamination. No permitted discharges or other regulated facilities have been identified in the assessment area using GIS, however, other potential threats to water quality noted during site inspections may be listed in Appendix 1.

2.0 Introduction

This report was completed under the NYS DOH's Source Water Assessment Program (SWAP). The purpose of this program is to compile, organize, and evaluate information regarding possible and actual threats to the quality of public drinking water sources (PWSs). The information contained in assessment reports will assist the State in overseeing public water systems and help local authorities in protecting their source water quality. It is important to note that source water assessment reports estimate the potential for untreated drinking water sources to be impacted by contamination. These reports do not address the safety or quality of treated finished tap water.

The source water assessment reports are based on reasonably available information, primarily from statewide databases. Although efforts have been made to check these reports for accuracy, the nature of the available data makes the elimination of all error from these reports nearly impossible.

The following steps were performed for each assessment of each drinking water source:

Delineation of the source water assessment area(s) – A topographic assessment area border was created defining the land area that contributes water to the drinking water source. In most cases the overall assessment area contains only one zone. However, a second zone was created where flow barriers and/or large geographic distances decrease the likelihood of contaminants in portions of the overall assessment area from impacting drinking water quality at the intake. A drinking water source's natural sensitivity ratings are also assigned during the delineation phase. These rating are conceptually based on water body size and flow characteristics, along with general fate and transport characteristics of contaminant categories. Ultimately, natural sensitivity ratings are used along with contaminant prevalence ratings (described below) to define a drinking water source's susceptibility to contamination.

Inventory of Potential Contaminant Sources (PCSs) – This inventory compiles the areal land cover percentages and a listing of specific facilities, (e.g. landfills, Superfund sites) within the assessment area(s). In additions to data on specific facilities, the contaminant inventory includes SWAP rating values (i.e. Major/Minor/NP ratings). Information contained in contaminant inventories is used to create Contaminant Prevalence ratings in the next step.

Susceptibility Determination – SWAP susceptibility ratings are defined using the drinking water source's sensitivity and contaminant prevalence ratings. Sensitivity is defined using the water body type classification during the delineation phase. Contaminant prevalence values are assigned based on the nature of the potential contaminant sources (i.e. Major/Minor/NP ratings described in Appendix 3) present in the assessment area and the location (Zone1 Vs Zone 2) of these potential contaminant sources relative to the drinking water intake.

3.0 The Assessment Area

3.1 Delineation and Basic Assessment Area Attributes

The topographic assessment area delineation for this drinking water source is presented in Figure 1. Details on the overall SWAP delineation methodology is presented in Appendix 3. Some additional identification

information and general assessment area information is presented in Table 1.

It is important to note that a topographic drainage boundary may not accurately depict a spring's actual recharge area. While the SWAP delineations are a good starting point, it is recommended that more advanced hydrogeologic delineation methods should be considered.

One the biggest dangers of using springs as source of drinking water is that they have a relatively high likelihood of being ground water under the direct influence of surface water (GWUDI). Basically, this means they collect water that has not passed though enough fine grained soil to filter out the large diameter pathogens that are commonly found in surface waters. Springs have a tendency to be GWUDI because they generally collect water from shallow depths that has not spent much time in the ground.

While making GWUDI determinations is beyond the scope of SWAP, all spring sources need to undergo a formal evaluation to determine if they are under the direct influence of surface water. In some cases the topographic assessment area delineations used in SWAP includes stream watersheds. This is not intended to suggest this drinking water source is under the direct influence of surface water.

Ongoing spring recharge area protection programs are the best way to identify, understand, manage, and control water quality problems. While the SWAP program is useful in identifying and describing potential threats to drinking water quality, it cannot replace a local management program. It is also important to state that all management programs are not equal, active programs with regulatory authority are generally best at protecting water quality.

Additional information on this water system and sources is contained in the NYS DOH SWAP Database in Appendix 1. In addition to information on local protection efforts, The NYS DOH SWAP Database may contains information and contamination concerns noted during sanitary surveys of public water systems, and in some cases, information provided by the public water system. Furthermore, the water supplier and/or the local health unit may have additional information not contained the NYS DOH SWAP database.

3.2 Assessment area SWAP Sensitivity Rating

This drinking water source's water body type and SWAP natural sensitivity rating are presented in Table 2.

SWAP natural sensitivity rating are assigned using the table presented in Appendix 3. The rationale for these ratings are based on the size and flow characteristics of the water body types, along with the fate and transport characteristics of the contaminant categories in each contaminant type classification.

Springs have SWAP natural sensitivity rating of medium for all contaminant types. However, these ratings assume that the spring is not under the direct influence of surface water. If this spring is determined to be GWUDI , this drinking water source should be re-evaluated using the natural sensitivity ratings of the influencing surface water body.

4.0 Contaminant Inventories and Susceptibility

Once an assessment area for a particular water supply has been delineated and natural sensitivity ratings are assigned, contaminant inventories and contaminant prevalence and susceptibility ratings are created. To simplify these analyses and the presentation of results, these tasks are treated separately for the different types of available data.

The overall contaminant inventory task in the assessment for surface drinking water sources consists of the compilation of land cover and discrete facilities within delineated assessment area(s). First, the percentages

of land cover types within the assessment area(s) are calculated. Next, contaminant inventories are created separately for those facilities with permitted discharges (Permitted Discharge PCSs) and other potential contaminant sources (Other GIS PCSs). This distinction was made because facilities with permitted discharges tend to be more important potential sources of contamination for surface waters, and these facilities have more useful information contained in their GIS databases. Additional PCSs are the final category of potential contaminants included in this report. This category includes potential sources of contamination that are depicted as lines in GIS (e.g. roads, pipelines) and those potential sources of contamination in the NYS DOH SWAP Database (or other available data, e.g. AEM data, PWL list, etc) that are not accounted for in the Other GIS PCSs inventories.

In order to simplify the process, and allow for the clear presentation of results, contaminant inventories utilize contaminant categories, rather than individual contaminant names. These contaminant categories are based on similarities in origin, fate and transport in the environment, and consequences in drinking water. The contaminant categories that have been identified as important to surface drinking water sources are presented in the Glossary in Appendix 4.

Once contaminant inventories are compiled, Susceptibility ratings are separately created for each of the above mentioned data types. This is done by first creating contaminant prevalence ratings for each contaminant category based on the types of land cover discrete PCSs present in the assessment area. These values are then used along with natural sensitivity ratings to assign susceptibility ratings for each contaminant category.

4.1 Land Cover

Land cover within the assessment area is inventoried and compiled to calculate contaminant prevalence ratings, and these ratings are used along with the assessment area’s natural sensitivity ratings to create the drinking water source’s susceptibility ratings. More details on this methodology are presented in the SWAP plan and Appendix 3.

The MRLC data set is used to obtain land cover data in the SWAP. This data set was derived using Landsat images obtained between 1988 and 1993. The images used were primarily collected during the spring leaves-off period, but fall leaves-off images, and various leaves-on images were also used. While this data set is generally considered to be a very good general land cover classification product, some inaccuracies still exist. The major problem with this data set’s use in SWAP is that it sometimes does not make accurate distinctions between row crops and pasture.

4.1.1 Contaminant Inventory

Land cover percentages within this assessment area are presented in Table 3. These percentages were compiled using the MRLC land cover data, and specific details on the SWAP Landuse methodology is presented in Appendix 3.

4.1.2 Contaminant Prevalence and Susceptibility

Contaminant prevalence and susceptibility ratings based on land cover are presented in Table 4. The contaminant prevalence and susceptibility ratings for this assessment area have been rated medium for protozoa due to the high percentage of pasture land cover in the assessment area.

4.2 Discrete Potential Contaminant Sources (PCSs)

The purpose of this section of the SWAP report is to describe and rate potential sources of contamination associated with individual facilities, rather than land cover. There are no permitted discharges or other GIS

PCSs located in this assessment area. Additional information on PCSs may be listed in the NYS DOH SWAP Database (see Appendix 1).

5.0 Overall Susceptibility Discussion

Based on the analysis of available information, this spring source is rated as having a medium susceptibility to microbial contamination. This rating is due primarily to the high percentage of residential land cover in the assessment area and the associated potential for contamination. No permitted discharges or other regulated facilities have been identified in the assessment area using GIS, however, other potential threats to water quality noted during site inspections may be listed in Appendix 1.

TABLE 7: SIGNIFICANT FINDINGS

SUMMARY SIGNIFICANT FINDINGS		
Potential Sources of Contamination	Potenial Impacts to Water Source	Contaminants of Concern
Residential Land Cover	Medium	Microbials (protozoa, enteric bacteria and viruses)

Table 1: System and Source Information

System Information

System Name:	TAMARACK INN		
Federal ID	NY1611074	System Type	Non-community
County Served	FRANKLIN		

Source Information

TINWSF Number:	2593294	
External System Number	73997	
Source Name	SPRING	
Assessment Area Size*	0.08	(Sqr. miles)
	51.5	(Acres)
Source Water Body Size*	-99.0	(Acres)

* -99 means area could not be calculated in GIS

Table 2: Natural Sensitivity Ratings

Waterbody Type **Spring**

Contaminant Types and Categories	Sensitivity Ratings
Organics =	**High**
Halogenated Solvents	
Petroleum Products	
Other Industrial Organics	
Other Chemicals =	**Medium**
Pesticides Herbicides	
Metals	
Nitrates	
Sediments Turbidity	
Disinfection Byproduct Precursors	
Phosphorus =	**Low**
Phosphorus	
Microbials =	**Medium**
Protozoa	
Enteric Bacteria	
Enteric Viruses	

Table 3: Land Cover Percentages

Land Use Class	Zone 1	Zone 2
Water	0.00	0.00
Low Intensity Residential	0.00	0.00
High Intensity Residential	5.18	0.00
High Intensity Commercial	0.00	0.00
Pasture	5.18	0.00
Row Crops	2.59	0.00
Other Grasses	0.00	0.00
Evergreen Forest	0.00	0.00
Mixed Forest	59.52	0.00
Deciduous Forest	27.53	0.00
Woody Wetland	0.00	0.00
Emergent Wetland	0.00	0.00
Barren; Quarries, Strip Mines, and Gravel Pits	0.00	0.00
Barren; Bare Rock and Sand	0.00	0.00
Barren; Transitional_including clear cut areas	0.00	0.00

Table 4: Land Use Susceptibility Analysis Summary

Contaminant Categories	CP Rating	Dominant land cover causing rating Z1	Dominant land cover causing rating Z2	Land cover notes	Susceptibility Rating
Organics					
rptSWAP_AddOn Halogenated Solvents	**NEGLIGIBLE**				
Petroleum Products	**NEGLIGIBLE**				
Other Industrial Organics	**LOW**	High Intensity Residential			**MEDIUM-HIGH**
Other Chemicals					
Pesticides Herbicides	**LOW**				
Metals	**LOW**				
Nitrates	**LOW**				
Sediments Turbidity	**LOW**				
Cations/Anions Salts, Sulfate	**LOW**				
DBP Precursors	**LOW**				
Phosphorus					
Phosphorus	**LOW**				
Microbials					
Protozoa	**MEDIUM**	High Intensity Residential			**MEDIUM**
Enteric Bacteria	**MEDIUM**	High Intensity Residential			**MEDIUM**
Enteric Viruses	**MEDIUM**	High Intensity Residential			**MEDIUM**

Appendix 1

NYS DOH SWAP Database

NY1611074 TAMARACK INN SPRING

I. System Level Info

A. Protection

1. Watershed Rules and Regulations? No ***Details:***

2. Existing Protection Description

3. Jurisdiction of Source?

B. Water Quality Concerns

1. Concerns of LHU Yes Disinfection waiver was rescinded, chlorinator has been installed & adjustments are being made before BWO can be lifted.

2. SWTR/DBP Issues No

3. S ystem Treatment Concerns Yes

4. Significant Public Concern - Water Quality No

5. Significant Public Concern - Contaminants No

C. Other Info Available

1. Spring source w/chlorination.

II. Source Information

A. Delineation

1. Delineation Description

2. Zones

3. Date 9/25/2001

4. Intake to Shore ***Depth*** ***Units***

B. Potential Contamination

1. Significant Sum Survey Findings Septic system. Fuel storage tank is 180' from well.

2. Water Quality Concerns Yes

3. Existing Contaminant Inventory Date 9/25/2001

4. Surface Water Body Influence No ***Distance***

Description No surface water nearby.

5. Waterbody Quality

6. Source Structural or Locational Concerns

1.0 Executive Summary

Based on the analysis of available information for this spring source, there are no water quality concerns found in the assessment area. No land cover water quality concerns, permitted discharges, or other discrete facilities were identified in the assessment area using GIS. However, other potential threats to water quality noted during site inspections may be listed in Appendix 1.

2.0 Introduction

This report was completed under the NYS DOH's Source Water Assessment Program (SWAP). The purpose of this program is to compile, organize, and evaluate information regarding possible and actual threats to the quality of public drinking water sources (PWSs). The information contained in assessment reports will assist the State in overseeing public water systems and help local authorities in protecting their source water quality. It is important to note that source water assessment reports estimate the potential for untreated drinking water sources to be impacted by contamination. These reports do not address the safety or quality of treated finished tap water.

The source water assessment reports are based on reasonably available information, primarily from statewide databases. Although efforts have been made to check these reports for accuracy, the nature of the available data makes the elimination of all error from these reports nearly impossible.

The following steps were performed for each assessment of each drinking water source:

Delineation of the source water assessment area(s) – A topographic assessment area border was created defining the land area that contributes water to the drinking water source. In most cases the overall assessment area contains only one zone. However, a second zone was created where flow barriers and/or large geographic distances decrease the likelihood of contaminants in portions of the overall assessment area from impacting drinking water quality at the intake. A drinking water source's natural sensitivity ratings are also assigned during the delineation phase. These rating are conceptually based on water body size and flow characteristics, along with general fate and transport characteristics of contaminant categories. Ultimately, natural sensitivity ratings are used along with contaminant prevalence ratings (described below) to define a drinking water source's susceptibility to contamination.

