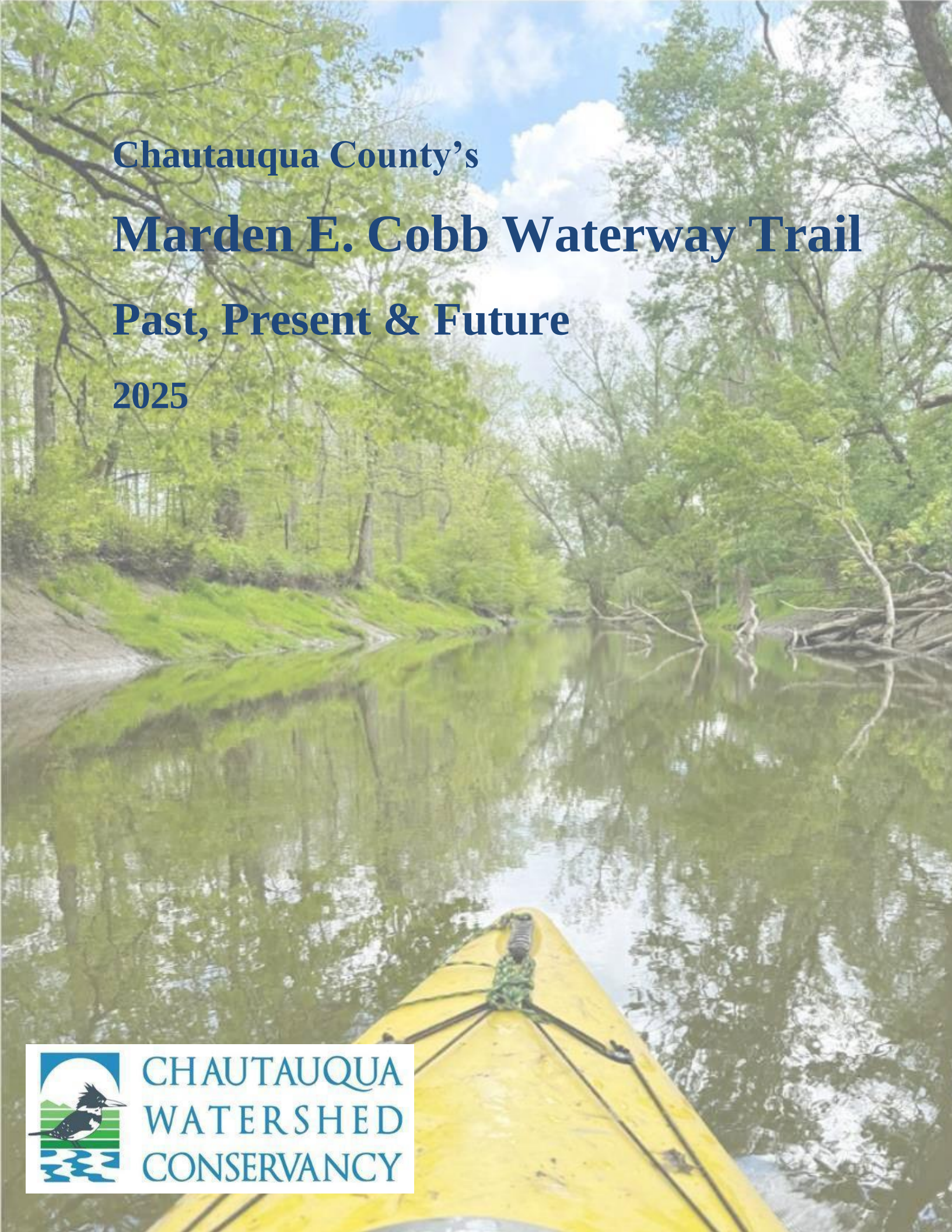


Chautauqua County's

Marden E. Cobb Waterway Trail

Past, Present & Future

2025

CHAUTAUQUA WATERSHED CONSERVANCY

This document provides an overview of the work that has been carried out in Chautauqua County's major waterways in recent years, specifically in the section known as the Marden E. Cobb Waterway Trail, to improve safety and hydrological functionality, but also to prepare for future activation. Aspects of the region's history, geology, and ecology, as well as practical information on the system's infrastructure and its challenges, are summarized here to provide a starting point for future work. Recommendations for the next steps in restoration, activation, and resiliency improvements are provided also.

In-water restoration and hazard mitigation work, mapping efforts, environmental assessments, and the production of this plan were made possible through American Rescue Plan Allocations (ARPA) funding provided to the Chautauqua Watershed Conservancy by the Chautauqua County Legislature, with support from the Chautauqua County Department of Public Facilities, The Chautauqua County Parks Department, and the Chautauqua County Department of Planning and Economic Development.

This plan was produced by Daniel Conklin and Twan Leenders. March 19, 2025.

For more information, please contact:

Chautauqua Watershed Conservancy
c/o Twan Leenders, Director of Conservation
71 East Fairmount Avenue
PO Box 45
Lakewood, NY 14750
info@chautauquawatershed.org

Table of Contents

1. History and Background

The Marden E. Cobb Waterway Trail is a well-known and historic flat-water trail system that continues to be a significant piece of what makes Chautauqua County special. It consists of a series of launches and lean-tos on two creek systems, the Cassadaga Creek and the Conewango Creek, that together provide over 50 miles of waterway opportunities (11). The value of this trail system is not hard to find. In the past, it played a large role in the region's history, and it continues to be invaluable to this day as a resource for the local economy and as an ecosystem that is unique in the habitat it creates and the species that are found there as a result. With this waterway trail, an opportunity is created that most other regions would give anything for. That is the ability to control our destiny in terms of what happens with the creeks. Unlike most other places, these creeks act as one of the headwaters that ultimately join with the Mississippi River and flow into the Gulf of Mexico (9). As a result, there isn't a worry of problems upstream working their way down, making it far easier to obtain a healthy and valuable waterway trail. While in recent years, a lack of focus on the Marden E. Cobb has led to issues that need to be addressed, the opportunity exists now more than ever to restore this mighty resource and bring it into the spotlight once again.

Mississippi Watershed Map including headwaters in Northwestern, U.S.

Marden E. Cobb Waterway Trail sign outside of a launch point. Photo courtesy of National Recreation Trail.

Ecology and Economy go Hand in Hand

Economic sustainability, human health, and community well-being cannot be achieved and maintained without major investments and a deep commitment to restoring and reconnecting well-functioning ecosystems across our region. Protection, restoration, and long-term management of functional habitats and natural resources throughout Chautauqua County are strategies that prevent local extinctions of rare plants and animals and protect scenic areas while simultaneously enhancing regional economies and improving human health and community well-being.

Research indicates that when a region's forest and wetland cover drops below 70%, water quality begins to suffer. The same happens when impervious surfaces (roofs, streets, and paved areas) occupy more than 5% of land cover. These impacts are most pronounced when small tributary streams and vegetated wetlands are negatively affected.

During storm events, large streams and rivers primarily act as conduits that carry fast-flowing water loaded with sediment and contaminants to points downstream. Densely vegetated marshes, floodplains, and wetlands, on the other hand, store stormwater. Much of that will be absorbed into the ground before any surplus water, beyond the storage capacity of the wetland, is discharged into an outflow channel. Slowing down the flow of water as it flows toward low-lying areas reduces its eroding power, but it also causes already-suspended particles to sink, leaving sediment and contaminants behind in the floodplain rather than sending them downstream.

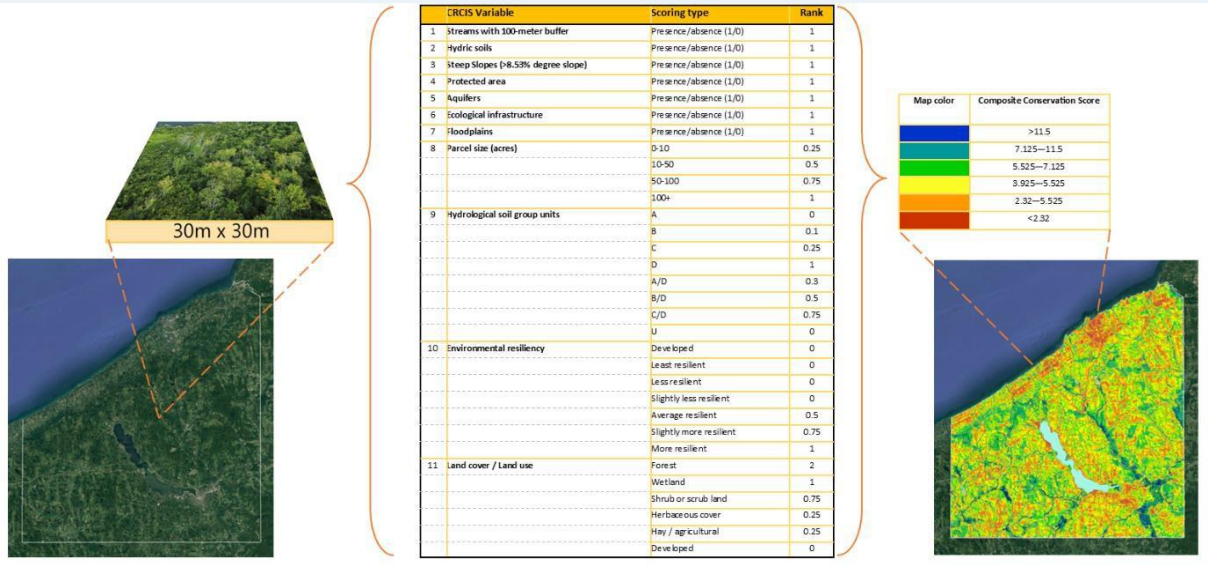
When enough functional forest and wetland habitat covers our floodplains and steep slopes, nature will prevent erosion, sediment run-off, and nutrient loading. These ecosystem functions will continue for free, 24/7/365. Nature does this job quietly — and looks beautiful doing so! Any time we alter or remove critical floodplain habitat, we lose some of that functionality. We are then faced with deteriorating water quality, increased erosion, and greater nutrient and sediment problems downstream. If nature can no longer remedy such problems, we need to deploy costly engineered solutions instead. Those generally don't work quietly nor are they very attractive.

Protecting and restoring critical habitat functionality in the right places will require upfront investments but, if done correctly, will provide sustainable, long-term cost savings and many other economic benefits. More importantly, it allows us to proactively prevent environmental and economic damages, rather than constantly having to apply expensive, short-lived "Band-Aids."

Chautauqua Watershed Conservancy's recently developed Comprehensive Regional Conservation Implementation Strategy (CRCIS) provides a framework to promote strategic investment in conservation where it will be most cost-effective. The CRCIS forms a basis for future investments in collaborative conservation, ecological restoration, and management activities that serve to protect our area's biodiversity and scenic beauty while improving community health, economic prosperity, and regional sustainability.

How Does the CRCIS Work?