Inventory of Potential Contaminant Sources (PCSs) – This inventory compiles the areal land cover percentages and a listing of specific facilities, (e.g. landfills, Superfund sites) within the assessment area(s). In additions to data on specific facilities, the contaminant inventory includes SWAP rating values (i.e. Major/Minor/NP ratings). Information contained in contaminant inventories is used to create Contaminant Prevalence ratings in the next step.

Susceptibility Determination – SWAP susceptibility ratings are defined using the drinking water source's sensitivity and contaminant prevalence ratings. Sensitivity is defined using the water body type classification during the delineation phase. Contaminant prevalence values are assigned based on the nature of the potential contaminant sources (i.e. Major/Minor/NP ratings described in Appendix 3) present in the assessment area and the location (Zone1 Vs Zone 2) of these potential contaminant sources relative to the drinking water intake.

3.0 The Assessment Area

3.1 Delineation and Basic Assessment Area Attributes

The topographic assessment area delineation for this drinking water source is presented in Figure 1. Details on the overall SWAP delineation methodology is presented in Appendix 3. Some additional identification information and general assessment area information is presented in Table 1.

It is important to note that a topographic drainage boundary may not accurately depict a spring's actual recharge area. While the SWAP delineations are a good starting point, it is recommended that more advanced hydrogeologic delineation methods should be considered.

One the biggest dangers of using springs as source of drinking water is that they have a relatively high likelihood of being ground water under the direct influence of surface water (GWUDI). Basically, this means they collect water that has not passed though enough fine grained soil to filter out the large diameter pathogens that are commonly found in surface waters. Springs have a tendency to be GWUDI because they generally collect water from shallow depths that has not spent much time in the ground.

While making GWUDI determinations is beyond the scope of SWAP, all spring sources need to undergo a formal evaluation to determine if they are under the direct influence of surface water. In some cases the topographic assessment area delineations used in SWAP includes stream watersheds. This is not intended to suggest this drinking water source is under the direct influence of surface water.

Ongoing spring recharge area protection programs are the best way to identify, understand, manage, and control water quality problems. While the SWAP program is useful in identifying and describing potential threats to drinking water quality, it cannot replace a local management program. It is also important to state that all management programs are not equal, active programs with regulatory authority are generally best at protecting water quality.

Additional information on this water system and sources is contained in the NYS DOH SWAP Database in Appendix 1. In addition to information on local protection efforts, The NYS DOH SWAP Database may contains information and contamination concerns noted during sanitary surveys of public water systems, and in some cases, information provided by the public water system. Furthermore, the water supplier and/or the local health unit may have additional information not contained the NYS DOH SWAP database.

3.2 Assessment area SWAP Sensitivity Rating

This drinking water source's water body type and SWAP natural sensitivity rating are presented in Table 2.

SWAP natural sensitivity rating are assigned using the table presented in Appendix 3. The rationale for these ratings are based on the size and flow characteristics of the water body types, along with the fate and transport characteristics of the contaminant categories in each contaminant type classification.

Springs have SWAP natural sensitivity ratings of medium for all contaminant types. However, these ratings assume that the spring is not under the direct influence of surface water. If this spring is determined to be GWUDI , this drinking water source should be re-evaluated using the natural sensitivity ratings of the influencing surface water body.

4.0 Contaminant Inventories and Susceptibility

Once an assessment area for a particular water supply has been delineated and natural sensitivity ratings are assigned, contaminant inventories and contaminant prevalence and susceptibility ratings are created. To simplify these analyses and the presentation of results, these tasks are treated separately for the different types of available data.

The overall contaminant inventory task in the assessment for surface drinking water sources consists of the compilation of land cover and discrete facilities within delineated assessment area(s). First, the percentages of land cover types within the assessment area(s) are calculated. Next, contaminant inventories are created separately for those facilities with permitted discharges (Permitted Discharge PCSs) and other potential contaminant sources (Other GIS PCSs). This distinction was made because facilities with permitted discharges tend to be more important potential sources of contamination for surface waters, and these facilities have more useful information contained in their GIS databases. Additional PCSs are the final category of potential contaminants included in this report. This category includes potential sources of contamination that are depicted as lines in GIS (e.g. roads, pipelines) and those potential sources of contamination in the NYS DOH SWAP Database (or other available data, e.g. AEM data, PWL list, etc) that are not accounted for in the Other GIS PCSs inventories.

In order to simplify the process, and allow for the clear presentation of results, contaminant inventories utilize contaminant categories, rather than individual contaminant names. These contaminant categories are based on similarities in origin, fate and transport in the environment, and consequences in drinking water. The contaminant categories that have been identified as important to surface drinking water sources are presented in the Glossary in Appendix 4.

Once contaminant inventories are compiled, Susceptibility ratings are separately created for each of the above mentioned data types. This is done by first creating contaminant prevalence ratings for each contaminant category based on the types of land cover discrete PCSs present in the assessment area. These values are then used along with natural sensitivity ratings to assign susceptibility ratings for each contaminant category.

4.1 Land Cover

Land cover within the assessment area is inventoried and compiled to calculate contaminant prevalence ratings, and these ratings are used along with the assessment area’s natural sensitivity ratings to create the drinking water source’s susceptibility ratings. More details on this methodology are presented in the SWAP plan and Appendix 3.

The MRLC data set is used to obtain land cover data in the SWAP. This data set was derived using Landsat images obtained between 1988 and 1993. The images used were primarily collected during the spring leaves-off period, but fall leaves-off images, and various leaves-on images were also used. While this data set is generally considered to be a very good general land cover classification product, some inaccuracies still exist. The major problem with this data set’s use in SWAP is that it sometimes does not make accurate distinctions between row crops and pasture.

4.1.1 Contaminant Inventory

Land cover percentages within this assessment area are presented in Table 3. These percentages were compiled using the MRLC land cover data, and specific details on the SWAP Landuse methodology is presented in Appendix 3.

4.1.2 Contaminant Prevalence and Susceptibility

Based on the analysis of available information for this spring source, there are no water quality concerns found in the assessment area. No land cover water quality concerns, permitted discharges, or other discrete

facilities were identified in the assessment area using GIS. However, other potential threats to water quality noted during site inspections may be listed in Appendix 1.

4.2 Discrete Potential Contaminant Sources (PCSs)

The purpose of this section of the SWAP report is to describe and rate potential sources of contamination associated with individual facilities, rather than land cover. There are no permitted discharges or other GIS PCSs located in this assessment area. Additional information on PCSs may be listed in the NYS DOH SWAP Database (see Appendix 1).

5.0 Overall Susceptibility Discussion

Based on the analysis of available information for this spring source, there are no water quality concerns found in the assessment area. No land cover water quality concerns, permitted discharges, or other discrete facilities were identified in the assessment area using GIS. However, other potential threats to water quality noted during site inspections may be listed in Appendix 1.

SUMMARY SIGNIFICANT FINDINGS		
Potential Sources of Contamination	Potenial Impacts to Water Source	Contaminants of Concern
None found using GIS	NA	NA

NY1630027	NORTH BANGOR WS	Community	FRANKLIN
Spring	SPRING		2593300

Table 1: System and Source Information

System Information

System Name:	NORTH BANGOR WS		
Federal ID	NY1630027	System Type	Community
County Served	FRANKLIN		

Source Information

TINWSF Number:	2593300	
External System Number	74003	
Source Name	SPRING	
Assessment Area Size*	0.05	(Sqr. miles)
	35.1	(Acres)
Source Water Body Size*	-99.0	(Acres)

* -99 means area could not be calculated in GIS

Table 2: Natural Sensitivity Ratings

Waterbody Type **Spring**

Contaminant Types and Categories	Sensitivity Ratings
Organics =	**High**
Halogenated Solvents	
Petroleum Products	
Other Industrial Organics	
Other Chemicals =	**Medium**
Pesticides Herbicides	
Metals	
Nitrates	
Sediments Turbidity	
Disinfection Byproduct Precursors	
Phosphorus =	**Low**
Phosphorus	
Microbials =	**Medium**
Protozoa	
Enteric Bacteria	
Enteric Viruses	

Table 3: Land Cover Percentages

Land Use Class	Zone 1	Zone 2
Water	0.00	0.00
Low Intensity Residential	0.00	0.00
High Intensity Residential	0.00	0.00
High Intensity Commercial	0.00	0.00
Pasture	0.00	0.00
Row Crops	0.00	0.00
Other Grasses	0.00	0.00
Evergreen Forest	0.00	0.00
Mixed Forest	66.67	0.00
Deciduous Forest	33.33	0.00
Woody Wetland	0.00	0.00
Emergent Wetland	0.00	0.00
Barren; Quarries, Strip Mines, and Gravel Pits	0.00	0.00
Barren; Bare Rock and Sand	0.00	0.00
Barren; Transitional_including clear cut areas	0.00	0.00

NY1630027	NORTH BANGOR WS	Community	FRANKLIN
Spring	SPRING		2593300

Table 4: Land Use Susceptibility Analysis Summary

Contaminant Categories	CP Rating	Dominant land cover causing rating Z1	Dominant land cover causing rating Z2	Land cover notes	Susceptibility Rating
Organics					
rptSWAP_AddOn Halogenated Solvents	**NEGLIGIBLE**				
Petroleum Products	**NEGLIGIBLE**				
Other Industrial Organics	**NEGLIGIBLE**				
Other Chemicals					
Pesticides Herbicides	**NEGLIGIBLE**				
Metals	**NEGLIGIBLE**				
Nitrates	**NEGLIGIBLE**				
Sediments Turbidity	**NEGLIGIBLE**				
Cations/Anions Salts, Sulfate	**NEGLIGIBLE**				
DBP Precursors	**NEGLIGIBLE**				
Phosphorus					
Phosphorus	**NEGLIGIBLE**				
Microbials					
Protozoa	**LOW**				
Enteric Bacteria	**LOW**				
Enteric Viruses	**LOW**				

Appendix 1

NYS DOH SWAP Database

NY1630027 NORTH BANGOR WS SPRING

I. System Level Info

A. Protection

1. Watershed Rules and Regulations? No ***Details:***

2. Existing Protection Description Ownership unclear

3. Jurisdiction of Source? Ownership unclear

B. Water Quality Concerns

1. Concerns of LHU Yes Intermitent contamination of spring source without disinfection.

2. SWTR/DBP Issues No Spring may be influence by surface runoff, to be determined.

3. S ystem Treatment Concerns Yes

4. Significant Public Concern - Water Quality Yes

5. Significant Public Concern - Contaminants Yes

C. Other Info Available

1. No clear ownership of spring and no administrative contact available.

II. Source Information

A. Delineation

1. Delineation Description

2. Zones

3. Date 12/21/2000

4. Intake to Shore ***Depth*** ***Units***

B. Potential Contamination

1. Significant Sum Survey Findings Surface water influence during spring runoff.

2. Water Quality Concerns No

3. Existing Contaminant Inventory Date 12/21/2000

4. Surface Water Body Influence No ***Distance*** 500

Description Farm Pond

5. Waterbody Quality

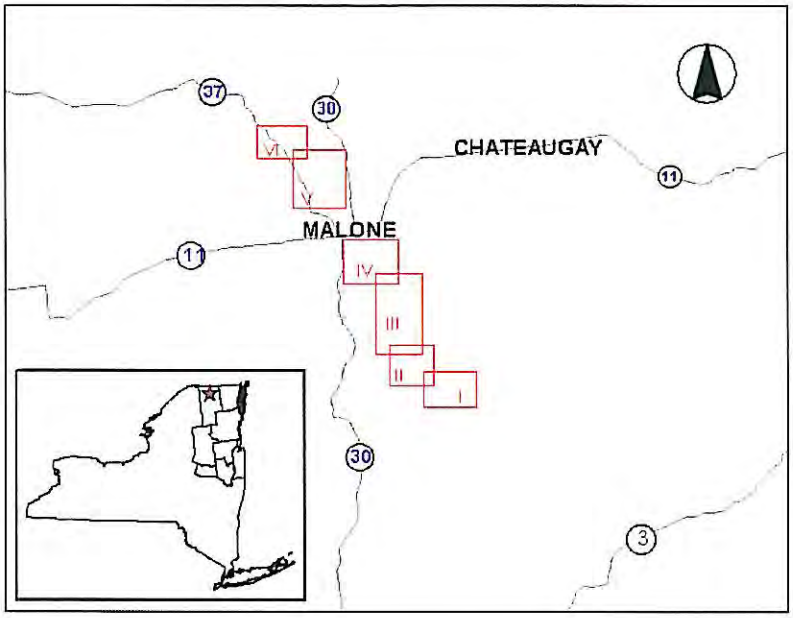
6. Source Structural or Locational Concerns Concrete construction w/cover.

Appendix C- NYSDEC Identified Fishing Locations within the Salmon River Watershed

New York State Department of
ENVIRONMENTAL CONSERVATION
www.dec.ny.gov

Public Fishing Rights Maps

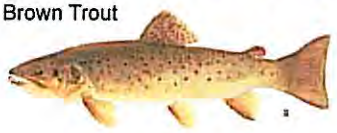
Salmon River (Franklin County)



Section I - Mountain View to Oxbow
Section II - Oxbow to Chasm Falls
Section III - Chasm Falls to Whippleville
Section IV - Whippleville to Malone
Section V - Lamica Lake to Island
Section VI - Island to Westville Center

Fish Species Present

Brown Trout



Rainbow Trout

Note: Brown and rainbow trout are stocked.