In order to objectively identify the region's ecologically most important areas, we performed the following analysis: every pixel in **the map on the left** represents a 30m x 30m plot in the landscape. Using available data sets, each plot was evaluated and ranked against 11 variables that influence water quality, sustainability, and habitat functionality. The combined score across these variables (**listed in the attribute table below**) resulted in a composite conservation score (CCS) for each plot. Color codes were assigned to the CCS values following the **table on the right** to produce a visual representation of the county's ecologically most valuable areas, as shown in the map on the right. Areas indicated in dark blue are of the highest conservation value, whereas any area in teal or green has an above-average influence on our region's water and environmental quality.



	CRCIS Variable	Scoring type	Rank
1	Streams with 100-meter buffer	Presence/absence (1/0)	1
2	Hydric soils	Presence/absence (1/0)	1
3	Steep Slopes (>8.53% degree slope)	Presence/absence (1/0)	1
4	Protected area	Presence/absence (1/0)	1
5	Aquifers	Presence/absence (1/0)	1
6	Ecological infrastructure	Presence/absence (1/0)	1
7	Floodplains	Presence/absence (1/0)	1
8	Parcel size (acres)	0-10	0.25
		10-50	0.5
		50-100	0.75
		100+	1
9	Hydrological soil group units	A	0
		B	0.1
		C	0.25
		D	1
		A/D	0.3
		B/D	0.5
		C/D	0.75
		U	0
10	Environmental resiliency	Developed	0
		Least resilient	0
		Less resilient	0
		Slightly less resilient	0
		Average resilient	0.5
		Slightly more resilient	0.75
		More resilient	1
11	Land cover / Land use	Forest	2
		Wetland	1
		Shrub or scrub land	0.75
		Herbaceous cover	0.25
		Hay / agricultural	0.25
		Developed	0

Map color	Composite Conservation Score
	>11.5
	7.125—11.5
	5.525—7.125
	3.925—5.525
	2.32—5.525
	<2.32

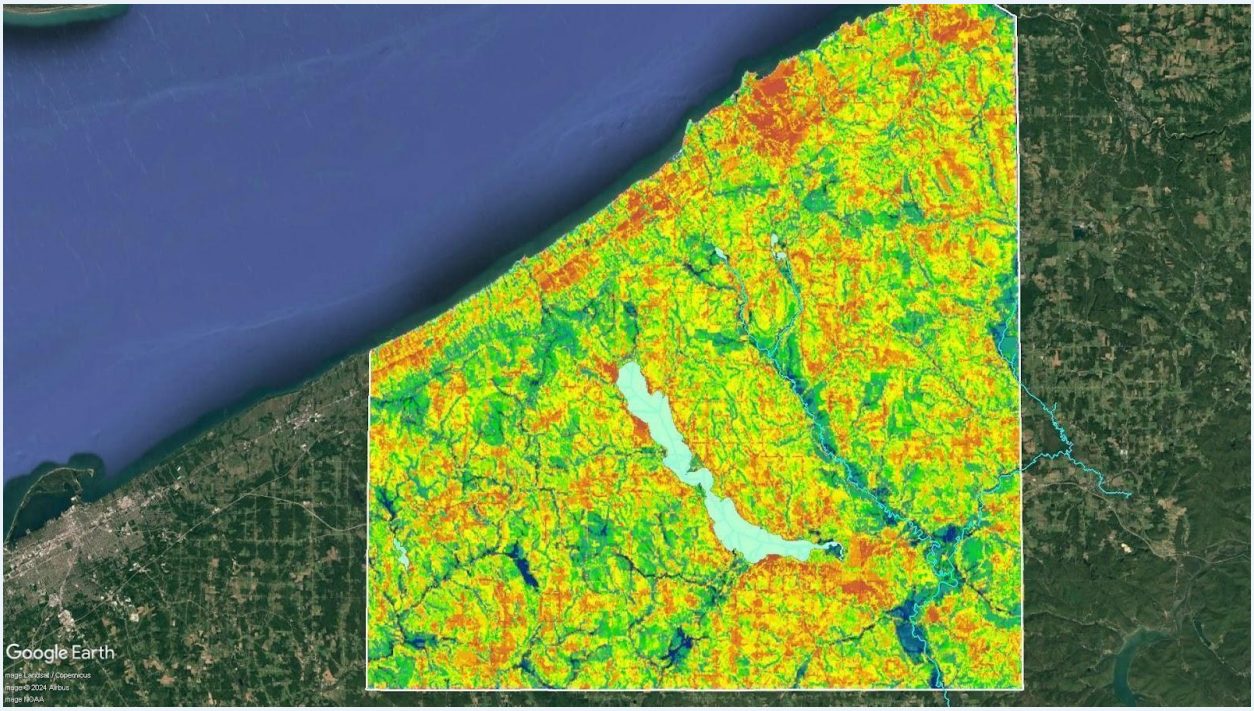
Prioritizing Areas with the Highest Conservation Value

Guided by this CRCIS analysis, the **map below** indicates Chautauqua County's areas of highest conservation priority. These areas have among the highest Composite Conservation Scores across the landscape (generally a CCS of 10 or higher, indicated in blue or teal on the map). Not surprisingly, most of the higher–scoring areas correspond with the county's lakes, tributaries, and major waterways — especially in areas where significant forest cover still exists.
Cassadaga Creek and Conewango Creek are identified as some of **the most important natural areas that should be protected to ensure long-term ecological and economic sustainability in our region**. These are the highest-priority areas to focus our attention on if, collectively, we want to expand our region's sustainability, its ecosystem functions, and its scenic beauty.

One of the main purposes of Chautauqua Watershed Conservancy's Collaborative Regional Conservation Implementation Strategy is to bring together the county's major landowners, conservation partners, decision-makers, and other relevant stakeholders around this analysis to:

▪ aggregate and align current and future land use needs and wants;
▪ update and share existing knowledge on the county's conservation lands, biodiversity, and natural resources; and
▪ evaluate sustainability and climate resiliency measures that promote economic growth, human health, and well-being for people of all walks of life

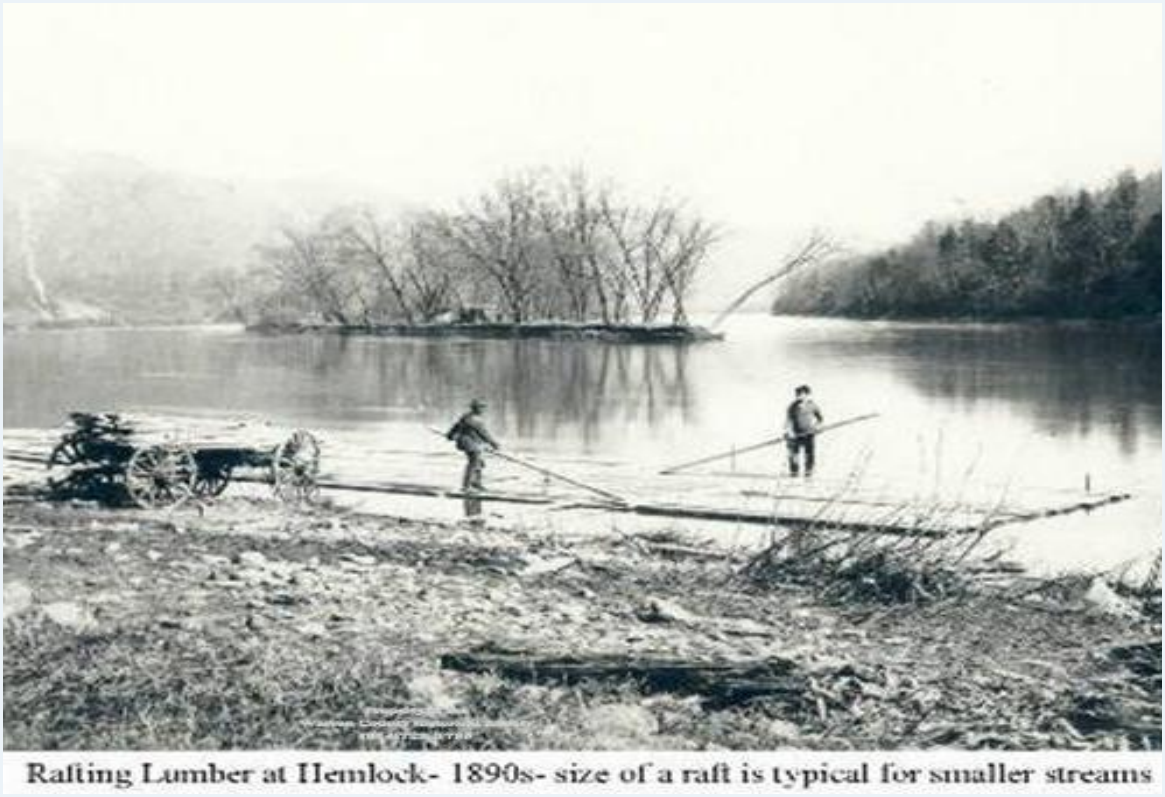
The recent work on the county's waterways has been an important step in that direction as different county departments (DPF, planning & economic development, CCPEG), regional NGOs (Chautauqua Watershed Conservancy, Conewango Creek Watershed Association), interdisciplinary stakeholder groups (Friends of the Chautauqua County Greenways), as well as local business owners, contractors, and property owners were all involved in the successful implementation of this project. The increased awareness across all these groups concerning the ecological relevance and economic potential of our waterways has elevated the discussions about the future of our waterways well above a simple deferred maintenance project.



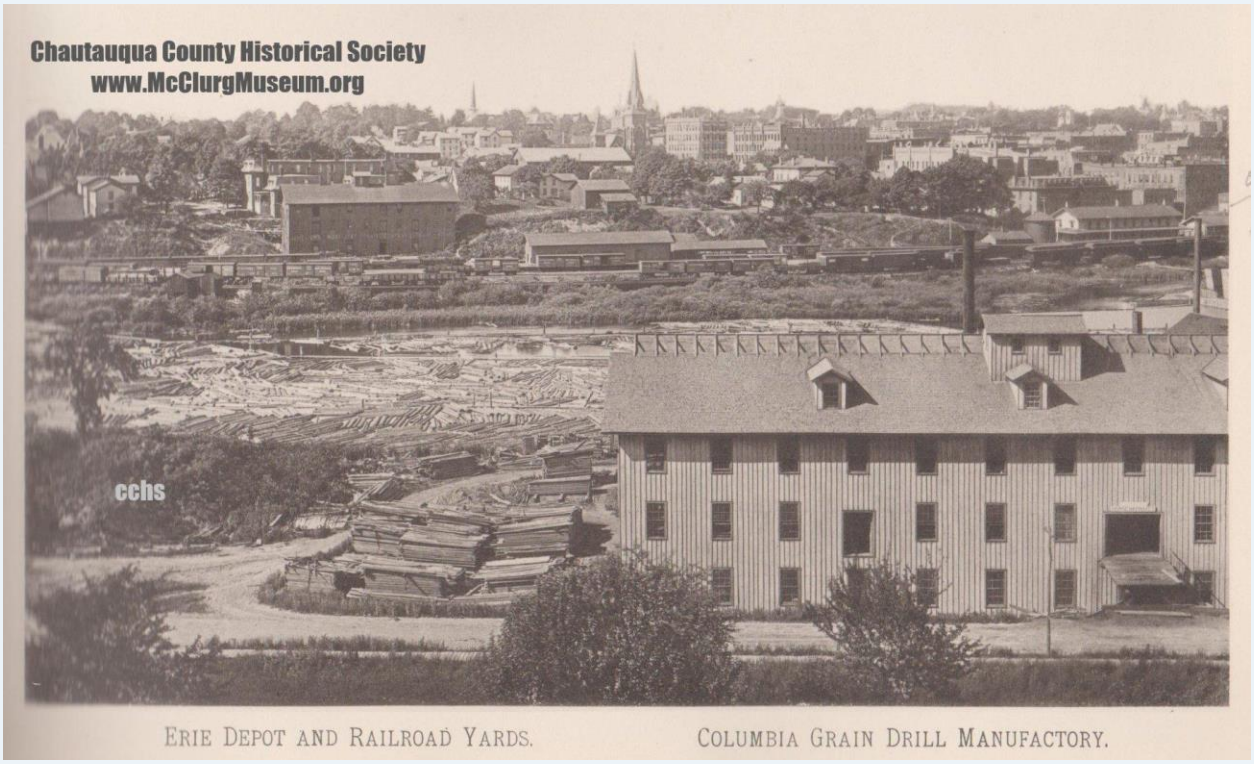
CWC's Comprehensive Regional Conservation Implementation Strategy (CRCIS) map showing how Cassadaga Creek, Conewango Creek, and their associated floodplains rank among the ecologically most valuable areas in our county, contributing more to the region's water and environmental quality, as well as its long-term resilience than much of the rest of the county.

History of the Waterways

Chautauqua County's rich history may have never been achieved without the Cassadaga and Conewango Creeks. The waterway system in the region was imperative to the early settlers as well as the Indigenous communities that called this area home (14). Cassadaga itself means "water under the rocks" in Seneca and in Iroquois, Conewango means "below the riffles" (19, 14). These two phrases signify the conditions of the waterways, and their naming further strengthens the case for their importance. The Conewango Creek itself led to what is known as the "Forbidden Trail" of the Seneca Nation, which was heavily guarded due to it being a direct path to what was called the "Land of the Lakes" (14). For early European settlers during the early to mid-1800s, the creeks were utilized as a transportation system for the lumber industry so that logs could be moved downstream to various cities such as Pittsburgh and even New Orleans (6). The economic boom in the region as a result of this transportation system led to some of the first settlements in this portion of the state. The village of Cassadaga specifically was first settled at the headwaters of the creek in 1848 (19). It was around this time that the region began to create things out of the timber themselves before sending it down the rivers so that profits could increase (18). This is the origin story for many of the furniture, farm tools, and other equipment companies that appeared in the area (18). Eventually, by the 1880s, most of the longer transportation routes via the waterways slowed down as it became less expensive and faster to transport products via the railroad, ultimately ending the era of water transportation in the region (18).

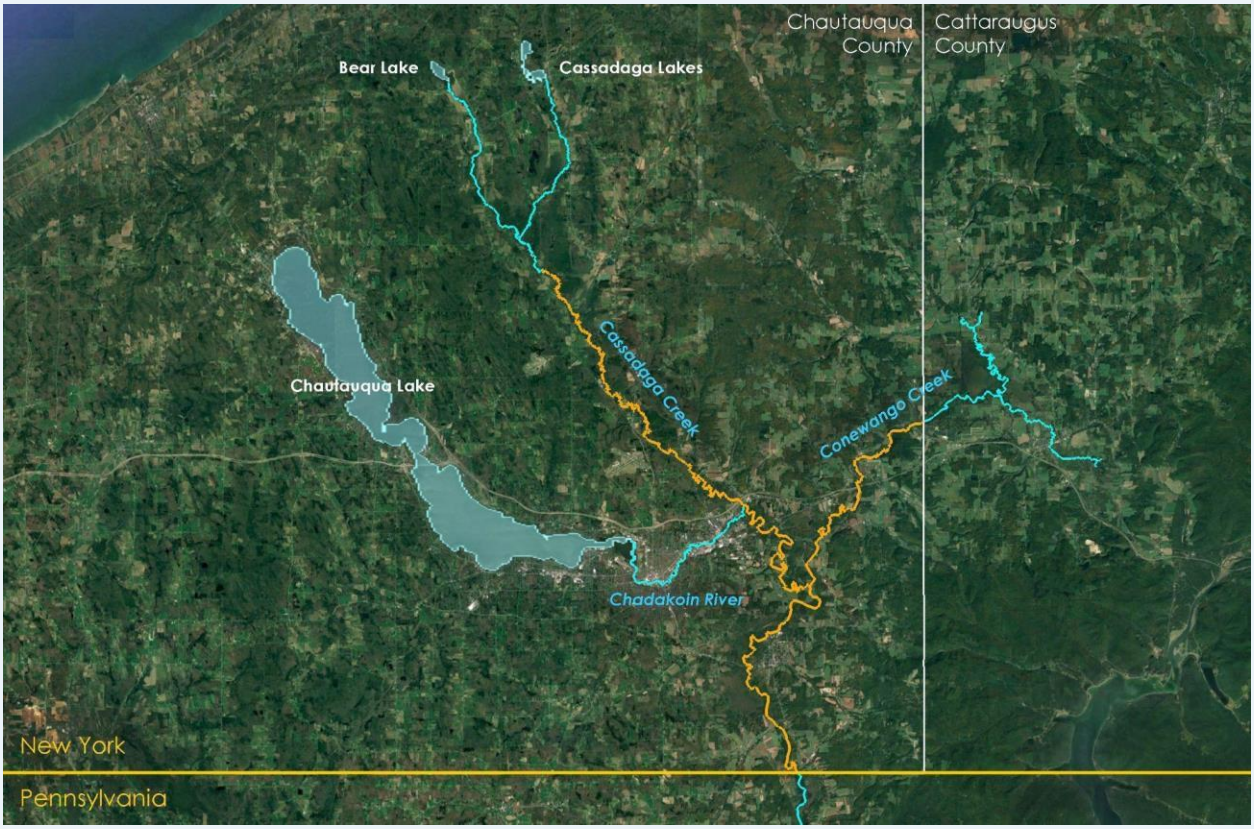


The last years of rafting lumber in the region.
Photo courtesy of the Warren County Historical Society.



Jamestown and the Chadakoin River during the industrial era. The area shown represents the Chadakoin River basin, below the Jamestown train station, as seen from Jones Hill.
Photo courtesy of the Chautauqua County Historical Society.

In recent years, the waterways have been utilized in a much more recreational way. The creeks connect the region in a way that would not be possible otherwise. In Chautauqua County, Bear Lake and Cassadaga Lakes drain and come together to form Cassadaga Creek. The creek eventually joins with the Chadakoin River, which forms as a result of the drainage from Chautauqua Lake, in the town of Ellicott before ultimately merging with the Conewango Creek that then flows into the Allegheny River in Warren, PA. The Conewango Creek itself begins northeast of Jamestown as a drainage from New Albion Lake. In 1994, two large sections of the Conewango Creek and Cassadaga Creek were formally recognized as the Marden E. Cobb Waterway Trail, creating two public waterway trails that are over 25 miles each (11). The waterway trail is named after Marden E. Cobb who was a district manager of the Northern Chautauqua County Division of the National Fuel Gas Company before retiring and eventually working his way to becoming the second County Park Commission Chairman (11). He also was a councilman at the town of Pomfret for 18 years and served on the Southern Tier Regional Planning Board for 18 years while acting as the first chairman (11).

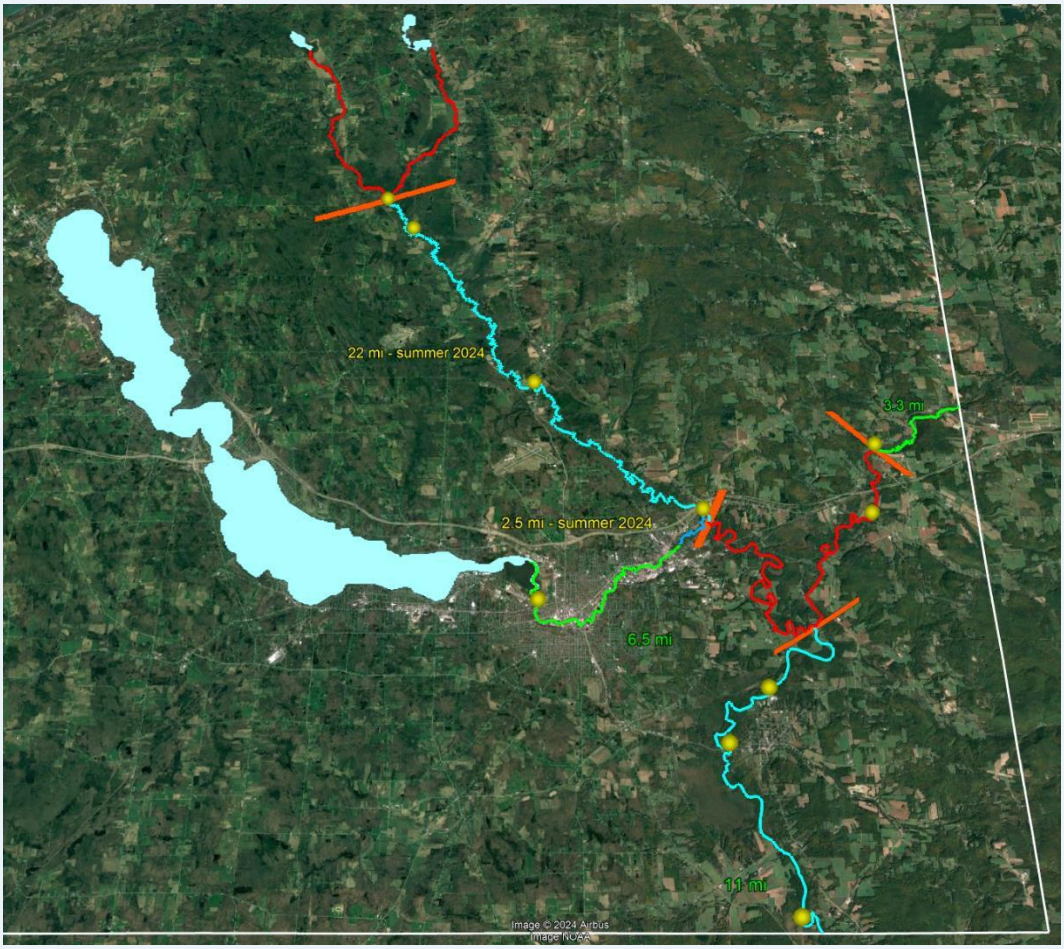


The Marden E. Cobb Waterway Trail (highlighted in yellow) superimposed upon the county's major waterways. Note that Bear Lake, the Cassadaga Lakes, and Chautauqua Lake all drain into the lower Conewango Creek. Also note that many of our county's economic hubs are located on the water and connected to one another by water.