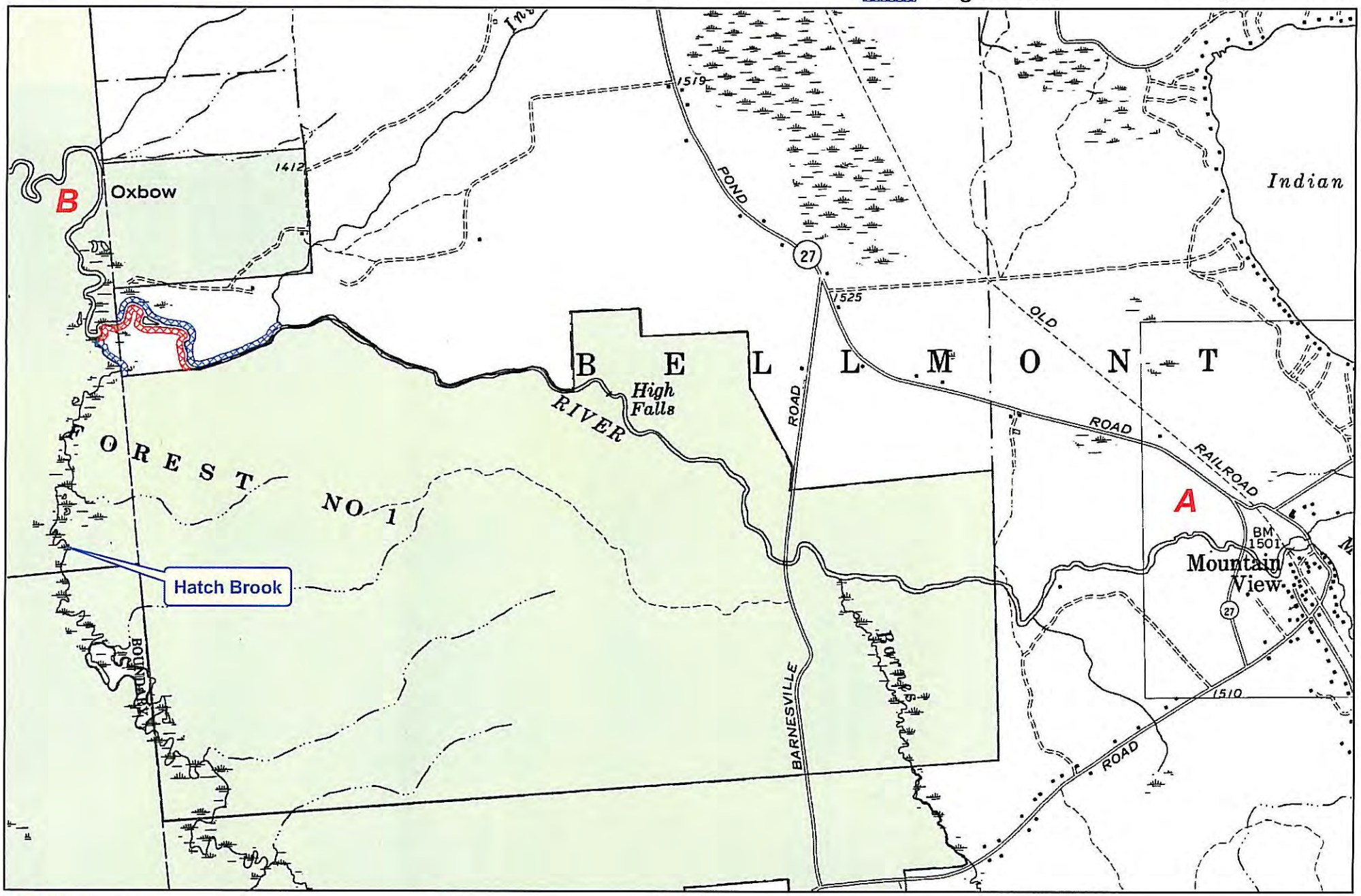
About Public Fishing Rights

Public Fishing Rights (PFR's) are permanent easements purchased by the NYSDEC from willing landowners, giving anglers the right to fish and walk along the bank (usually a 33' strip on one or both banks of the stream). This right is for the purpose of fishing only and no other purpose. Treat the land with respect to insure the continuation of this right and privilege. Fishing privileges may be available on some other private lands with permission of the land owner. Courtesy toward the land-owner and respect for their property will insure their continued use.

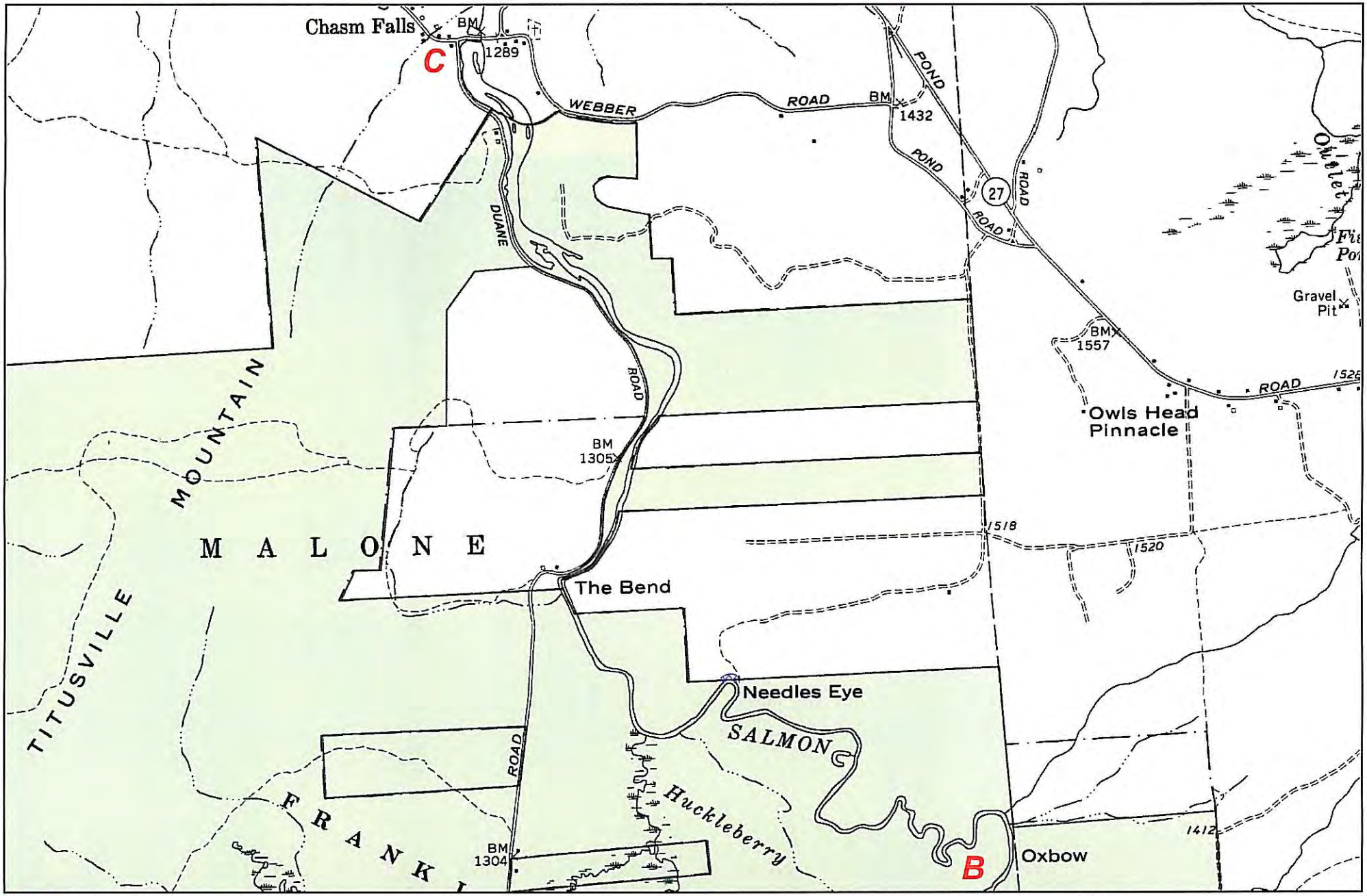
These generalized location maps are intended to aid anglers in finding PFR segments and are not survey quality. Width of displayed PFR may be wider than reality to make it more visible on the maps. Please look for this PFR sign to ensure that you are in the right location and have legal access to the stream bank.

For more information on this creek or if you believe PFR marked areas on these maps are incorrect or missing PFR signs, please call the Region 5 Fisheries office: (518) 897-1333.

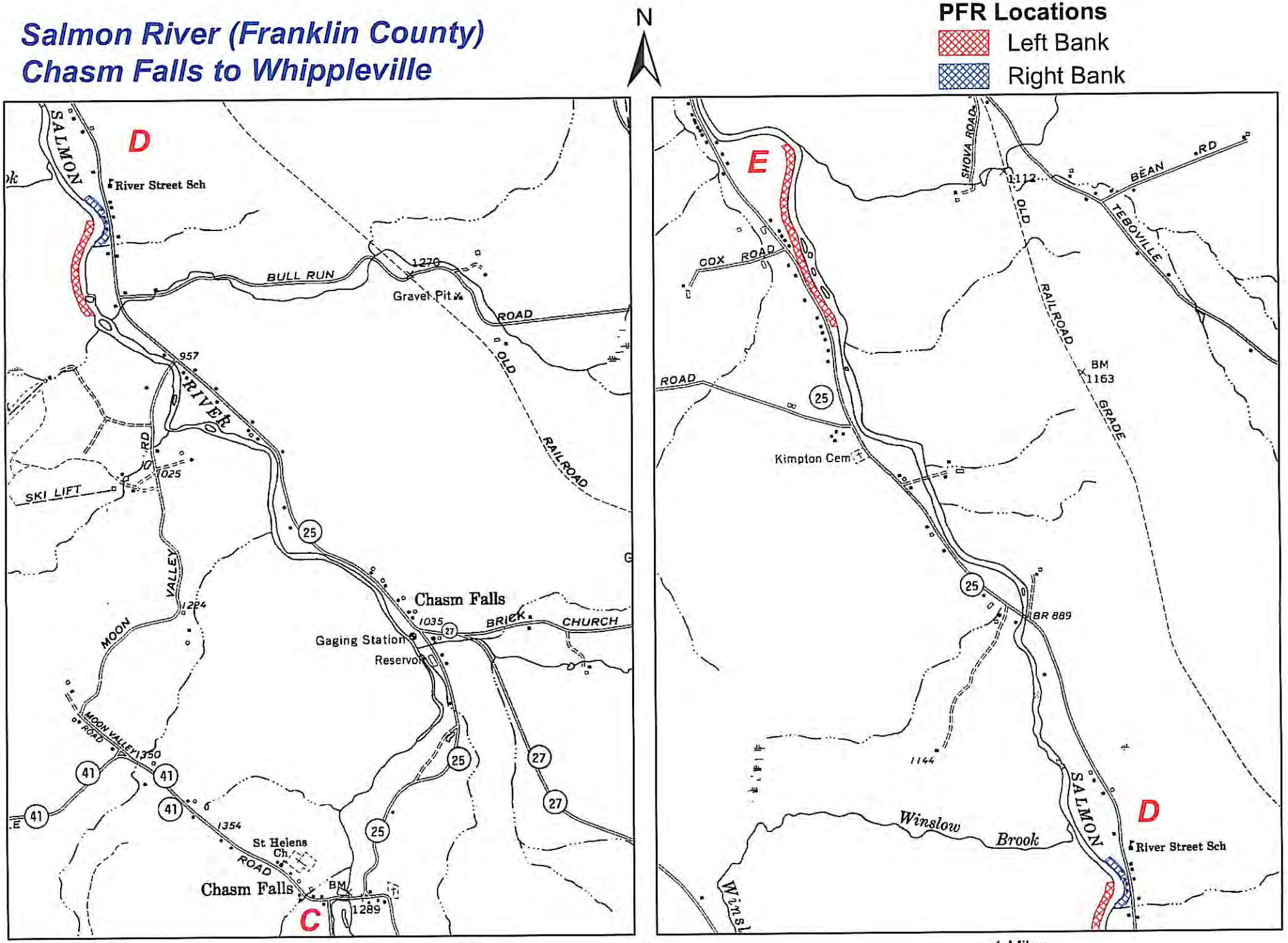
Salmon River (Franklin County)
Mountain View to Oxbow



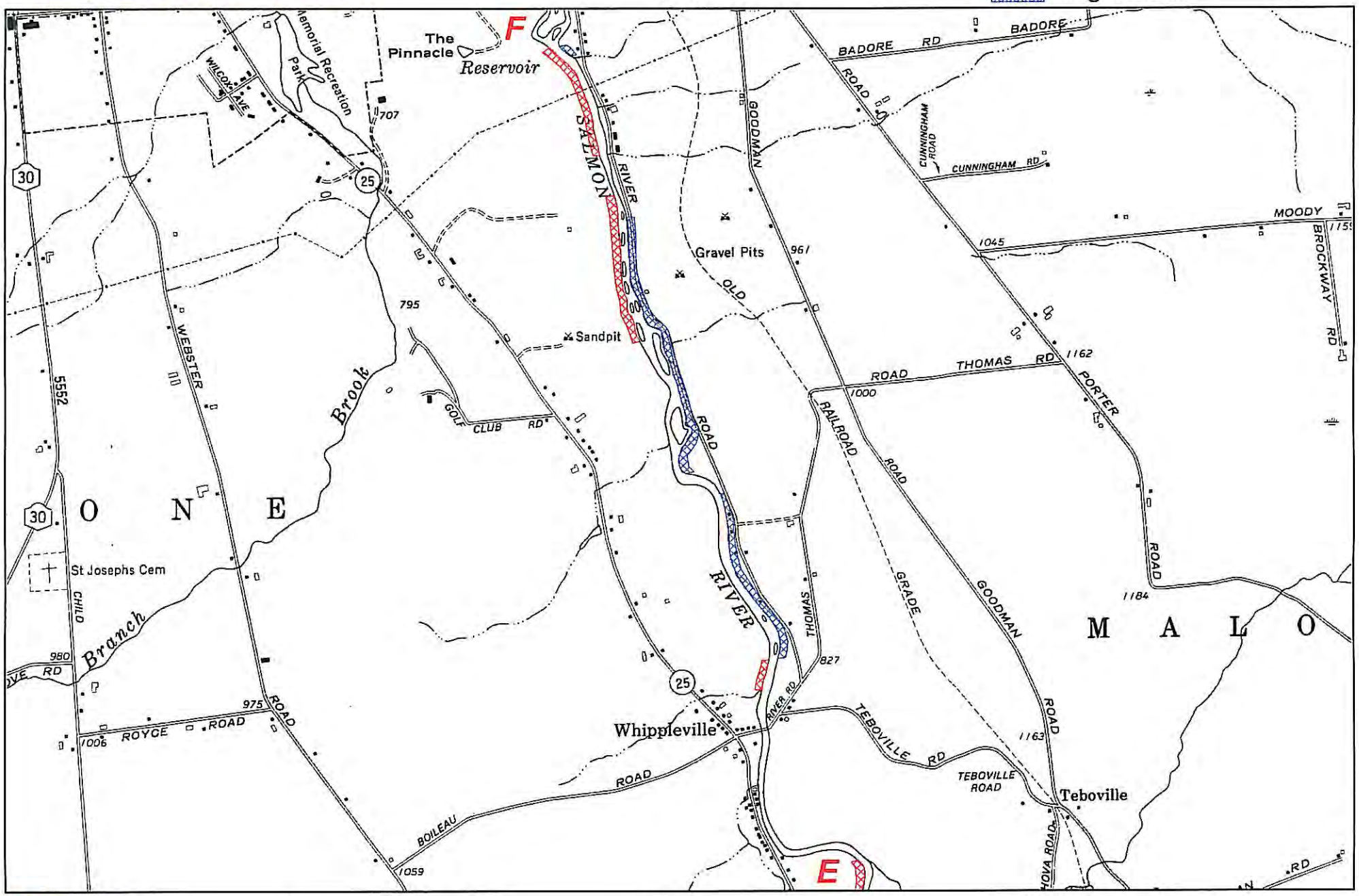
Salmon River (Franklin County)
Oxbow to Chasm Falls