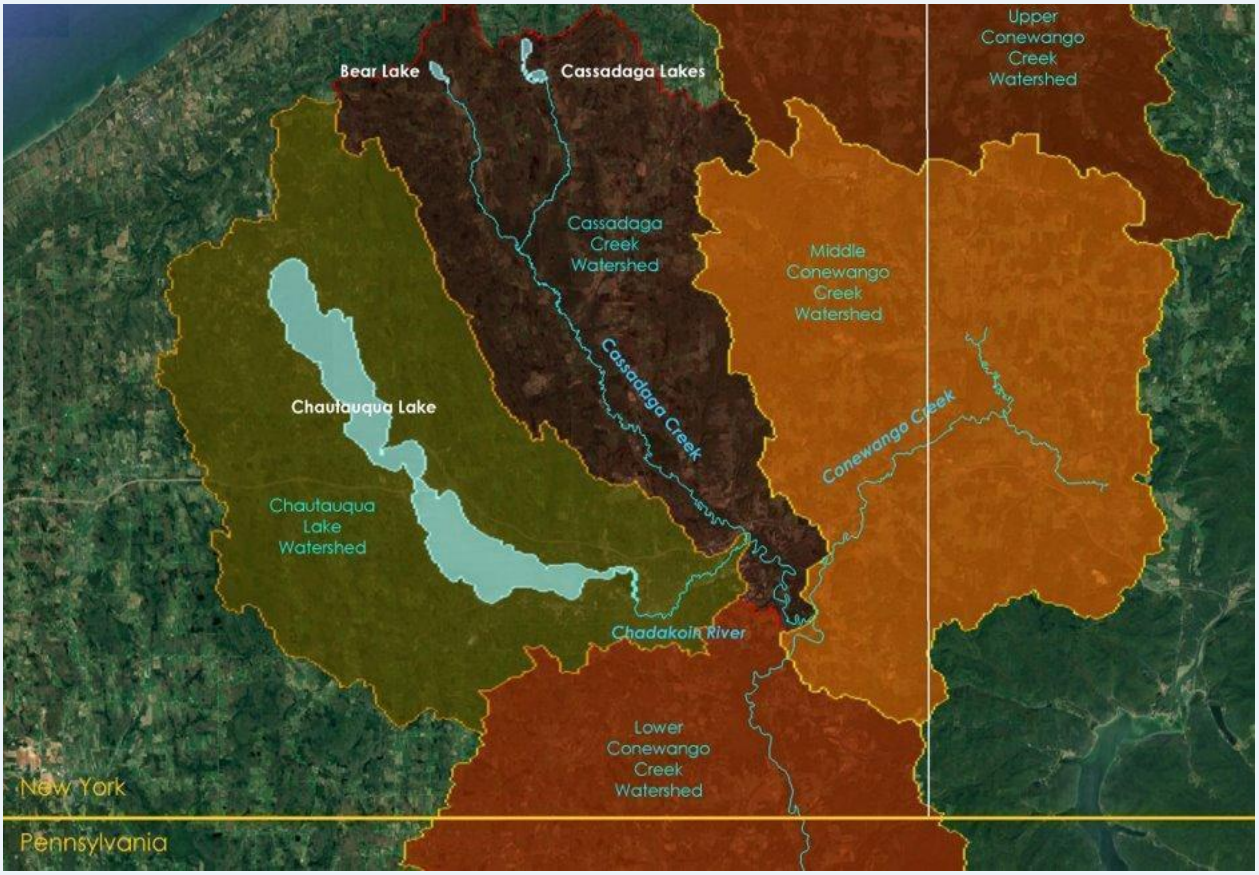
The trail on Cassadaga Creek begins on South Stockton Cassadaga Road near the village of Sinclairville, NY, leaving a small section of Cassadaga Creek from being a part of the Marden E. Cobb Waterway Trail. The Conewango Creek section of the trail begins off of Waterboro Hill Rd. just north of Kennedy, NY, and ends at the Pennsylvania state line (17). This trail system has provided opportunities for endless activities across the county including kayaking, canoeing, fishing, and bird watching to name a few (11). The Cassadaga Creek and Conewango Creek each contain 5 public launches for waterway access, although these launches heavily vary in age, condition, and style. These waterways have been known to bring visitors from across the country to Chautauqua County and are still popular kayaking destinations despite the recent hazards and launch issues that have become prevalent. In fact, the Conewango Creek itself was voted as the 2015 Pennsylvania River of the Year and awarded a $10,000 leadership grant (16).

At the moment, 20.4 miles of the Cassadaga Creek and 14.7 miles of the Conewango Creek (3.3 miles of the upper & 11.4 miles of the lower Conewango) have been cleared of navigational hazards, strainers, and log jams and are ready for reactivation and public use in 2025. For Cassadaga Creek, this area extends from the launch in Kabob on South Stockton-Cassadaga Road to the launch in Falconer on Water Street. For Conewango Creek, this area extends from the Chautauqua County-Cattaraugus County border to where the creek passes underneath Rt 62 and then again from the Cassadaga-Conewango Creek confluence near Dollof Road just outside of Frewsburg to the Pennsylvania border.

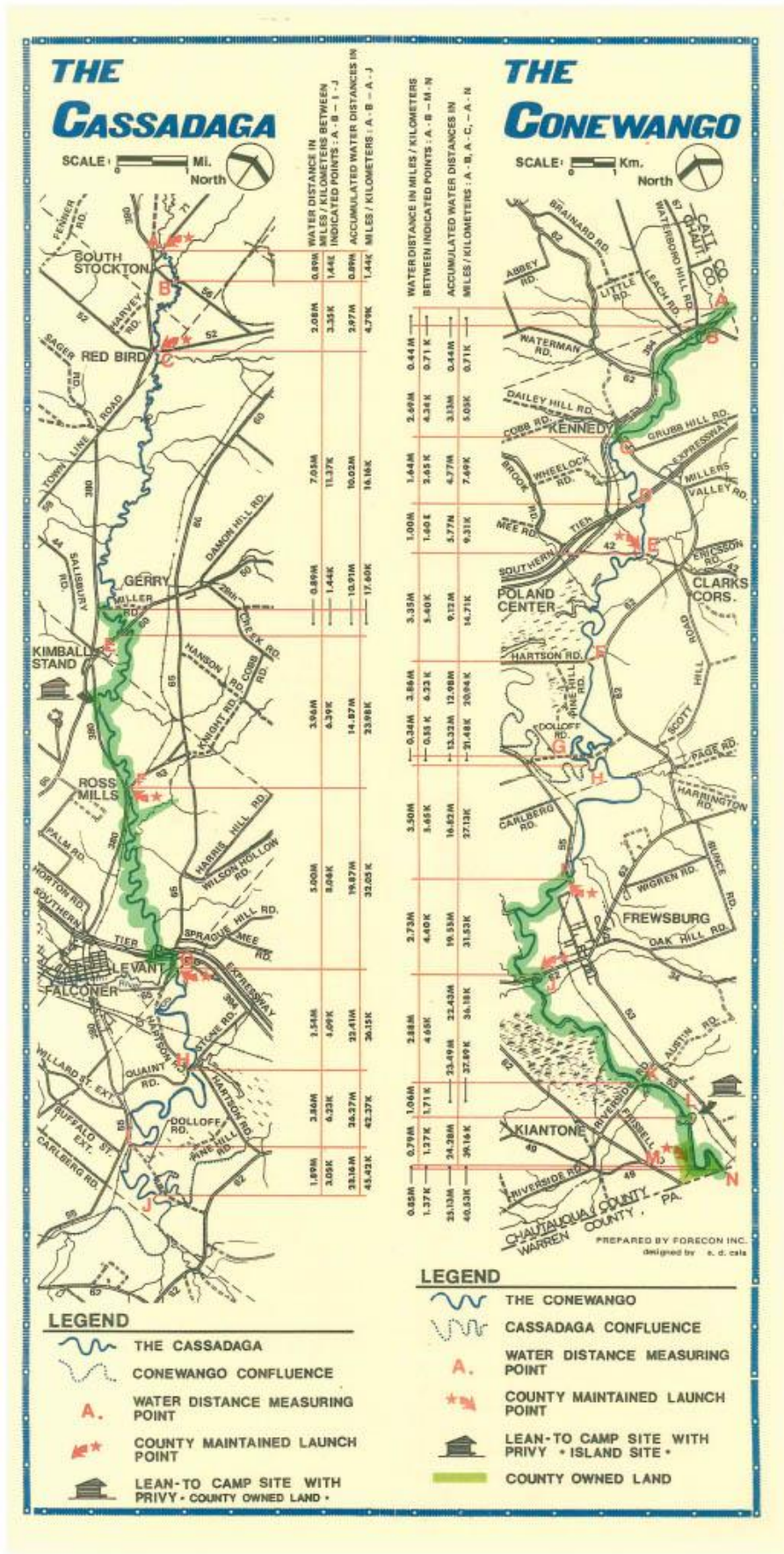
In total, 16.8 miles will still need to be cleared in order for the entire waterway trail to be activated. In addition to the creeks themselves, the Cassadaga and Conewango Creek watersheds each include important natural sites. Within the Cassadaga Creek Watershed, Bear Lake, Boutwell Hill State Forests, Cassadaga Creek Nature Preserve, Cassadaga Lakes and Leolyn Woods, Clay Pond, Hartson Swamp WMAs, Harris Hill Management Unit, Stockton State Forest, and Kabob WMA are all found (1). The Conewango Creek Watershed includes Akeley Swamp, Erlandson Overview County Park, Hatch Run Conservation Demonstration Area, Jamestown School Forest, Jamestown Audubon Community Nature Center, and Rushing Stream Preserve (1). While these are not the only natural areas found in the region that are significant, these areas serve as a testament to the value of the watershed. In order to protect and preserve the Cassadaga and Conewango Creeks, the watershed and the natural sites found within them will also need to be considered. Together the Conewango watershed covers almost 900 square miles of lakes, forests, streams, and wetlands (1).



Map of the waterway sections that have been cleared to date (December 2024); the red lines showing sections that are not yet cleared. Note that there is currently no intention of clearing the upper section of Cassadaga Creek as it falls outside the Marden E. Cobb Waterway Trail. These Bear Lake and Cassadaga lakes headwater systems serve a more important function as a natural system that provides fish and wildlife habitat, while filtering and absorbing excess water and runoff before it enters the waterway system.



Map of the Conewango Creek Watershed, outlining its various sub-watersheds. The entire watershed, before it drains into the Allegheny River in Warren, PA, covers almost 900 square miles. Approximately 587 square miles of that are located within Chautauqua County, all draining towards the lower Conewango Creek. Given the amount of water that collects over such a large area, it is not surprising that the lower sections of the watershed see dramatic changes in water levels at times – including normal seasonal and stochastic storm-related flood events (see example below of flood stage Conewango Creek as seen from the Riverside Road bridge in Kiantone), versus summer level flow.

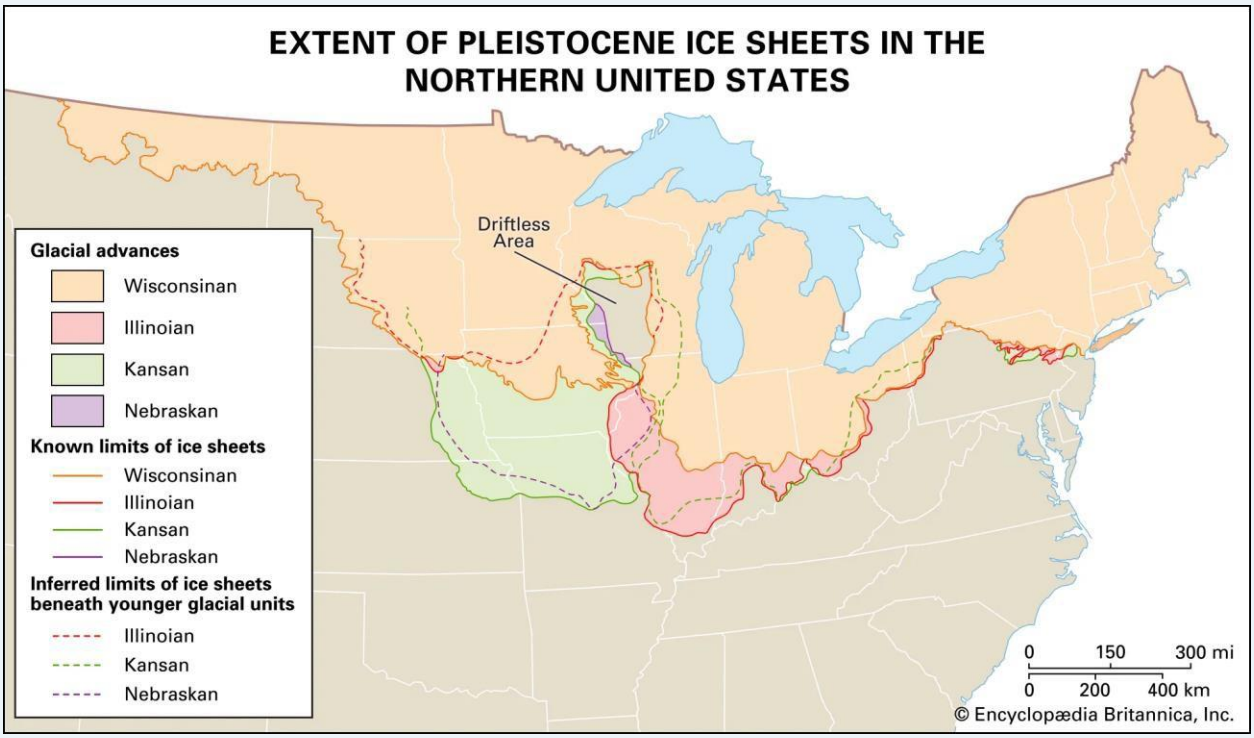


Original map of the Marden E. Cobb Waterway Trail with currently (2024) activated areas highlighted in green.

2. Stream Characteristics and Water Quality

Origins and Current Features

Cassadaga Creek and Conewango Creek both exhibit unique stream characteristics resulting from natural and unnatural processes that have shaped the region for centuries. In fact, it was during the last ice age that the present-day valley of the creeks was created (14). The drainage pattern displayed by the creeks today is primarily a result of glacial events that took place thousands of years ago (14). During this time, the northward drainage was blocked by glacial deposits, causing a change in which drainage patterns shifted from flowing north toward Lake Erie to now flowing south (14). At the end of its cycle, the retreat of the Wisconsin Glaciation took place 10,000 to 12,000 years ago and resulted in the creation of many of the lakes that are found in the region. Bear Lake, Cassadaga Lakes, and Chautauqua Lake are kettle lakes that were all created during this time. While retreating, the glacier paused multiple times and also partially broke off which is the reason for the various unique features exhibited in the lakes such as the multiple basins in Chautauqua Lake. As a result of the Wisconsin Glaciation, the valley of the past now lies below around 500 feet of glacial deposited rubble and another 100 feet of lake-bottom silt (1). In the present day, the bed of the creeks is mainly mud and the water tends to be quite turbid which is also a result of the glacial period changes that took place (5, 14). The Conewango Creek itself is unique in that it isn't very deep with an average depth of 8 feet but in one location, a pool that is 32 feet deep was found (5). The southern section of the Conewango carries the combined outflow of several lakes and offers bigger water than the narrower sections that are found closer to their respective sources. North of Russell PA, just beyond the boundary of the Conewango Creek portion of the Marden E. Cobb Waterway Trail, there is a distinct change where the creek becomes far shallower and fast-paced (14, 6). This change in stream characteristics is a result of this spot being the Wisconsin glacier's terminus (1). It is in this area that boaters should be aware of the potential rapids that emerge here (6). This is not the only hazard to be noted when traversing the Marden E. Cobb Waterway Trail as especially in the last decade, an abundance of dead trees has caused major blockages that bring their own complications for boaters. These hazards are not only dangerous but can lead to drastic changes in the flow pattern of the stream. In impassable areas, quick-moving water bounces off of the blockages and cuts into the bank as it finds new paths to move through. In these scenarios, bank erosion is greatly increased which causes its own set of issues such as the release of sediment-bound phosphorus (3). This destabilization cycle acts as its own positive feedback loop as the erosion increases the likelihood of more trees falling into the creek which in turn causes the banks to erode even more. Water levels are also drastically variable on the waterways and change with the seasons and precipitation levels. In the spring, an influx of water causes much higher water levels and a faster flow than most other times of the year. Visitors should take notice of this as in these conditions it is more difficult to deal with hazards.

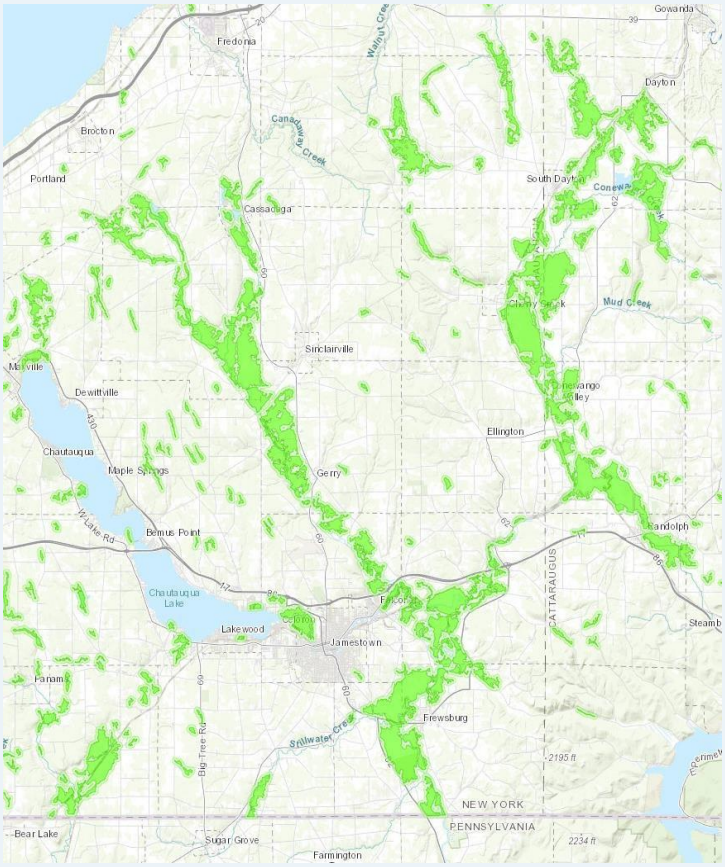


The extent of various glaciers with the Wisconsinan glacier pictured in orange. Image courtesy of Encyclopedia Britannica.

Note the location of the wrack line, indicating the high water mark. Water levels in the county waterways can change dramatically and dangerously between seasons and after storm events.

Land Cover and Water Quality

The stream corridors themselves are mainly made up of agricultural and forest land types, with a small portion being developed. In the areas most immediate to the waterways, wetlands are common and extensive. These ecosystems are crucial and provide unique habitat and ecosystem services unlike any other. In New York State the Freshwater Wetlands Act protects many wetland areas that are over 12.4 acres and this includes thousands of acres of wetlands found along the Cassadaga and Conewango Creeks. Beyond these wetland areas, a large percentage of the land is used for agricultural purposes. This contributes to another issue that the Marden E. Cobb Waterway Trail faces. Water quality issues tend to be common for streams in agricultural areas and this is no different for the Cassadaga Creek and Conewango Creek. Agricultural runoff and waste have polluted the streams for decades (6). On top of that, as these streams are all connected to Bear Lake, Cassadaga Lakes, and Chautauqua Lake, the water quality issues of those water bodies have an impact on the streams. Jamestown and its history play a part as well as industry in the city increased the pollution that made its way into the waterways (6). In the past, it was to the point that no one wanted to be near the creeks in general let alone use them recreationally (6).



New York State Department of Environmental Conservation's Environmental Resource Mapper Tool. Note areas along the Cassadaga and Conewango Creeks include extensive amounts of protected wetlands depicted in green

While these issues are still prevalent, major improvements have been made through educating farmers on the impacts of their waste and the passing of legislation such as the US Environmental Protection Agency's approval of the Total Maximum Daily Load for Phosphorus in Chautauqua Lake (3). This has helped to decrease the amount of phosphorus in the lake and set guidelines for phosphorus pollution in wastewater treatment facilities and agricultural areas among others (3). The issues discussed above highlight a major point that needs to be considered. Cassadaga Creek and Conewango Creek cannot be thought of as in a vacuum. They are a part of a larger system and, as such, need to be dealt with that way. The activities that are done upstream or on land will eventually work their way into the Marden E. Cobb Waterway Trail. As a result, it is necessary to consider how the creeks will be impacted by the things that people do regardless of whether it specifically takes place on the creeks. However, these considerations should not be thought of as a burden but as an opportunity. In this area, there is the chance to do things right and to create a healthy and strong system with endless benefits.