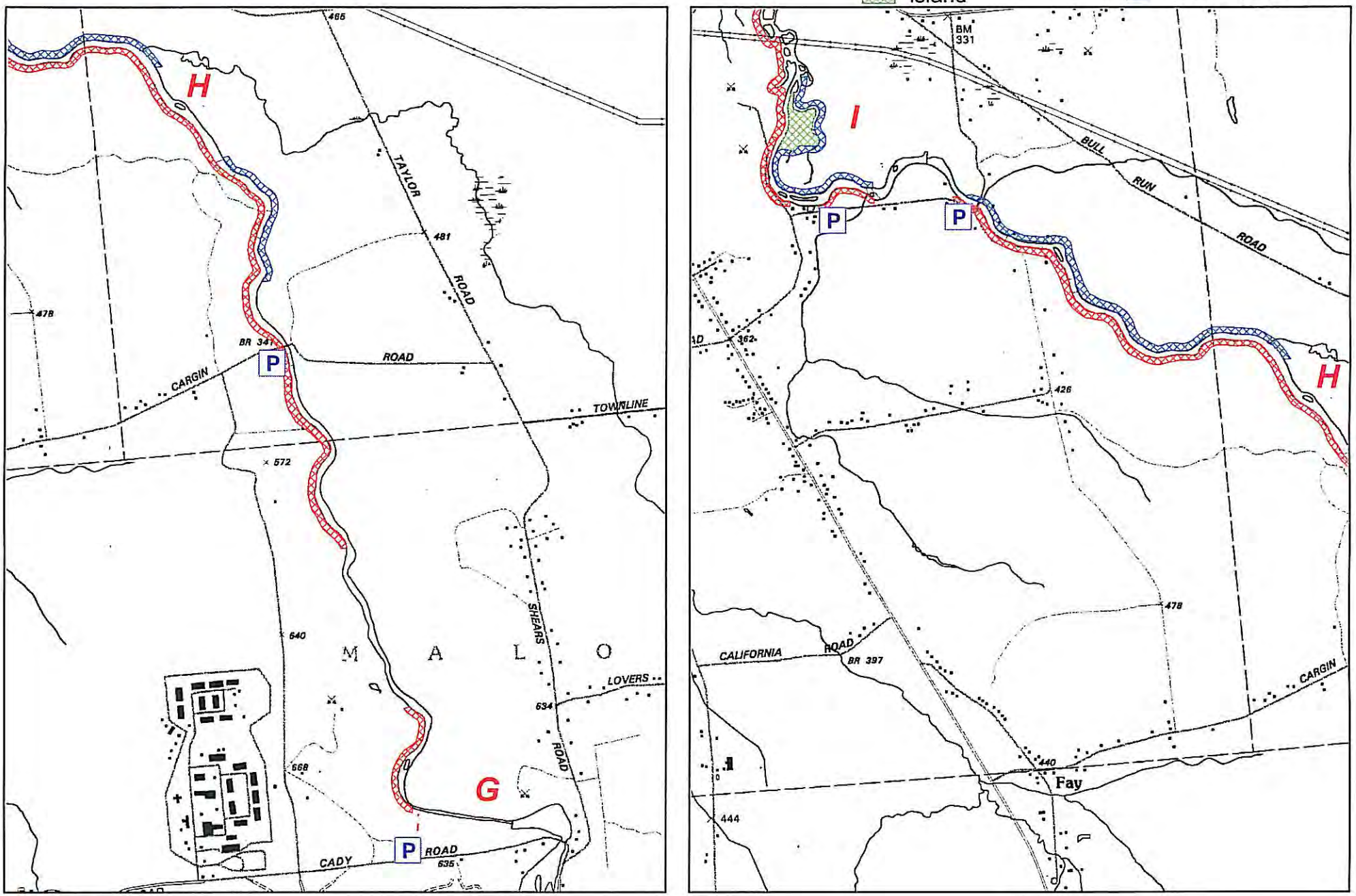
Salmon River (Franklin County)
Chasm Falls to Whippleville



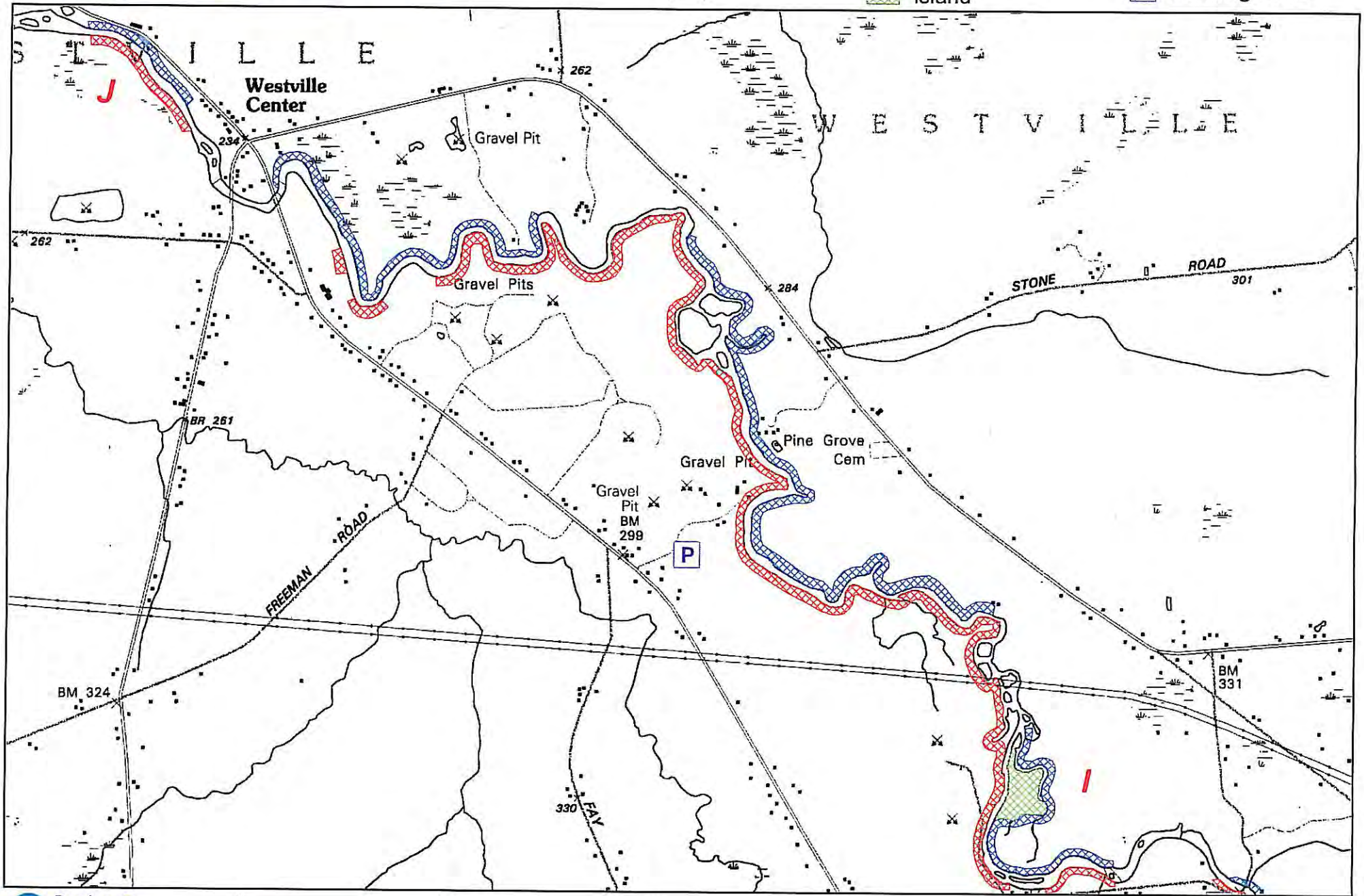
Salmon River (Franklin County)
Whippleville to Malone



Salmon River (Franklin County)
Lamica Lake to Island



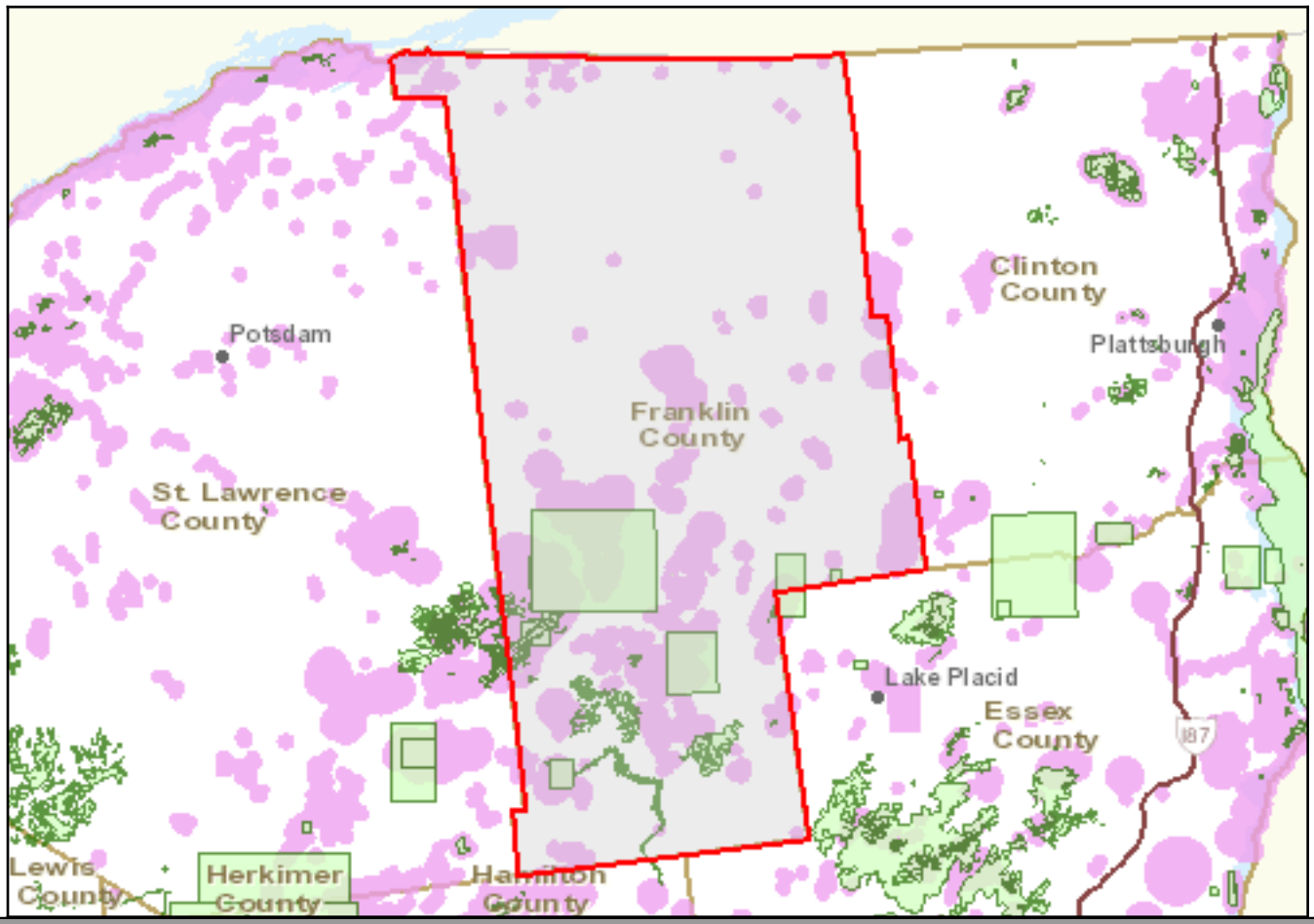
Salmon River (Franklin County)
Island to Westville Center



Appendix D- New York State Threatened and Endangered Species for the Salmon River Watershed

New York Nature Explorer
County Results Report

Criteria: County: Franklin



Common Name	Subgroup	Distribution Status	Year Last Documente	Protection Status State	Protection Status Federal	Conservation Rank State	Conservation Rank Global
County: Franklin							
Animal: Mammals							
Northern Long-eared Bat *Myotis septentrionalis*	Bats	Recently Confirmed	1985	Threatened	Threatened	S3S4	G1G3
Animal: Birds							
Alder Flycatcher *Empidonax alnorum*	Flycatchers	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
American Bittern *Botaurus lentiginosus*	Herons, Bitterns, Egrets, Ibises	Recently Confirmed	2000-2005	Special Concern		S4	G4

New York Nature Explorer

Common Name	Subgroup	Distribution Status	Year Last Documente	Protection Status		Conservation Rank	
				State	Federal	State	Global
American Black Duck *Anas rubripes*	Ducks, Geese, Waterfowl	Recently Confirmed	2000-2005	Protected Bird - Game with open season		S3B,SNRN	G5
American Crow *Corvus brachyrhynchos*	Crows and Jays	Recently Confirmed	2000-2005	Protected Bird - Game with open season		S5	G5
American Goldfinch *Spinus tristis*	Finches and Crossbills	Recently Confirmed	2000-2005	Protected Bird		S5	G5
American Kestrel *Falco sparverius*	Hawks, Falcons, Eagles, Vultures	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
American Redstart *Setophaga ruticilla*	Wood-Warblers	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
American Robin *Turdus migratorius*	Thrushes and Bluebirds	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
American Three-toed Woodpecker *Picoides dorsalis*	Woodpeckers	Recently Confirmed	2000	Protected Bird		S2	G5
American Woodcock *Scolopax minor*	Gulls, Terns, Plovers, Shorebirds	Recently Confirmed	2000-2005	Protected Bird - Game with open season		S5B	G5
Bald Eagle *Haliaeetus leucocephalus*	Hawks, Falcons, Eagles, Vultures	Recently Confirmed	2007	Threatened		S2S3B,S2N	G5
Baltimore Oriole *Icterus galbula*	Blackbirds and Orioles	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Bank Swallow *Riparia riparia*	Swallows	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Barn Swallow *Hirundo rustica*	Swallows	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Barred Owl *Strix varia*	Owls	Recently Confirmed	2000-2005	Protected Bird		S5	G5
Bay-breasted Warbler *Setophaga castanea*	Wood-Warblers	Recently Confirmed	2001	Protected Bird		S2B	G5
Belted Kingfisher *Megaceryle alcyon*	Kingfishers	Recently Confirmed	2000-2005	Protected Bird		S5	G5
Bicknell's Thrush *Catharus bicknelli*	Thrushes and Bluebirds	Recently Confirmed	2004	Special Concern		S2S3B	G4

New York Nature Explorer

Common Name	Subgroup	Distribution Status	Year Last Documente	Protection Status		Conservation Rank	
				State	Federal	State	Global
Black Tern *Chlidonias niger*	Gulls, Terns, Plovers, Shorebirds	Recently Confirmed	2007	Endangered		S2B	G4
Black-and-white Warbler *Mniotilta varia*	Wood-Warblers	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Black-backed Woodpecker *Picoides arcticus*	Woodpeckers	Recently Confirmed	2000-2005	Protected Bird		S3?	G5
Black-billed Cuckoo *Coccyzus erythropthalmus*	Cuckoos	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Black-capped Chickadee *Poecile atricapillus*	Chickadees and Titmice	Recently Confirmed	2000-2005	Protected Bird		S5	G5
Black-crowned Night-Heron *Nycticorax nycticorax*	Herons, Bitterns, Egrets, Ibises	Recently Confirmed	2000-2005	Protected Bird		S3	G5
Black-throated Blue Warbler *Setophaga caerulescens*	Wood-Warblers	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Black-throated Green Warbler *Setophaga virens*	Wood-Warblers	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Blackburnian Warbler *Setophaga fusca*	Wood-Warblers	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Blackpoll Warbler *Setophaga striata*	Wood-Warblers	Recently Confirmed	2000-2005	Protected Bird		S3B	G5
Blue Jay *Cyanocitta cristata*	Crows and Jays	Recently Confirmed	2000-2005	Protected Bird		S5	G5
Blue-headed Vireo *Vireo solitarius*	Vireos	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Blue-winged Teal *Anas discors*	Ducks, Geese, Waterfowl	Recently Confirmed	2000-2005	Protected Bird - Game with open season		S2S3B,SNRN	G5
Blue-winged Warbler *Vermivora cyanoptera*	Wood-Warblers	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Bobolink *Dolichonyx oryzivorus*	Blackbirds and Orioles	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Boreal Chickadee *Poecile hudsonicus*	Chickadees and Titmice	Recently Confirmed	2000-2005	Protected Bird		S3	G5

New York Nature Explorer

Common Name	Subgroup	Distribution Status	Year Last Documente	Protection Status		Conservation Rank	
				State	Federal	State	Global
Brewster's Warbler *Vermivora cyanoptera x chrysoptera*	Wood-Warblers	Recently Confirmed	2000-2005	Protected Bird		SNA	GNA
Broad-winged Hawk *Buteo platypterus*	Hawks, Falcons, Eagles, Vultures	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Brown Creeper *Certhia americana*	Creepers	Recently Confirmed	2000-2005	Protected Bird		S5	G5
Brown Thrasher *Toxostoma rufum*	Mockingbirds and Thrashers	Recently Confirmed	2000-2005	Protected Bird		S3S4B	G5
Brown-headed Cowbird *Molothrus ater*	Blackbirds and Orioles	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Canada Goose *Branta canadensis*	Ducks, Geese, Waterfowl	Recently Confirmed	2000-2005	Protected Bird - Game with open season		S5	G5
Canada Warbler *Cardellina canadensis*	Wood-Warblers	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Cape May Warbler *Setophaga tigrina*	Wood-Warblers	Recently Confirmed	2000-2005	Protected Bird		S2B	G5
Cedar Waxwing *Bombycilla cedrorum*	Waxwings	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Chestnut-sided Warbler *Setophaga pensylvanica*	Wood-Warblers	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Chimney Swift *Chaetura pelagica*	Hummingbirds and Swifts	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Chipping Sparrow *Spizella passerina*	Sparrows and Towhees	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Cliff Swallow *Petrochelidon pyrrhonota*	Swallows	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Common Goldeneye *Bucephala clangula*	Ducks, Geese, Waterfowl	Recently Confirmed	2000-2005	Protected Bird - Game with open season		S3,SNRN	G5
Common Grackle *Quiscalus quiscula*	Blackbirds and Orioles	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Common Loon *Gavia immer*	Loons	Recently Confirmed	2004	Special Concern		S4	G5

New York Nature Explorer

Common Name	Subgroup	Distribution Status	Year Last Documente	Protection Status		Conservation Rank	
				State	Federal	State	Global
Common Merganser *Mergus merganser*	Ducks, Geese, Waterfowl	Recently Confirmed	2000-2005	Protected Bird - Game with open season		S5	G5
Common Nighthawk *Chordeiles minor*	Nightbirds	Recently Confirmed	2000-2005	Special Concern		S2S3B	G5
Common Raven *Corvus corax*	Crows and Jays	Recently Confirmed	2000-2005	Protected Bird		S4	G5
Common Yellowthroat *Geothlypis trichas*	Wood-Warblers	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Cooper's Hawk *Accipiter cooperii*	Hawks, Falcons, Eagles, Vultures	Recently Confirmed	2000-2005	Special Concern		S4	G5
Dark-eyed Junco *Junco hyemalis*	Sparrows and Towhees	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Downy Woodpecker *Picoides pubescens*	Woodpeckers	Recently Confirmed	2000-2005	Protected Bird		S5	G5
Eastern Bluebird *Sialia sialis*	Thrushes and Bluebirds	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Eastern Kingbird *Tyrannus tyrannus*	Flycatchers	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Eastern Meadowlark *Sturnella magna*	Blackbirds and Orioles	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Eastern Phoebe *Sayornis phoebe*	Flycatchers	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Eastern Screech-Owl *Megascops asio*	Owls	Recently Confirmed	2000-2005	Protected Bird		S5	G5
Eastern Towhee *Pipilo erythrophthalmus*	Sparrows and Towhees	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Eastern Wood-Pewee *Contopus virens*	Flycatchers	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
European Starling *Sturnus vulgaris*	Starlings	Recently Confirmed	2000-2005			SNA	G5
Evening Grosbeak *Coccothraustes vespertinus*	Finches and Crossbills	Recently Confirmed	2000-2005	Protected Bird		S5	G5

New York Nature Explorer

Common Name	Subgroup	Distribution Status	Year Last Documente	Protection Status		Conservation Rank	
				State	Federal	State	Global
Field Sparrow *Spizella pusilla*	Sparrows and Towhees	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Gadwall *Anas strepera*	Ducks, Geese, Waterfowl	Recently Confirmed	2000-2005	Protected Bird - Game with open season		S3	G5
Golden Eagle *Aquila chrysaetos*	Hawks, Falcons, Eagles, Vultures	Historically Confirmed	1976	Endangered		SHB,S1N	G5
Golden-crowned Kinglet *Regulus satrapa*	Kinglets	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Golden-winged Warbler *Vermivora chrysoptera*	Wood-Warblers	Recently Confirmed	2000-2005	Special Concern		S3B	G4
Grasshopper Sparrow *Ammodramus savannarum*	Sparrows and Towhees	Recently Confirmed	2000-2005	Special Concern		S3B	G5
Gray Catbird *Dumetella carolinensis*	Mockingbirds and Thrashers	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Gray Jay *Perisoreus canadensis*	Crows and Jays	Recently Confirmed	2000-2005	Protected Bird		S3	G5
Gray Partridge *Perdix perdix*	Grouse, Pheasants, Turkeys	Recently Confirmed	2000-2005	Protected Bird		SNA	G5
Great Blue Heron *Ardea herodias*	Herons, Bitterns, Egrets, Ibises	Recently Confirmed	2000-2005	Protected Bird		S5	G5
Great Crested Flycatcher *Myiarchus crinitus*	Flycatchers	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Great Horned Owl *Bubo virginianus*	Owls	Recently Confirmed	2000-2005	Protected Bird		S5	G5
Green Heron *Butorides virescens*	Herons, Bitterns, Egrets, Ibises	Recently Confirmed	2000-2005	Protected Bird		S5	G5
Green-winged Teal *Anas crecca*	Ducks, Geese, Waterfowl	Recently Confirmed	2000-2005	Protected Bird - Game with open season		S3	G5
Hairy Woodpecker *Picoides villosus*	Woodpeckers	Recently Confirmed	2000-2005	Protected Bird		S5	G5
Hermit Thrush *Catharus guttatus*	Thrushes and Bluebirds	Recently Confirmed	2000-2005	Protected Bird		S5B	G5

New York Nature Explorer

Common Name	Subgroup	Distribution Status	Year Last Documente	Protection Status		Conservation Rank	
				State	Federal	State	Global
Herring Gull *Larus argentatus*	Gulls, Terns, Plovers, Shorebirds	Recently Confirmed	2000-2005	Protected Bird		S5	G5
Hooded Merganser *Lophodytes cucullatus*	Ducks, Geese, Waterfowl	Recently Confirmed	2000-2005	Protected Bird - Game with open season		S4	G5
Horned Lark *Eremophila alpestris*	Larks	Recently Confirmed	2000-2005	Special Concern		S3S4B	G5
House Finch *Haemorhous mexicanus*	Finches and Crossbills	Recently Confirmed	2000-2005	Protected Bird		SNA	G5
House Sparrow *Passer domesticus*	Old World Sparrows	Recently Confirmed	2000-2005			SNA	G5
House Wren *Troglodytes aedon*	Wrens	Recently Confirmed	2000-2005	Protected Bird		S5	G5
Indigo Bunting *Passerina cyanea*	Cardinals and Buntings	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Killdeer *Charadrius vociferus*	Gulls, Terns, Plovers, Shorebirds	Recently Confirmed	2000-2005	Protected Bird		S5	G5
Lawrence's Warbler *Vermivora chrysoptera x cyanoptera*	Wood-Warblers	Recently Confirmed	2000-2005	Protected Bird		SNA	GNA
Least Bittern *Ixobrychus exilis*	Herons, Bitterns, Egrets, Ibises	Recently Confirmed	2012	Threatened		S3B,S1N	G5
Least Flycatcher *Empidonax minimus*	Flycatchers	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Lincoln's Sparrow *Melospiza lincolnii*	Sparrows and Towhees	Recently Confirmed	2000-2005	Protected Bird		S4B	G5
Loggerhead Shrike *Lanius ludovicianus*	Shrikes	Recently Confirmed	1987	Endangered		S1B	G4
Magnolia Warbler *Setophaga magnolia*	Wood-Warblers	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Mallard *Anas platyrhynchos*	Ducks, Geese, Waterfowl	Recently Confirmed	2000-2005	Protected Bird - Game with open season		S5	G5
Mallard x Am. Black Duck Hybrid *Anas platyrhynchos x rubripes*	Ducks, Geese, Waterfowl	Recently Confirmed	2000-2005	Protected Bird - Game with open season		SNA	GNA

New York Nature Explorer

Common Name	Subgroup	Distribution Status	Year Last Documente	Protection Status		Conservation Rank	
				State	Federal	State	Global
Marsh Wren *Cistothorus palustris*	Wrens	Recently Confirmed	2000-2005	Protected Bird		S5	G5
Merlin *Falco columbarius*	Hawks, Falcons, Eagles, Vultures	Recently Confirmed	2000-2005	Protected Bird		S3?B	G5
Mourning Dove *Zenaida macroura*	Pigeons and Doves	Recently Confirmed	2000-2005	Protected Bird		S5	G5
Mourning Warbler *Geothlypis philadelphia*	Wood-Warblers	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Nashville Warbler *Oreothlypis ruficapilla*	Wood-Warblers	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Northern Cardinal *Cardinalis cardinalis*	Cardinals and Buntings	Recently Confirmed	2000-2005	Protected Bird		S5	G5
Northern Flicker *Colaptes auratus*	Woodpeckers	Recently Confirmed	2000-2005	Protected Bird		S5	G5
Northern Goshawk *Accipiter gentilis*	Hawks, Falcons, Eagles, Vultures	Recently Confirmed	2000-2005	Special Concern		S3S4B,S3N	G5
Northern Harrier *Circus cyaneus*	Hawks, Falcons, Eagles, Vultures	Recently Confirmed	2003	Threatened		S3B,S3N	G5
Northern Mockingbird *Mimus polyglottos*	Mockingbirds and Thrashers	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Northern Parula *Setophaga americana*	Wood-Warblers	Recently Confirmed	2000-2005	Protected Bird		S3S4B	G5
Northern Pintail *Anas acuta*	Ducks, Geese, Waterfowl	Recently Confirmed	2000-2005	Protected Bird - Game with open season		S1B,S3N	G5
Northern Rough-winged Swallow *Stelgidopteryx serripennis*	Swallows	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Northern Saw-whet Owl *Aegolius acadicus*	Owls	Recently Confirmed	2000-2005	Protected Bird		S3	G5
Northern Shoveler *Anas clypeata*	Ducks, Geese, Waterfowl	Recently Confirmed	2000-2005	Protected Bird - Game with open season		S2	G5
Northern Waterthrush *Parkesia noveboracensis*	Wood-Warblers	Recently Confirmed	2000-2005	Protected Bird		S5B	G5