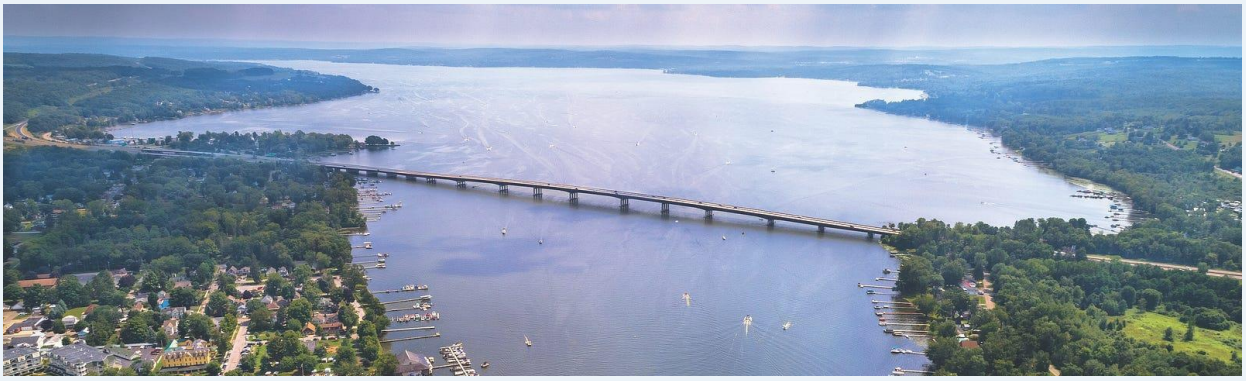
The confluence of Chadakoin River (entering from the left) and Cassadaga Creek (enters at the top of the image & exits at the right). Note the cloudy appearance of the water in Cassadaga Creek, the result of fine clay particles naturally washing out of the creek bed and getting suspended in the water column. In contrast, water entering from the Chadakoin River appears clear and does not appear to flow through natural clay deposits. Downstream from this confluence, the waters mix and become murky again.

3. Goals for the Future

This plan serves to highlight both a need and an opportunity for the county with the revitalization of the Marden E. Cobb Waterway Trail. By working to protect the integrity of the creeks and the areas around them, the rich biodiversity and ecosystems found here will be preserved. Additionally, this opens the opportunity for a full activation of the waterway trail for recreational users, which is something that has yet to be fully achieved. Activating the trail provides endless economic opportunities to bolster the county into a great place for the future. Improving the resilience of local waterways, including the Marden E. Cobb Waterway Trail, will also help to safeguard the region against potential changes to the climate that are already occurring. This is especially important given the sensitive species that live in the region and the ecosystem services that the waterways provide. Additionally, this region is often cited as a climate haven, and one of the main reasons for this is the abundant supply of healthy freshwater that is found here. An influx of climate migrants could bring economic benefits to our region, but it could also lead to greater levels of strain on the local water resources if not properly managed. It is, therefore, pertinent that we proactively assess and protect these resources to ensure that they are able to absorb the different needs or changes that may occur in the future.

Chautauqua Lake looking north. Photo courtesy of the Chautauqua Institution.

Achieving a balance is important as all components and areas of improvement work to help others. In this way, by keeping the ecosystems found here healthy, they in turn will be able to support themselves and help to support the recreation and economic opportunities that are also available (20). Choosing to go about planning with a scientific approach doesn't mean that the economic or social aspects will be forgotten, but rather doing things in a scientific way ensures that those other opportunities exist now and into the future (20). Understanding and thinking of Bear Lake, Cassadaga Lakes, and Chautauqua Lake as a single system rather than three separate systems will help planning efforts in the future and strengthen the opportunities that are available. Planning for the management of the county waterways requires both long-term and short-term considerations and goals. In the short term, actions such as stream bank stabilization, hazard removal, and other cleanup efforts need to take place, but they should not be thought of as Band-Aid fixes that will eventually lead to worse issues in the future. The actions that are done in the short-term need to be ones that are guided by science and with long-term goals also in mind (20). They cannot cause issues for the plants and animals that rely on these waterways, and this includes humans (20). In the long term, planning and actions should work to keep the waterways safe and healthy. In doing so, it will be necessary that the areas surrounding them are landscapes that are healthy and natural. By doing so, these areas will be able to filter nutrients and pollutants before they work their way into the water (20). This means that all nearby streams, woodlands, and wetlands, not solely Cassadaga Creek and Conewango Creek themselves, should be protected. On top of that, the creation and improvement of riparian buffers and the reforesting of watershed areas that were previously damaged will be required (20). Development is necessary, but when it does happen, it needs to be guided by features that are low-impact and need to be offset by restoration in other areas such as wetlands or forests (20). Proper planning of the Marden E. Cobb Waterway Trail will benefit not only Cassadaga Creek and Conewango Creek but the entire region.



Chautauqua Lake. Image courtesy of Medium's Chautauqua Magazine.

Connecting natural areas across the landscape and ensuring the entire system is protected will create areas that are resilient and biodiverse. These areas are known as "greenways" and "blueways". It is these areas that make conservation "sing" – elevating the value of connected natural lands well above parks, preserves, or other natural "islands" that exist in isolation. Having a fully connected and protected system will, in turn, make streams more resilient and more capable of handling the intensifying storms and changes that are already taking place. On top of that, they create healthier living conditions for fish, turtles, and other creatures.

Often, blueways and greenways go hand-in-hand. Continuous tree cover along stream corridors helps provide shade and keeps the water temperature down, while the roots of those trees help stabilize banks and prevent erosion. One other important benefit of the greenway and blueway corridor concept is that it provides not only ecological benefits but economic ones as well. Increased resilience across the landscape will prevent a lot of property damage, such as flooding, erosion, and damage to roads and bridges. Also, the creation of these functional, natural corridors throughout the region lends itself perfectly to recreational uses, including hiking, biking, horseback riding, kayaking, and fishing. Any of these outdoor activities are more enjoyable if they take place in a scenic setting, especially if the trails and waterways are also located where the brightly colored birds migrate and the fish can be found.

Paddling down the Conewango Creek. Image courtesy of the Conewango Creek Watershed Association.

Representatives from all outdoor recreation groups, local non-profits, as well as county and municipal stakeholders gather regularly as part of the Friends of the Chautauqua County Greenways-initiative. This very active group collaborates closely with the Chautauqua County Partnership for Economic Growth (CCPEG) and its efforts include both blueways, as well as greenways.

It is clear that our region's watersheds, lakes, and rivers have always been our greatest asset and economic driver. They've supported our agriculture and furniture industry, powered our factories, facilitated transportation and commerce, and provided quality of life for our communities. The county's major waterways and the Marden E. Cobb Waterway Trail represent a significant part of those watersheds and are critical to their functionality. The actions that are taken to restore and re-activate the county's waterways in the years to come will prove a barometer for how we are impacting the watershed. The county's waterways can, again, be a catalyst for economic change in the region. How we interact with and care for the resources that underlie and surround our waterways will be critical to their long-term sustainability and quality.

In order to adequately manage and protect these precious natural resources over the long term, we propose the following goals and objectives for the greater Conewango Creek watershed, with the overarching intent **to identify and prioritize problematic areas and cumulative impacts within the watershed and involve all watershed parties and relevant municipalities in developing and implementing remediation, best management practices (BMPs), and prevention measures to ensure that water quality and biotic integrity can be maintained and improved on a sustainable basis.**

Goals:

- To protect and enhance water quality
- To manage growth and development in the watershed
- To protect critical environmental resources, such as wetlands, fish and wildlife habitats, and the region's scenic beauty
- To promote outdoor recreation and sustainable tourism
- To promote sensible economic development in the watershed
- To ensure environmental equity and quality of life for all

Objectives:

- Reduce the amount of nutrients and pollutants (both point and non-point sources) that enter the watershed
- To maintain and improve biodiversity
- To combat non-native invasive species and harmful pests
- To encourage public participation and provide opportunities for public input
- To identify economic opportunities that can co-exist with and be beneficial for the watershed
- To encourage municipalities, industries, and property owners in the region to cooperate and adopt procedures that help protect the watershed, such as stormwater, erosion, and sediment control ordinances
- To increase public understanding and awareness of the problems that affect water quality and quality of life
- To provide education for town planners, zoning board members, and other relevant officials

4. Recreational Opportunities

The Marden E. Cobb Waterway Trail offers some of the best opportunities for recreation in Chautauqua County. From leisure paddling to fishing to nature photography, the opportunities available on the Cassadaga and Conewango Creeks are endless. The warmwater fishing specifically has been noted as being some of the best in the region (17). In Cassadaga Creek alone, there are over 5 miles of public fishing available along the creek in which anglers might find abundant numbers of brown trout, northern pike, muskellunge, small and largemouth bass, and panfish among numerous other species (11, 5). Trout fishing opportunities are ample as each year, the New York State Department of Environmental Conservation (NYSDEC) stocks Cassadaga Creek with 800 yearlings and 200 two-year-old brown trout (12). In Conewango Creek, similar species may be found in addition to a significant carp and walleye population (11). The creek also continues to be stocked yearly with fingerling muskies, leading to many reports of catches up to 50 inches. (5). In general, this area has one of the most diverse fish communities in the state (5). However, with most portions of both creeks being bordered by private property, float fishing is likely necessary (2). Additionally, given the fluctuations in water levels and lack of motorboat launches, larger boats are not a viable option for traveling down the creek. Beyond the boundary of the waterway trail at Russell, PA., changes in stream characteristics result in an area that provides good fishing for smallmouth bass, walleye, and trout in deeper pools (2). Aside from fishing, trapping and hunting are also popular in the region. Historically, areas near the creeks were used by Native Americans and early settlers for trapping beavers, muskrats, and mink (11). These practices are still done to this day and are available on nearby state land or in other areas with permission. A combination of beautiful and unique views, features, plants, and animals make this area an amazing spot for outdoor enthusiasts, those interested in sightseeing, and those interested in nature photography. This area is excellent for birdwatchers as it is abundant in various species as well as offers opportunities to view less common species such as bald eagles, ospreys, pied-billed grebes, and sandhill cranes.

(From left to right) Muskellunge catch on Cassadaga Creek and a brown trout caught by NYSDEC while electrofishing on Conewango Creek. Photos courtesy of Fishbrain and NYSDEC.

Bald Eagles and their nest.

While the opportunities for various activities are endless, the waterway trail is also great for those who are solely seeking a good spot to paddle their kayak or canoe or go for a swim. The Marden E. Cobb Waterway Trail itself offers almost 55 miles of creek to paddle, but including the areas not considered to be part of the trail, there is even more (17). In Pennsylvania, after the trail technically ends, there is another thirteen miles of stream that can be paddled, which provides a change in features as a result of flowing into a different geologic region (17). Besides in the spring, when the stream velocity tends to peak, a majority of the waterway trail provides a slow-moving paddling experience that is perfect for a day on the water. Paddling these creeks provides a glimpse into the history of the region, and in many areas, things haven't changed much at all. For those looking in the right places, the creeks tell a story and provide an enjoyable getaway into an area that has been much less disturbed than most others. Both creeks have multiple areas for parking your vehicle and launching your boat to provide easy access to visitors. The distances between launches vary dramatically, and therefore, it is recommended to determine your start and end points prior to your trip and to pack accordingly. In general, the Marden E. Cobb Waterway Trail provides a great destination for visitors with all types of interests and is a terrific place to learn, explore, and have fun.

Enjoying the fall colors while paddling on the Marden E. Cobb Waterway Trail.

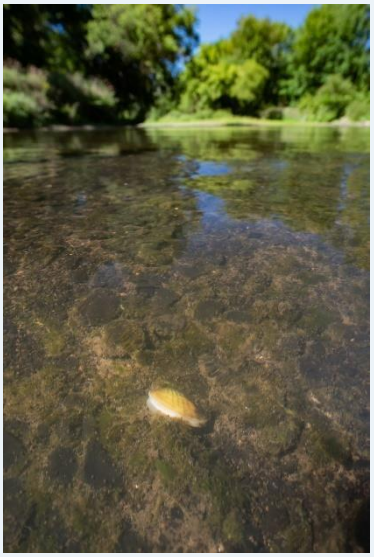
5. Natural History Highlights

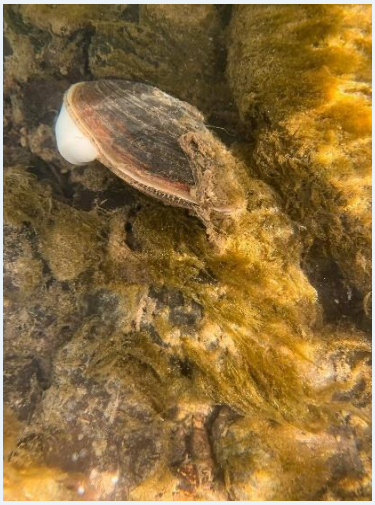
The Marden E. Cobb Waterway Trail boasts some of the greatest levels of biodiversity in the region. The number of species found in the watersheds, specifically along the creeks, is unmatched. As a result, the conservation value of the waterway trail cannot be denied.

Protecting the creeks and their surrounding watersheds from unnatural changes is of utmost importance. The area is home to all types of plants and animals, even including extremely rare and threatened species. An abundant number of turtle species are found in the area. In fact, of the 20 turtle species that are native to New York, seven of them can be found here (8). These include the eastern box, painted, snapping, Blanding's, common musk, wood, and spiny softshell turtle species (8). While population numbers for some species are not of concern at the moment, the Blanding's turtle is listed as threatened by New York, and the eastern box, spiny softshell, and wood turtles are all considered species of special concern by New York (8). These turtles, and even those not currently listed as species o conservation concern, are sensitive to changes in their habitat and require many years to reach sexual maturity (8). As a result, maintaining a healthy watershed is vital for their existence in the region. This is the case for many of the other species found here as well, as any significant change to an organism's preferred habitat conditions is likely to threaten its population and ability to survive.

Photos of a wood turtle (left) and spiny softshell turtle (right) found in Chautauqua County.

Unfortunately, freshwater mussels are now considered the most endangered group of organisms in the United States. Water pollution has wreaked havoc on these clean-water-loving animals, and dams have deteriorated water quality and separated mussels from the host fish on which their survival depends long enough now to negatively impact even the longest-living of these species. Along the Cassadaga and Conewango Creeks, 19 native species of mussels can be found, which include rare species such as the black sandshell and endangered species, including the northern riffleshell, the clubshell, and the rayed bean, with the latter only being found in six water bodies since 1970 (16, **7**). Many of the mussel species found here tend to have small and geographically isolated populations, meaning that they are susceptible to being wiped out by even a singular event (**7**). Being in the Cassadaga and Conewango Creek systems, they are always under threat as a result of the pollution that the creeks experience. The contaminants from both agricultural and urban runoff can be extremely harmful to native mussels and are likely partially to blame for their low numbers and current vulnerability. At one time, it was found that there were only three clubshell mussels left in the state prior to a restoration effort that found 1,500 clubshell mussels being supplied to the NYSDEC for a restoration project in Cassadaga Creek (15). As a result of the presence of these sensitive and valuable species, the waterway has been blocked off from any larger projects without first conducting a freshwater mussel survey, as designated by the NYSDEC, to ensure that no harm may be done to them. Similar to the turtle species found here, these mussels require extremely specific conditions to survive and can only be found in small areas where those conditions are met.





Some native freshwater mussel species found along the Marden E. Cobb Waterway Trail & CWC field technician doing mussel surveys prior to commencing work in the Cassadaga Creek.

In addition to rare species, the region also boasts large numbers of more common species. Mammals such as whitetail deer, red and gray squirrels, woodchucks, mink, fishers, river otters, beavers, coyotes, black bears, and many others call this area home. There is a large variety of salamanders, snakes, and frogs that are found here as well (14). A few salamander species worth noting are the eastern hellbender, which is a species of special concern in New York and considered endangered in a few other states, the Jefferson/blue-spotted salamander complex, which is a rare and unique hybrid, and the red salamander. The eastern hellbender is especially noteworthy as in New York, it is only found in two regions, with one of them being here. The habitat opportunities that this region provides are extremely unique, and the abundant amount and type of food, water, and shelter make this area the perfect spot for all types of animals.

Eastern Hellbender showing off its camouflage.

Beaver enjoying a swim in the water.

The Cassadaga and Conewango Creeks are also home to a number of warmwater fish species. There is an abundance of game fish such as muskellunge, walleye, brown trout, northern pike, small and largemouth bass, many species of panfish, and many species of minnows (11, 5).

Anglers interested in fishing should know that Cassadaga Creek is stocked with approximately 1,000 brown trout each year, and Conewango Creek is stocked with many fingerling muskellunge (5). Additionally, some species can be found here that are considered to be rare, such as the paddlefish, which was previously stocked by the NYSDEC, and burbot, which was previously believed to be extirpated (16). The NYSDEC's Environmental Resource Mapper tool lists numerous species that are considered rare and found within Cassadaga or Conewango Creek, including the Ohio and mountain brook lamprey, redfin shiner, bigmouth shiner, silver shiner, swallowtail shiner, variegate darter, bigeye chub, black redhorse, and tonguetied minnow (4).

Paddlefish handled by a NYSDEC Fisheries employee during a restoration project.
Photo courtesy of Syracuse.com

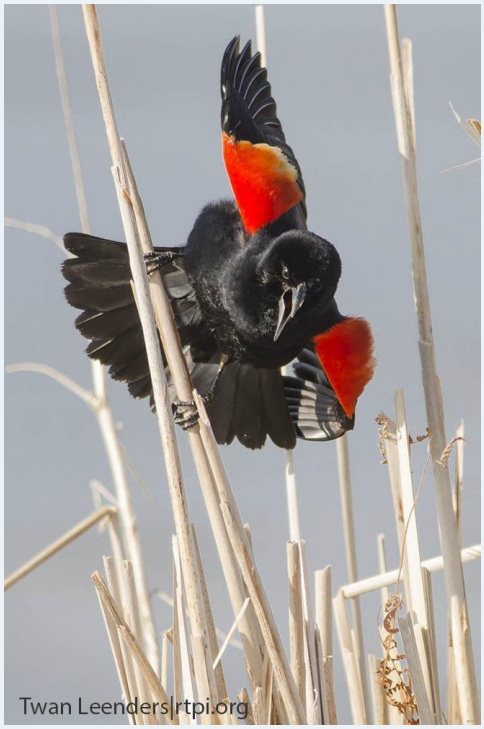
The watershed provides excellent habitat for many bird species of all varieties. Some of the more common species that are likely to be found on a trip include great blue herons, green herons, belted kingfishers, bald eagles, ospreys, pileated woodpeckers, double-crested cormorants, and various duck species, including wood ducks (14). While traveling the waterway trail, paddlers will likely spot wood duck boxes that have been set up by landowners. Piscivorous birds enjoy this area as it provides ample opportunities to catch prey with the abundant number of fish that are found here. Within the area, there are many bird species considered to be notable by the NYSDEC. This includes threatened species such as the bald eagle and pied-billed grebe as well as species of special concern, which includes the osprey, sharp- shinned hawk, cooper's hawk, red-shouldered hawk, and common nighthawk.

Commonly found birds on our waterways: belted kingfisher (left) and green heron (right).

Also noteworthy are the American black duck, brown thrasher, Canada warbler, cape may warbler, and rusty blackbird, which are all species with the greatest conservation need. The sheer number of species that call this area home, as well as the number of species in the area that are in some way at risk or declining in number, further prove the conservation value of the Marden E. Cobb Waterway Trail and its associated watersheds.

Two great blue herons and their nest.

Wood ducks enjoying the water.



Red-winged black bird.

Osprey.

6. Landowner Concerns and Interests

Given that a vast majority of the Cassadaga Creek and Conewango Creek are bordered by privately owned lands, it is necessary to consider how the creeks and their utilization will impact property owners. The goal is to create a safe and enjoyable environment for everyone, and this includes people who may own property near the creeks. In general, it likely would not be possible to paddle downstream without help from landowners. It is through their support and willingness to work with those conducting projects, such as hazard removals, that the creeks are improved and made safe for use. Many property owners have contributed to the clearing of the county's waterways by removing fallen trees and sometimes larger debris piles from the waters bordering their land. However, for bigger log jams and large trees, specialized crews and equipment are needed.

The equipment necessary for removing larger log jams can be extensive and difficult to get into position. Therefore, teams need a closer access point, and landowners continue to be helpful by providing this opportunity. Recreational users of the waterway trail have been asked to do so in a respectful manner so as to not disrupt or cause issues for those who live or own land next to the creeks. Landowners should be made aware of any major events or projects that may impact them, and a strong relationship with them should be maintained. This established relationship is mutually beneficial in achieving the goals of the Marden E. Cobb Waterway Trail. The maintenance of the waterway trail and removal of hazards help to protect the property of those nearby. This is because the erosion caused by blockages can be severe and lead to a loss of property and potential flooding. This is important for landowners to recognize, as the placement of buildings in areas of potential erosion or flooding could lead to issues in the future. By working together with landowners, all parties will be safe and happy, and many opportunities will present themselves that may not have been possible otherwise.

7. Safety and Current Issues

As a public waterway trail that emphasizes recreational use, it is important to be prepared and ensure that your trip is enjoyable and safe. For boaters utilizing the creeks, there are a number of rules and recommendations that should be followed. The preparation for a trip begins prior to reaching the water. Water conditions vary greatly, even potentially day to day, and therefore, investigating the water conditions before taking the trip is recommended (11). Stream conditions, however, are not the only consideration that needs to be made. Small craft safety is another area that should be noted. The New York State Department of Environmental Conservation has a list of ways that paddlers can protect themselves while on the water (13).

The full list can be found **HERE**, but a summary has been included below. To protect oneself on the water, it is important to understand the types of situations that could cause potential harm. Being able to swim is important, but even as a good swimmer, a personal flotation device (PFD) should be worn at all times while on the water (13). While a PFD can help to prevent drowning, there are other hazards that people should be aware of. Being mindful of water temperatures is important as cold water can lead to a lowering of core body temperature and even hypothermia rather quickly (13). Swift currents, such as the ones that are known to occur on the waterways in various places at different times of the year, can lead to a person being pulled underwater or lead to unavoidable collisions with downed logs, rocks, or other objects that may be in the path.