New York Nature Explorer

Common Name	Subgroup	Distribution Status	Year Last Documente	Protection Status		Conservation Rank	
				State	Federal	State	Global
Olive-sided Flycatcher *Contopus cooperi*	Flycatchers	Recently Confirmed	2000-2005	Protected Bird		S3B	G4
Osprey *Pandion haliaetus*	Hawks, Falcons, Eagles, Vultures	Recently Confirmed	2000-2005	Special Concern		S4B	G5
Ovenbird *Seiurus aurocapilla*	Wood-Warblers	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Palm Warbler *Setophaga palmarum*	Wood-Warblers	Recently Confirmed	2000-2005	Protected Bird		S2S3B	G5
Peregrine Falcon *Falco peregrinus*	Hawks, Falcons, Eagles, Vultures	Recently Confirmed	2009	Endangered		S3B	G4
Philadelphia Vireo *Vireo philadelphicus*	Vireos	Recently Confirmed	2000-2005	Protected Bird		S3B	G5
Pied-billed Grebe *Podilymbus podiceps*	Grebes	Recently Confirmed	2013	Threatened		S3B,S1N	G5
Pileated Woodpecker *Dryocopus pileatus*	Woodpeckers	Recently Confirmed	2000-2005	Protected Bird		S5	G5
Pine Siskin *Spinus pinus*	Finches and Crossbills	Recently Confirmed	2000-2005	Protected Bird		S5	G5
Pine Warbler *Setophaga pinus*	Wood-Warblers	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Purple Finch *Haemorhous purpureus*	Finches and Crossbills	Recently Confirmed	2000-2005	Protected Bird		S5	G5
Red Crossbill *Loxia curvirostra*	Finches and Crossbills	Recently Confirmed	2000-2005	Protected Bird		S2S3	G5
Red-breasted Nuthatch *Sitta canadensis*	Nuthatches	Recently Confirmed	2000-2005	Protected Bird		S5	G5
Red-eyed Vireo *Vireo olivaceus*	Vireos	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Red-headed Woodpecker *Melanerpes erythrocephalus*	Woodpeckers	Recently Confirmed	2000-2005	Special Concern		S2?B	G5
Red-shouldered Hawk *Buteo lineatus*	Hawks, Falcons, Eagles, Vultures	Recently Confirmed	2000-2005	Special Concern		S4B	G5

New York Nature Explorer

Common Name	Subgroup	Distribution Status	Year Last Documente	Protection Status		Conservation Rank	
				State	Federal	State	Global
Red-tailed Hawk *Buteo jamaicensis*	Hawks, Falcons, Eagles, Vultures	Recently Confirmed	2000-2005	Protected Bird		S5	G5
Red-winged Blackbird *Agelaius phoeniceus*	Blackbirds and Orioles	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Ring-necked Duck *Aythya collaris*	Ducks, Geese, Waterfowl	Recently Confirmed	2000-2005	Protected Bird - Game with open season		S3	G5
Ring-necked Pheasant *Phasianus colchicus*	Grouse, Pheasants, Turkeys	Recently Confirmed	2000-2005	Protected Bird - Game with open season		SNA	G5
Rock Pigeon *Columba livia*	Pigeons and Doves	Recently Confirmed	2000-2005			SNA	G5
Rose-breasted Grosbeak *Pheucticus ludovicianus*	Cardinals and Buntings	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Ruby-crowned Kinglet *Regulus calendula*	Kinglets	Recently Confirmed	2000-2005	Protected Bird		S3B	G5
Ruby-throated Hummingbird *Archilochus colubris*	Hummingbirds and Swifts	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Ruffed Grouse *Bonasa umbellus*	Grouse, Pheasants, Turkeys	Recently Confirmed	2000-2005	Protected Bird - Game with open season		S5	G5
Rusty Blackbird *Euphagus carolinus*	Blackbirds and Orioles	Recently Confirmed	2010	Protected Bird		S2B	G4
Sandhill Crane *Grus canadensis*	Rails, Coots and Cranes	Recently Confirmed	2000-2005	Protected Bird		S1B	G5
Savannah Sparrow *Passerculus sandwichensis*	Sparrows and Towhees	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Scarlet Tanager *Piranga olivacea*	Cardinals and Buntings	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Sedge Wren *Cistothorus platensis*	Wrens	Recently Confirmed	2002	Threatened		S3B	G5
Sharp-shinned Hawk *Accipiter striatus*	Hawks, Falcons, Eagles, Vultures	Recently Confirmed	2000-2005	Special Concern		S4	G5
Short-eared Owl *Asio flammeus*	Owls	Recently Confirmed	2000-2005	Endangered		S2	G5

New York Nature Explorer

Common Name	Subgroup	Distribution Status	Year Last Documente	Protection Status		Conservation Rank	
				State	Federal	State	Global
Song Sparrow *Melospiza melodia*	Sparrows and Towhees	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Sora *Porzana carolina*	Rails, Coots and Cranes	Recently Confirmed	2000-2005	Protected Bird - Game with open season		S4	G5
Spotted Sandpiper *Actitis macularius*	Gulls, Terns, Plovers, Shorebirds	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Spruce Grouse *Falcipennis canadensis*	Grouse, Pheasants, Turkeys	Recently Confirmed	2004	Endangered		S2	G5
Swainson's Thrush *Catharus ustulatus*	Thrushes and Bluebirds	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Swamp Sparrow *Melospiza georgiana*	Sparrows and Towhees	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Tennessee Warbler *Oreothlypis peregrina*	Wood-Warblers	Recently Confirmed	2000-2005	Protected Bird		S2B	G5
Tree Swallow *Tachycineta bicolor*	Swallows	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Tufted Titmouse *Baeolophus bicolor*	Chickadees and Titmice	Recently Confirmed	2000-2005	Protected Bird		S5	G5
Turkey Vulture *Cathartes aura*	Hawks, Falcons, Eagles, Vultures	Recently Confirmed	2000-2005	Protected Bird		S4B	G5
Upland Sandpiper *Bartramia longicauda*	Gulls, Terns, Plovers, Shorebirds	Recently Confirmed	2003	Threatened		S3B	G5
Veery *Catharus fuscescens*	Thrushes and Bluebirds	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Vesper Sparrow *Pooecetes gramineus*	Sparrows and Towhees	Recently Confirmed	2000-2005	Special Concern		S3B	G5
Virginia Rail *Rallus limicola*	Rails, Coots and Cranes	Recently Confirmed	2000-2005	Protected Bird - Game with open season		S5	G5
Warbling Vireo *Vireo gilvus*	Vireos	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Whip-poor-will *Antrostomus vociferus*	Nightbirds	Recently Confirmed	2000-2005	Special Concern		S3B	G5

New York Nature Explorer

Common Name	Subgroup	Distribution Status	Year Last Documente	Protection Status		Conservation Rank	
				State	Federal	State	Global
White-breasted Nuthatch *Sitta carolinensis*	Nuthatches	Recently Confirmed	2000-2005	Protected Bird		S5	G5
White-throated Sparrow *Zonotrichia albicollis*	Sparrows and Towhees	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
White-winged Crossbill *Loxia leucoptera*	Finches and Crossbills	Recently Confirmed	2000-2005	Protected Bird		S2S3	G5
Wild Turkey *Meleagris gallopavo*	Grouse, Pheasants, Turkeys	Recently Confirmed	2000-2005	Protected Bird - Game with open season		S5	G5
Willow Flycatcher *Empidonax traillii*	Flycatchers	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Wilson's Snipe *Gallinago delicata*	Gulls, Terns, Plovers, Shorebirds	Recently Confirmed	2000-2005	Protected Bird - Game with open season		S5B	G5
Wilson's Warbler *Cardellina pusilla*	Wood-Warblers	Recently Confirmed	2000-2005	Protected Bird		SNA	G5
Winter Wren *Troglodytes hiemalis*	Wrens	Recently Confirmed	2000-2005	Protected Bird		S5	G5
Wood Duck *Aix sponsa*	Ducks, Geese, Waterfowl	Recently Confirmed	2000-2005	Protected Bird - Game with open season		S5	G5
Wood Thrush *Hylocichla mustelina*	Thrushes and Bluebirds	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Yellow Warbler *Setophaga petechia*	Wood-Warblers	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Yellow-bellied Flycatcher *Empidonax flaviventris*	Flycatchers	Recently Confirmed	2000-2005	Protected Bird		S3B	G5
Yellow-bellied Sapsucker *Sphyrapicus varius*	Woodpeckers	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Yellow-billed Cuckoo *Coccyzus americanus*	Cuckoos	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Yellow-rumped Warbler *Setophaga coronata*	Wood-Warblers	Recently Confirmed	2000-2005	Protected Bird		S5B	G5
Yellow-throated Vireo *Vireo flavifrons*	Vireos	Recently Confirmed	2000-2005	Protected Bird		S5B	G5

New York Nature Explorer

Common Name	Subgroup	Distribution Status	Year Last Documente	Protection Status		Conservation Rank	
				State	Federal	State	Global
Animal: Reptiles							
Blanding's Turtle *Emydoidea blandingii*	Turtles	Recently Confirmed	2009	Threatened		S2S3	G4
Common Gartersnake *Thamnophis sirtalis*	Snakes	Recently Confirmed	1990-1999	Game with no open season		S5	G5
Common Map Turtle *Graptemys geographica*	Turtles	Recently Confirmed	1990-1999	Game with no open season		S3	G5
Dekay's Brownsnake *Storeria dekayi*	Snakes	Recently Confirmed	1990-1999	Game with no open season		S5	G5
Eastern Ribbonsnake *Thamnophis sauritus*	Snakes	Recently Confirmed	1990-1999	Game with no open season		S4	G5
Milksnake *Lampropeltis triangulum*	Snakes	Recently Confirmed	1990-1999	Game with no open season		S5	G5
Painted Turtle *Chrysemys picta*	Turtles	Recently Confirmed	1990-1999	Game with no open season		S5	G5
Red-bellied Snake *Storeria occipitomaculata*	Snakes	Recently Confirmed	1990-1999	Game with no open season		S5	G5
Ring-necked Snake *Diadophis punctatus*	Snakes	Recently Confirmed	1990-1999	Game with no open season		S5	G5
Smooth Green Snake *Opheodrys vernalis*	Snakes	Recently Confirmed	1990-1999	Game with no open season		S4	G5
Snapping Turtle *Chelydra serpentina*	Turtles	Recently Confirmed	1990-1999	Game with open season		S5	G5
Spiny Softshell *Apalone spinifera*	Turtles	Historically Confirmed		Special Concern		S2S3	G5
Wood Turtle *Glyptemys insculpta*	Turtles	Recently Confirmed	1990-1999	Special Concern		S3	G3
Animal: Amphibians							
Allegheny Mountain Dusky Salamander *Desmognathus ochrophaeus*	Salamanders	Recently Confirmed	1990-1999	Game with no open season		S5	G5
American Toad *Anaxyrus americanus*	Frogs and Toads	Recently Confirmed	1990-1999	Game with open season		S5	G5

New York Nature Explorer

Common Name	Subgroup	Distribution Status	Year Last Documente	Protection Status		Conservation Rank	
				State	Federal	State	Global
Blue-spotted Salamander *Ambystoma laterale*	Salamanders	Recently Confirmed	1990-1999	Special Concern		S4	G5
Bullfrog *Lithobates catesbeianus*	Frogs and Toads	Recently Confirmed	1990-1999	Game with open season		S5	G5
Dusky Salamander *Desmognathus fuscus*	Salamanders	Recently Confirmed	1990-1999	Game with no open season		S5	G5
Eastern Newt *Notophthalmus viridescens*	Salamanders	Recently Confirmed	1990-1999	Game with no open season		S5	G5
Four-toed Salamander *Hemidactylium scutatum*	Salamanders	Recently Confirmed	1990-1999	Game with no open season		S5	G5
Gray Treefrog *Hyla versicolor*	Frogs and Toads	Recently Confirmed	1990-1999	Game with open season		S5	G5
Green Frog *Lithobates clamitans*	Frogs and Toads	Recently Confirmed	1990-1999	Game with open season		S5	G5
Jefferson Salamander Complex *Ambystoma jeffersonianum x laterale*	Salamanders	Recently Confirmed	1990-1999	Game with no open season		SNA	GU
Mink Frog *Lithobates septentrionalis*	Frogs and Toads	Recently Confirmed	1990-1999	Game with open season		S5	G5
Mudpuppy *Necturus maculosus*	Salamanders	Recently Confirmed	1990-1999	Game with no open season		S4	G5
Northern Leopard Frog *Lithobates pipiens*	Frogs and Toads	Recently Confirmed	1990-1999	Game with open season		S5	G5
Northern Two-lined Salamander *Eurycea bislineata*	Salamanders	Recently Confirmed	1990-1999	Game with no open season		S5	G5
Pickerel Frog *Lithobates palustris*	Frogs and Toads	Recently Confirmed	1990-1999	Game with open season		S5	G5
Redback Salamander *Plethodon cinereus*	Salamanders	Recently Confirmed	1990-1999	Game with no open season		S5	G5
Spotted Salamander *Ambystoma maculatum*	Salamanders	Recently Confirmed	1990-1999	Game with no open season		S5	G5
Spring Peeper *Pseudacris crucifer*	Frogs and Toads	Recently Confirmed	1990-1999	Game with open season		S5	G5

New York Nature Explorer

Common Name	Subgroup	Distribution Status	Year Last Documente	Protection Status		Conservation Rank	
				State	Federal	State	Global
Spring Salamander *Gyrinophilus porphyriticus*	Salamanders	Recently Confirmed	1990-1999	Game with no open season		S5	G5
Wood Frog *Lithobates sylvaticus*	Frogs and Toads	Recently Confirmed	1990-1999	Game with open season		S5	G5

Animal: Fish

Blackchin Shiner *Notropis heterodon*	Minnows, Shiners, Suckers	Historically Confirmed	1970			S1	G5
Eastern Sand Darter *Ammocrypta pellucida*	Darters and Sunfishes	Recently Confirmed	1991	Threatened		S2	G4
Lake Sturgeon *Acipenser fulvescens*	Sturgeons and Paddlefish	Recently Confirmed	1988	Threatened		S1S2	G3G4
Northern Brook Lamprey *Ichthyomyzon fossor*	Lampreys	Recently Confirmed	1998			S1	G4
Round Whitefish *Prosopium cylindraceum*	Salmon and Trout	Recently Confirmed	2011	Endangered		S1S2	G5

Animal: Butterflies and Moths

Acadian Swordgrass Moth *Xylena thoracica*	Moths	Recently Confirmed	1988			S1S2	G4
Jutta Arctic *Oeneis jutta*	Butterflies and Skippers	Recently Confirmed	2009			S1	G5

Animal: Dragonflies and Damselflies

Brook Snaketail *Ophiogomphus aspersus*	Dragonflies	Historically Confirmed	1900			S3	G4
Delicate Emerald *Somatochlora franklini*	Dragonflies	Recently Confirmed	2010			S1	G5
Ebony Boghaunter *Williamsonia fletcheri*	Dragonflies	Recently Confirmed	2008			S1	G4
Forcipate Emerald *Somatochlora forcipata*	Dragonflies	Recently Confirmed	2014			S1	G5
Incurvate Emerald *Somatochlora incurvata*	Dragonflies	Recently Confirmed	2014			S1	G4

New York Nature Explorer

Common Name	Subgroup	Distribution Status	Year Last Documente	Protection Status		Conservation Rank	
				State	Federal	State	Global
Lake Emerald *Somatochlora cingulata*	Dragonflies	Recently Confirmed	2005			S1	G5
Lyre-tipped Spreadwing *Lestes unguiculatus*	Damselflies	Recently Confirmed				S2S3	G5
Ocellated Emerald *Somatochlora minor*	Dragonflies	Recently Confirmed	2008			S2S3	G5
Subarctic Bluet *Coenagrion interrogatum*	Damselflies	Recently Confirmed				S1	G5
Subarctic Darner *Aeshna subarctica*	Dragonflies	Recently Confirmed	2011			S1	G5

Animal: Bees, Wasps, and Ants

Yellowbanded Bumble Bee *Bombus (Bombus) terricola*	Bees	Recently Confirmed				S1	G2G4

Animal: Beetles

Three-banded Lady Beetle *Coccinella trifasciata*	Lady Beetles	Recently Confirmed				S2S3	GNR

Animal: Mussels and Clams

Fragile Papershell *Leptodea fragilis*	Freshwater Mussels	Recently Confirmed	2013			S3	G5
Pink Heelsplitter *Potamilus alatus*	Freshwater Mussels	Recently Confirmed	2013			S2S3	G5
Pocketbook *Lampsilis ovata*	Freshwater Mussels	Recently Confirmed	2007			S2S3	G5
Yellow Lampmussel *Lampsilis cariosa*	Freshwater Mussels	Recently Confirmed	2007			S3	G3G4

Animal: Animal Assemblages

Bat Colony *Bat Colony*	Animal Assemblages	Recently Confirmed	1985			SNR	GNR

Plant: Flowering Plants

New York Nature Explorer

Common Name	Subgroup	Distribution Status	Year Last Documente	Protection Status		Conservation Rank	
				State	Federal	State	Global
Alpine Goldenrod *Solidago leiocarpa*	Asters, Goldenrods and Daisies	Historically Confirmed		Threatened		S2	G4
American Dragonhead *Dracocephalum parviflorum*	Other Flowering Plants	Historically Confirmed	1889	Endangered		S1	G5
Balsam Willow *Salix pyrifolia*	Other Flowering Plants	Recently Confirmed	2003	Rare		S3	G5
Bog Aster *Oclemena nemoralis*	Asters, Goldenrods and Daisies	Historically Confirmed		Rare		S3	G5
Canada Ricegrass *Piptatherum canadense*	Grasses	Recently Confirmed	2005	Threatened		S2	G5
Cloud Sedge *Carex haydenii*	Sedges	Recently Confirmed	2005	Endangered		S1	G5
Common Mare's-tail *Hippuris vulgaris*	Other Flowering Plants	Recently Confirmed	1933	Endangered		S1	G5
Dragon's Mouth Orchid *Arethusa bulbosa*	Orchids	Recently Confirmed		Threatened		S2	G4
Farwell's Water-milfoil *Myriophyllum farwellii*	Other Flowering Plants	Historically Confirmed		Threatened		S2	G5
Fernald's Sedge *Carex merritt-fernaldii*	Sedges	Recently Confirmed		Threatened		S2S3	G5
Few-seed Sedge *Carex oligosperma*	Sedges	Recently Confirmed		Rare		S3	G5
Globose Flatsedge *Cyperus echinatus*	Sedges	Possible but not Confirmed		Endangered		S1	G5
Gypsy-wort *Lycopus rubellus*	Other Flowering Plants	Historically Confirmed		Endangered		S1	G5
Hiddenfruit Bladderwort *Utricularia geminiscapa*	Other Flowering Plants	Possible but not Confirmed		Rare		S3	G4G5
High-mountain Blueberry *Vaccinium boreale*	Other Flowering Plants	Historically Confirmed		Threatened		S2	G4
Houghton's Sedge *Carex houghtoniana*	Sedges	Historically Confirmed		Threatened		S2	G5

New York Nature Explorer

Common Name	Subgroup	Distribution Status	Year Last Documente	Protection Status		Conservation Rank	
				State	Federal	State	Global
Mock-pennyroyal *Hedeoma hispida*	Other Flowering Plants	Historically Confirmed		Threatened		S2S3	G5
Narrow-leaf Cottongrass *Eriophorum angustifolium ssp. angustifolium*	Sedges	Historically Confirmed		Endangered		SH	G5T5
New England Northern Reedgrass *Calamagrostis stricta ssp. inexpansa*	Grasses	Historically Confirmed		Threatened		S2	G5T5
Northeastern Sedge *Carex cryptolepis*	Sedges	Recently Confirmed		Rare		S3	G4
Northern Bog Aster *Symphyotrichum boreale*	Asters, Goldenrods and Daisies	Historically Confirmed		Threatened		S2	G5
Northern Bog Violet *Viola nephrophylla*	Other Flowering Plants	Possible but not Confirmed		Endangered		S1	G5
Northern Clustered Sedge *Carex arcta*	Sedges	Historically Confirmed	1976	Endangered		S1	G5
Northern Pondweed *Potamogeton alpinus*	Other Flowering Plants	Historically Confirmed		Threatened		S2	G5
Northern Wild Comfrey *Cynoglossum virginianum var. boreale*	Other Flowering Plants	Possible but not Confirmed		Endangered		S1S2	G5T4T5
Ontario Aster *Symphyotrichum ontarionis*	Asters, Goldenrods and Daisies	Recently Confirmed		Rare		S3	G5
Ovate Spikerush *Eleocharis ovata*	Sedges	Historically Confirmed		Endangered		S1S2	G5
Pickering's Reedgrass *Calamagrostis pickeringii*	Grasses	Historically Confirmed		Rare		S3	G4
Pod Grass *Scheuchzeria palustris*	Other Flowering Plants	Recently Confirmed	2005	Rare		S3	G5
Prickly Hornwort *Ceratophyllum echinatum*	Other Flowering Plants	Historically Confirmed		Rare		S3	G4?
Rhodora *Rhododendron canadense*	Other Flowering Plants	Recently Confirmed	1988	Threatened		S2	G5
Riverweed *Podostemum ceratophyllum*	Other Flowering Plants	Historically Confirmed	1980	Threatened		S2	G5

Common Name	Subgroup	Distribution Status	Year Last Documente	Protection Status		Conservation Rank	
				State	Federal	State	Global
Slender Bulrush *Schoenoplectus heterochaetus*	Sedges	Recently Confirmed	1999	Endangered		S1	G5
Small Bur-reed *Sparganium natans*	Other Flowering Plants	Historically Confirmed		Threatened		S2	G5
Sooty Beakrush *Rhynchospora fusca*	Sedges	Recently Confirmed		Rare		S3S4	G4G5
Squashberry *Viburnum edule*	Other Flowering Plants	Recently Confirmed	2002	Threatened		S2	G5
Swamp Birch *Betula pumila*	Other Flowering Plants	Recently Confirmed	2005	Threatened		S2	G5
Water Awlwort *Subularia aquatica var. americana*	Other Flowering Plants	Historically Confirmed		Endangered		S1S2	G5T5
Water-marigold *Bidens beckii*	Asters, Goldenrods and Daisies	Historically Confirmed				S3	G4G5
Water-thread Pondweed *Potamogeton diversifolius*	Other Flowering Plants	Historically Confirmed		Endangered		S1	G5
Wiegand's Sedge *Carex wiegandii*	Sedges	Recently Confirmed	2005	Endangered		S1	G4

Plant: Ferns and Fern Allies

Fragrant Cliff Fern *Dryopteris fragrans*	Ferns	Recently Confirmed		Endangered		S1	G5
Northern Running-pine *Diphasiastrum complanatum*	Clubmosses	Recently Confirmed	2003	Endangered		S1	G5
Sitka Clubmoss *Diphasiastrum sitchense*	Clubmosses	Recently Confirmed	2003	Endangered		S1	G5

Natural Community: Uplands

Balsam Flats *Balsam flats*	Forested Uplands	Recently Confirmed	1998			S3S4	G4
Beech-Maple Mesic Forest *Beech-maple mesic forest*	Forested Uplands	Recently Confirmed	2003			S4	G4

Common Name	Subgroup	Distribution Status	Year Last Documente	Protection Status		Conservation Rank	
				State	Federal	State	Global
Boreal Heath Barrens *Boreal heath barrens*	Barrens and Woodlands	Recently Confirmed	1989			S1	G3G4
Hemlock-Northern Hardwood Forest *Hemlock-northern hardwood forest*	Forested Uplands	Recently Confirmed	1992			S4	G4G5
Pine-Northern Hardwood Forest *Pine-northern hardwood forest*	Forested Uplands	Recently Confirmed	2002			S4	G4
Spruce Flats *Spruce flats*	Forested Uplands	Recently Confirmed	1989			S4	G4?
Successional Blueberry Heath *Successional blueberry heath*	Open Uplands	Recently Confirmed	1996			S4	G4
Successional Fern Meadow *Successional fern meadow*	Open Uplands	Recently Confirmed	1996			S3S4	G4
Successional Northern Hardwoods *Successional northern hardwoods*	Forested Uplands	Recently Confirmed	1987			S5	G5
Successional Northern Sandplain Grassland *Successional northern sandplain grassland*	Open Uplands	Recently Confirmed	1996			S3	G4?

Natural Community: Subterranean

Terrestrial Cave Community *Terrestrial cave community*	Natural Caves	Recently Confirmed	1996			S2S3	G4

Natural Community: Freshwater Nontidal Wetlands

Black Spruce-Tamarack Bog *Black spruce-tamarack bog*	Forested Peatlands	Recently Confirmed	2003			S3	G4G5
Deep Emergent Marsh *Deep emergent marsh*	Open Mineral Soil Wetlands	Recently Confirmed	1997			S5	G5
Dwarf Shrub Bog *Dwarf shrub bog*	Open Peatlands	Recently Confirmed	2014			S3	G4
Floodplain Forest *Floodplain forest*	Forested Mineral Soil Wetlands	Recently Confirmed	1996			S2S3	G3G4
Inland Non-calcareous Lake Shore *Inland non-calcareous lake shore*	Open Mineral Soil Wetlands	Recently Confirmed	1997			S4	G4G5
Inland Poor Fen *Inland poor fen*	Open Peatlands	Recently Confirmed	2013			S3	G4

New York Nature Explorer

Common Name	Subgroup	Distribution Status	Year Last Documente	Protection Status		Conservation Rank	
				State	Federal	State	Global
Medium Fen	Open Peatlands	Recently Confirmed	1997			S2S3	G3G4
Medium fen							
Patterned Peatland	Open Peatlands	Recently Confirmed	2014			S1	G3G4
Patterned peatland							
Sedge Meadow	Open Peatlands	Recently Confirmed	2002			S4	G5
Sedge meadow							
Shrub Swamp	Open Mineral Soil Wetlands	Recently Confirmed	2002			S5	G5
Shrub swamp							
Spruce-Fir Swamp	Forested Mineral Soil Wetlands	Recently Confirmed	1996			S3	G3G4
Spruce-fir swamp							

Natural Community: Lakes and Ponds

Bog Lake	Natural Lakes and Ponds	Recently Confirmed	2003			S3	G4
Bog lake							
Meromictic Lake	Natural Lakes and Ponds	Recently Confirmed	1997			S1S2	G3G4
Meromictic lake							
Oligotrophic Dimictic Lake	Natural Lakes and Ponds	Recently Confirmed	1996			S3	G4
Oligotrophic dimictic lake							
Oxbow Lake	Natural Lakes and Ponds	Recently Confirmed	1996			S3	G4
Oxbow lake							

Natural Community: Rivers and Streams

Backwater Slough	Natural Rivers and Streams	Recently Confirmed	1996			S2S3	G4
Backwater slough							
Unconfined River	Natural Rivers and Streams	Recently Confirmed	1996			S3S4	G4
Unconfined river							

This list only includes records from the databases of the NY Natural Heritage Program, the second NYS Breeding Bird Atlas Project, and the NY Amphibian and Reptile Atlas Project. This list is not a definitive statement about the presence or absence of all plants and animals, including rare or state-listed species, or of all significant natural communities.

Appendix E- United State Fish and Wildlife Federal Threatened and Endangered Species List for the Salmon River Watershed

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES AND CANDIDATE SPECIES IN NEW YORK (By County)

This list represents the best available information regarding known or likely County occurrences of Federally-listed and candidate species and is subject to change as new information becomes available.

COUNTY Common Name	Scientific Name	Status
ALBANY		
Bald eagle	*Haliaeetus leucocephalus*	D
Bog turtle *(Historic)*	*Clemmys [=Glyptemys] muhlenbergii*	T
Indiana bat (W/S)[3]	*Myotis sodalis*	E
Karner blue butterfly	*Lycaeides melissa samuelis*	E
ALLEGANY		
Bald eagle[2]	*Haliaeetus leucocephalus*	D
BRONX[2]		
BROOME		
Bald eagle[2]	*Haliaeetus leucocephalus*	D
CATTARAUGUS		
Bald eagle	*Haliaeetus leucocephalus*	D
Clubshell	*Pleurobema clava*	E
Rayed bean	*Villosa fabalis*	E
CAYUGA		
Bald eagle	*Haliaeetus leucocephalus*	D
Bog turtle	*Clemmys [=Glyptemys] muhlenbergii*	T
Indiana bat (S)	*Myotis sodalis*	E
CHAUTAUQUA		
Bald eagle	*Haliaeetus leucocephalus*	D
Clubshell	*Pleurobema clava*	E
Rayed bean	*Villosa fabalis*	E
CHEMUNG		
Bald eagle[2]	*Haliaeetus leucocephalus*	D
CHENANGO		
Bald eagle[2]	*Haliaeetus leucocephalus*	D

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES AND CANDIDATE SPECIES IN NEW YORK (By County)

This list represents the best available information regarding known or likely County occurrences of Federally-listed and candidate species and is subject to change as new information becomes available.

COUNTY Common Name	Scientific Name	Status
CLINTON		
Bald eagle	*Haliaeetus leucocephalus*	D
Indiana bat (S)	*Myotis sodalis*	E
COLUMBIA		
Bald eagle	*Haliaeetus leucocephalus*	D
Bog turtle	*Clemmys [=Glyptemys] muhlenbergii*	T
Indiana bat (S)	*Myotis sodalis*	E
New England cottontail	*Sylvilagus transitionalis*	C
CORTLAND		
Bald eagle[2]	*Haliaeetus leucocephalus*	D
DELAWARE		
Bald eagle	*Haliaeetus leucocephalus*	D
Dwarf wedgemussel	*Alasmidonta heterodon*	E
Northern monkshood	*Aconitum noveboracense*	T
DUTCHESS		
Bald eagle	*Haliaeetus leucocephalus*	D
Bog turtle	*Clemmys [=Glyptemys] muhlenbergii*	T
Dwarf wedgemussel (Housatonic River Drainage)	*Alasmidonta heterodon*	E
Indiana bat (S)	*Myotis sodalis*	E
New England cottontail	*Sylvilagus transitionalis*	C
ERIE		
Bald eagle[2]	*Haliaeetus leucocephalus*	D
ESSEX		
Indiana bat (W/S)	*Myotis sodalis*	E
FRANKLIN		
Bald eagle[2]	*Haliaeetus leucocephalus*	D
FULTON		
Bald eagle[2]	*Haliaeetus leucocephalus*	D

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES AND CANDIDATE SPECIES IN NEW YORK (By County)

This list represents the best available information regarding known or likely County occurrences of Federally-listed and candidate species and is subject to change as new information becomes available.

COUNTY Common Name	Scientific Name	Status
GENESEE		
Bald eagle	*Haliaeetus leucocephalus*	D
Bog turtle *(Historic)*	*Clemmys [=Glyptemys] muhlenbergii*	T
Eastern massasauga	*Sistrurus catenatus catenatus*	C
Eastern prairie fringed orchid *(Historic)*	*Platanthera leucophaea*	T
Houghton's goldenrod	*Solidago houghtonii*	T
GREENE		
Bald eagle	*Haliaeetus leucocephalus*	D
Indiana bat (S)	*Myotis sodalis*	E
HAMILTON		
Bald eagle[2]	*Haliaeetus leucocephalus*	D
HERKIMER[2]		
JEFFERSON		
Bald eagle	*Haliaeetus leucocephalus*	D
Indiana bat (W/S)	*Myotis sodalis*	E
Piping plover {Designated Critical Habitat}	*Charadrius melodus*	E
KINGS[2]		
LEWIS		
Indiana bat (S)	*Myotis sodalis*	E
LIVINGSTON		
Bald eagle[2]	*Haliaeetus leucocephalus*	D
MADISON		
American hart's-tongue fern	*Asplenium scolopendrium* var. *americana*	T
Chittenango ovate amber snail	*Novisuccinea chittenangoensis*	T
Indiana bat (S)	*Myotis sodalis*	E

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES AND CANDIDATE SPECIES IN NEW YORK (By County)

This list represents the best available information regarding known or likely County occurrences of Federally-listed and candidate species and is subject to change as new information becomes available.

COUNTY Common Name	Scientific Name	Status
MONROE		
Bald eagle	*Haliaeetus leucocephalus*	D
Bog turtle (Riga and Sweden Townships)	*Clemmys [=Glyptemys] muhlenbergii*	T
MONTGOMERY[2]		
NASSAU		
Piping plover[4]	*Charadrius melodus*	T
Roseate tern	*Sterna dougallii dougallii*	E
Sandplain gerardia	*Agalinis acuta*	E
Seabeach amaranth	*Amaranthus pumilus*	T
Small whorled pogonia *(Historic)*	*Isotria medeoloides*	T
NEW YORK[2]		
NIAGARA		
Bald eagle	*Haliaeetus leucocephalus*	D
Eastern prairie fringed orchid *(Historic)*	*Platanthera leucophaea*	T
ONEIDA		
Bog turtle (Camden, Florence Townships)	*Clemmys [=Glyptemys] muhlenbergii*	T
Indiana bat (S)	*Myotis sodalis*	E
ONONDAGA		
American hart's-tongue fern	*Asplenium scolopendrium* var. *americana*	T
Bald eagle	*Haliaeetus leucocephalus*	D
Bog turtle	*Clemmys [=Glyptemys] muhlenbergii*	T
Eastern massasauga	*Sistrurus catenatus catenatus*	C
Eastern prairie fringed orchid *(Historic)*	*Platanthera leucophaea*	T
Indiana bat (W/S)	*Myotis sodalis*	E
Small whorled pogonia *(Historic)*	*Isotria medeoloides*	T

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES AND CANDIDATE SPECIES IN NEW YORK (By County)

This list represents the best available information regarding known or likely County occurrences of Federally-listed and candidate species and is subject to change as new information becomes available.

COUNTY Common Name	Scientific Name	Status
ONTARIO		
Bald eagle	*Haliaeetus leucocephalus*	D
Bog turtle (Phelps Township)	*Clemmys [=Glyptemys] muhlenbergii*	T
ORANGE		
Bald eagle	*Haliaeetus leucocephalus*	D
Bog turtle	*Clemmys [=Glyptemys] muhlenbergii*	T
Dwarf wedgemussel	*Alasmidonta heterodon*	E
Indiana bat (S)	*Myotis sodalis*	E
Small whorled pogonia	*Isotria medeoloides*	T
ORLEANS		
Bald eagle	*Haliaeetus leucocephalus*	D
Bog turtle (Clarendon Township)	*Clemmys muhlenbergii*	T
Eastern prairie fringed orchid *(Historic)*	*Platanthera leucophaea*	T
OSWEGO		
Bald eagle	*Haliaeetus leucocephalus*	D
Bog turtle	*Clemmys [=Glyptemys] muhlenbergii*	T
Indiana bat (S)	*Myotis sodalis*	E
Piping plover {Designated Critical Habitat}	*Charadrius melodus*	E
OTSEGO		
Bald eagle	*Haliaeetus leucocephalus*	D
Bog turtle *(Historic)*	*Clemmys [=Glyptemys] muhlenbergii*	T
PUTNAM		
Bald eagle	*Haliaeetus leucocephalus*	D
Bog turtle	*Clemmys [=Glyptemys] muhlenbergii*	T
Indiana bat (S)	*Myotis sodalis*	E
New England cottontail	*Sylvilagus transitionalis*	C

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COUNTY Common Name	Scientific Name	Status
QUEENS		
Piping plover	*Charadrius melodus*	T
Roseate tern	*Sterna dougallii dougallii*	E
Seabeach amaranth	*Amaranthus pumilus*	T
RENSSELAER		
Bald eagle	*Haliaeetus leucocephalus*	D
Indiana bat (S)[3]	*Myotis sodalis*	E
RICHMOND[2]		
ROCKLAND		
Bald eagle	*Haliaeetus leucocephalus*	D
Bog turtle	*Clemmys[=Glyptemys] muhlenbergii*	T
Indiana bat (S)	*Myotis sodalis*	E
Small whorled pogonia	*Isotria medeoloides (Historic)*	T
SARATOGA		
Bald eagle	*Haliaeetus leucocephalus*	D
Indiana bat (S)[3]	*Myotis sodalis*	E
Karner blue butterfly	*Lycaeides melissa samuelis*	E
SCHENECTADY		
Indiana bat (S)[3]	*Myotis sodalis*	E
Karner blue butterfly	*Lycaeides melissa samuelis*	E
SCHOHARIE		
Bald eagle	*Haliaeetus leucocephalus*	D
Indiana bat (S)[3]	*Myotis sodalis*	E
SCHUYLER		
Leedy's roseroot	*Rhodiola integrifolia* ssp. *leedyi (=Sedum integrifolium* ssp. *l.)*	T

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES AND CANDIDATE SPECIES IN NEW YORK (By County)

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COUNTY Common Name	Scientific Name	Status
SENECA		
Bald eagle	*Haliaeetus leucocephalus*	D
Bog turtle	*Clemmys [=Glyptemys] muhlenbergii*	T
Indiana bat (S)	*Myotis sodalis*	E
ST. LAWRENCE		
Bald eagle	*Haliaeetus leucocephalus*	D
Indiana bat (S)	*Myotis sodalis*	E
STEUBEN		
Bald eagle	*Haliaeetus leucocephalus*	D
Northeastern bulrush	*Scirpus ancistrochaetus*	E
SUFFOLK		
Kemp's [=Atlantic] ridley turtle[1]	*Lepidochelys kempi*	E
Green turtle[1]	*Chelonia mydas*	T
Hawksbill turtle[1]	*Eretmochelys imbricate*	E
Leatherback turtle[1]	*Dermochelys coriacea*	E
Loggerhead turtle[1]	*Caretta caretta*	T
Piping plover[4]	*Charadrius melodus*	T
Roseate tern	*Sterna dougallii dougallii*	E
Sandplain gerardia	*Agalinis acuta*	E
Seabeach amaranth	*Amaranthus pumilus*	T
Small whorled pogonia *(Historic)*	*Isotria medeoloides*	T
SULLIVAN		
Bald eagle	*Haliaeetus leucocephalus*	D
Bog turtle	*Clemmys [=Glyptemys] muhlenbergii*	T
Dwarf wedgemussel	*Alasmidonta heterodon*	E
Indiana bat (S)	*Myotis sodalis*	E
Northern wild monkshood	*Aconitum noveboracense*	T
TIOGA		
Bald eagle[2]	*Haliaeetus leucocephalus*	D

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES AND CANDIDATE SPECIES IN NEW YORK (By County)

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COUNTY Common Name	Scientific Name	Status
TOMPKINS		
Bald eagle	*Haliaeetus leucocephalus*	D
Bog turtle *(Historic)*	*Clemmys [=Glyptemys] muhlenbergii*	T
ULSTER		
Bald eagle	*Haliaeetus leucocephalus*	D
Bog turtle	*Clemmys [=Glyptemys] muhlenbergii*	T
Indiana bat (W/S)	*Myotis sodalis*	E
Northern wild monkshood	*Aconitum noveboracense*	T
Small whorled pogonia *(Historic)*	*Isotria medeoloides*	T
WARREN		
Bog turtle *(Historic)*	*Clemmys [=Glyptemys] muhlenbergii*	T
Indiana bat (W/S)	*Myotis sodalis*	E
Karner blue butterfly	*Lycaeides melissa samuelis*	E
WASHINGTON		
Indiana bat (S)	*Myotis sodalis*	E
Small whorled pogonia *(Historic)*	*Isotria medeoloides*	T
WAYNE		
Bald eagle	*Haliaeetus leucocephalus*	D
Bog turtle	*Clemmys [=Glyptemys] muhlenbergii*	T
Eastern prairie fringed orchid *(Historic)*	*Platanthera leucophaea*	T
Indiana bat (S)	*Myotis sodalis*	E
WESTCHESTER		
Bald eagle	*Haliaeetus leucocephalus*	D
Bog turtle	*Clemmys [=Glyptemys] muhlenbergii*	T
Indiana bat (S)	*Myotis sodalis*	E
New England cottontail	*Sylvilagus transitionalis*	C

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES AND CANDIDATE SPECIES IN NEW YORK (By County)

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COUNTY Common Name	Scientific Name	Status
WYOMING		
Bald eagle[2]	*Haliaeetus leucocephalus*	D
YATES		
Bald eagle	*Haliaeetus leucocephalus*	D
Leedy's roseroot	*Rhodiola integrifolia* ssp. *leedyi* *(=Sedum integrifolium* ssp. *l.)*	T

E=endangered T=threatened P=proposed C=candidate D=delisted

W=winter S=summer - Please note that the Indiana bat may occur in additional counties but we have listed the counties with the greatest likelihood of Indiana bat presence.

[1] Except for sea turtle nesting habitat, principal responsibility for these species is vested with the National Oceanic and Atmospheric Administration Fisheries. Please visit the following website for more information http://www.nmfs.noaa.gov/pr/species/esa.htm.

[2] Except for occasional transient individuals, no Federally-listed or proposed endangered or threatened species, or candidate species under our jurisdiction are known to exist in these counties.

[3] While Indiana bats were known to winter in Albany County, we now believe they are likely extirpated or in such small numbers that it is unlikely that they would be present and impacted by any specific proposed projects in Albany, Rensselaer, Saratoga, Schenectady, and Schoharie Counties. This determination may change as we receive new information.

[4] Piping plovers are found in Suffolk and Nassau County; however, their early successional habitat is only found at the shoreline, on barrier islands, sandy beaches, and dredged material disposal islands. Please see the fact sheet at http://nyfo.fws.gov/es/PipingPloverFactSheet07.pdf for more information on suitable habitat.