Therefore, it is important to set your course in advance when approaching potential obstacles (13). This includes crosscurrents that may potentially occur in areas where streams conjoin (11). In areas of high currents, a helmet is recommended to avoid head injuries (13). Windy conditions can present their own challenges when paddling the waterways, and therefore, conditions should be researched beforehand (13). When facing rapids or waves, it is recommended to keep the canoe or kayak pointed towards them as it is much harder to control and more likely to flip the watercraft when going sideways (13). The weather forecast should be checked prior to any trip, and if thunder is heard on the water, shelter should be found on shore (13). While planning a trip, it is also important to remember that waterway paddling is different from flatwater paddling, with each requiring a different set of techniques and skills (11). It is important to never conduct a trip by yourself and to ensure others know the details of your trip (11). It is recommended to bring equipment to help deal with any situation that may arise, and this includes bringing items such as a bailer and sponge, an extra paddle, an extra PFD, first aid/survival kits, a flashlight, and rope (11). It is recommended to avoid standing up in a canoe or kayak, and if a switch in paddling positions is needed, both hands should be placed on the gunwales before rising to a crouched position and slowly moving one at a time (11). Entering a canoe or kayak can also be a tricky task and should be approached cautiously. Similar to moving positions while on the water, movements should be made low to the ground and slow (11). The weight capacity of your watercraft should be known and not exceeded (11). A dry suit may be an option to avoid issues that result from being submerged in cold water conditions. Navigational tools are recommended to ensure paddlers know where they are or how to direct someone to where they are.

Hazards on the Water

Chautauqua County's Marden E. Cobb Waterway Trail consists of a series of launches and lean-to's that once provided the infrastructure used to activate these major waterways, but long-term lack of maintenance, and the added challenge of tree die-offs have created log jams, navigational hazards, and obstructions to the healthy flow of the creeks. One of the main issues plaguing the waterways in recent years has been the blockages caused by fallen trees. Given that a large percentage of the waterways are in forested areas, this is likely to always be an issue to some extent. However, with the emerald ash borer's (EAB) discovery in New York in 2009, a large majority of ash trees in the state have been infected and died. This is a significant issue as over 8% of New York's tree population were ash trees. Since the arrival of the EAB, ash trees have consistently caused issues in New York's waterways as they die and fall or roll into the water. These trees tend to be large and often become wedged in the waterways, meaning that as more trees and other debris float downstream, they are also caught in the blockage, now creating ever-growing hazards that require human intervention to be removed. This is an ongoing battle on the waterway trail that is expensive to fix. Excessive levels of snowmelt and stormwater cause drainage issues for the waterways and increase the potential for erosion. Building hydrological resilience will be important in the future as changes to the climate and resulting changes to storm intensity occur. Looking at these issues, some may suggest that trees near the creeks should be removed to avoid them falling in the future. This solution is not entirely feasible as the trees that grow on the banks of the creeks are a significant factor in keeping bank erosion at bay. Without the roots holding the banks of the creek in place, many areas would experience significant erosion, ultimately creating even larger issues. On top of that, removing these trees would be costly in its own right. At the moment, the best option is to work through sections of the creeks one at a time to clear them enough that nothing else will become stuck. Removing legacy hazards will ultimately reduce yearly maintenance needs in the future.

Standing dead ash trees, the result of a region-wide infestation by the harmful forest pest Emerald Ash Borer (EAB). Since almost 23% of our local trees are some type of Ash, the arrival of EAB and the loss of almost 1 in 4 trees has severely impacted our landscape and our waterways in the past decade.

Major Blockages on the creek as a result of downed trees – many of which are fallen dead ash trees, but also silver maples and willows that naturally grow along the banks but topple because bank erosion undercuts their roots.

Additional Safety Concerns

While the debris hazards are likely the largest safety concern for the waterway trail at the moment, other areas also need to be addressed. The launches along the creeks specifically have been a problem for a number of years. Most of them are old and either falling apart or already broken in some way. Depending on the specific launch, some are unsafe and pose a potentially dangerous or difficult situation for those entering or leaving the water. On top of that, at the moment, there is no resource for people to know the condition of the launches that they plan to use for their trip. Some of the launches from the previous maps are no longer accessible or safe for use. At the moment, a lack of viable launches has created a situation in which distances between two launches can be quite extreme. This makes it difficult for shorter trips or less experienced paddlers and, in general, is unsafe. With fewer access points, it can be difficult for emergency responders to reach someone on the water in the case of an emergency. They may be forced to travel miles to reach the person in need of help, wasting valuable time and resources. This brings about another issue in that it is difficult to know the conditions of the creek and what hazards there may be without actually being there. In the future, an online tool or website could be utilized to share this information. Another area where the waterway trail currently lacks is with way markers and signage. At the moment, none of the launches include a kiosk with information and maps such as those that would be found on a typical hiking trail.

Kiosks could include information about things such as the last time hazards were cleared in that section of the creek, things to look out for along the way, information about interesting or unique features, plants, or animals, safety tips, and a phone number or link to a place where hazards can be reported. Additional signage could be used to help visitors find the launches. On the water itself, there currently aren't any way markers for paddlers to know how far they've gone, how far it is until the next launch, or even if they are still on the creek they thought they were.

When water levels are high, there are many side trails that could easily confuse paddlers into going the wrong way. This is a major issue, especially in the event that first responders are needed, as they won't be able to find where the paddlers are. Side trails should be marked as such to avoid confusion on the water. Each launch should have an associated name that is visible from the road, the water, and the potential kiosk.

Example of a kiosk from Pinnacle Area on Lake Norman, NC. Image courtesy of The Best of LKN

Garbage and Illegal Dumping

Illegal dumping and the resulting garbage have been an issue for the Marden E. Cobb Waterway Trail for many years. This problem not only adds to the physical hazards but is extremely harmful to stream health and, in some cases, potentially human health, depending on the type of contaminants. Waste debris of all shapes and sizes has been found on the waterways, ranging from entire boats, car tires, various pieces of metal, barrels, plastic containers, and many others. These pollutants are often found in the blockages along the creeks but may be found in other areas as well, including at the boat launches themselves. Removal projects have consistently taken place over the years, with organizations such as the Conewango Creek Watershed Association leading the charge, conducting many public cleanup events across the region, including in Chautauqua Lake, which helps prevent the possible flow of debris into the waterway trail via the Chadakoin River. These removal events are excellent and should become even more commonplace in the future as they not only clean the waters but also provide an opportunity to increase public involvement and education. Additionally, in the future, an emphasis should be placed on exploring ways to prevent garbage and other debris from entering the waterways as a more manageable solution.

Public Infrastructure: Present and Future

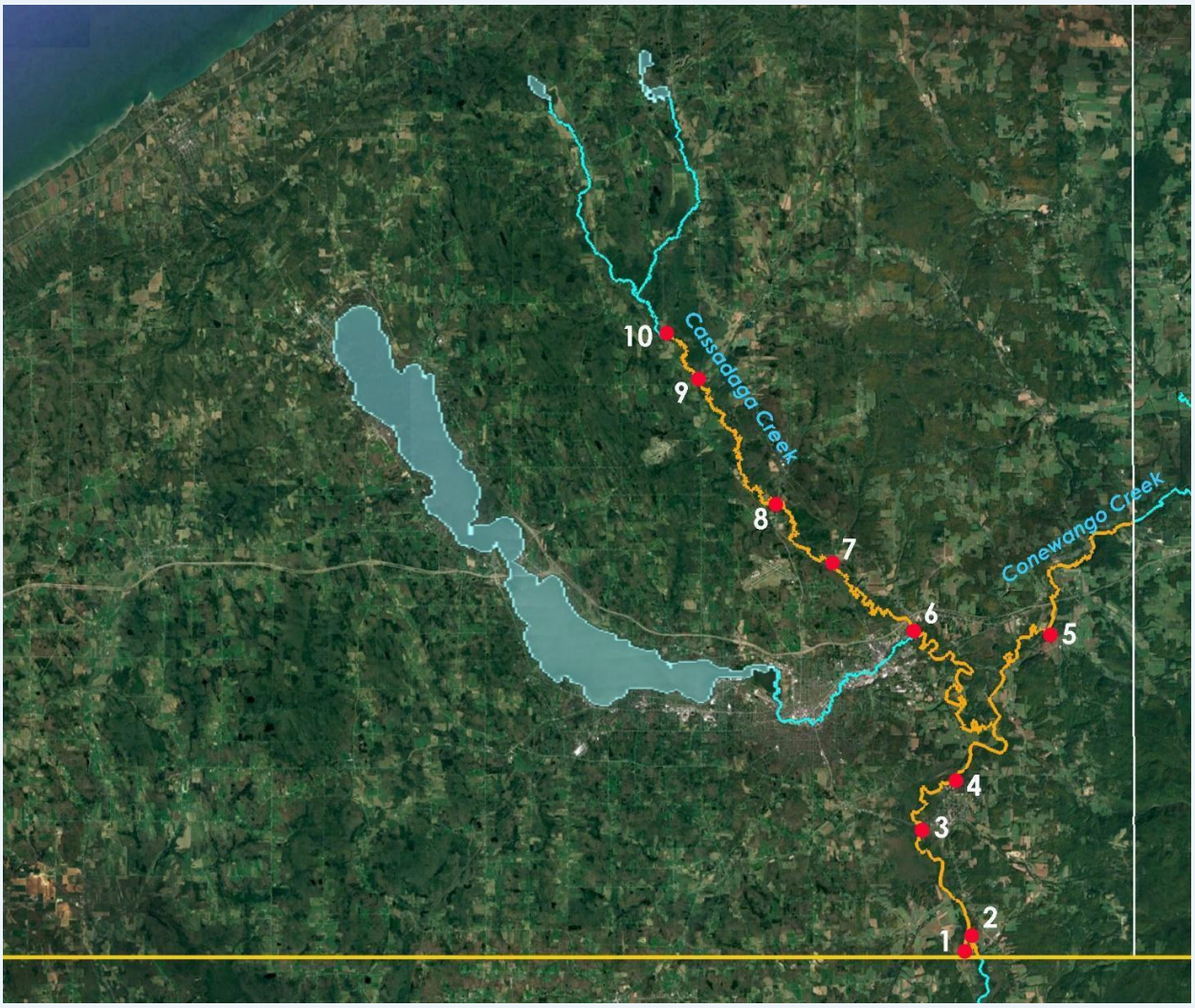
One of the more important features of maintaining a safe and enjoyable recreational waterway system is the public infrastructure that allows for its use. Beyond the actual launches, a well-functioning water trail system should also provide access to wayfinding signage, up-to-date information on "trail" conditions, safety features, and amenities. At the moment, the Marden E. Cobb Waterway Trail includes ten public boat launches - five on each creek. Each launch is different in its design and layout, and they are currently in varying conditions of functionality. These launches are owned and maintained by the county of Chautauqua's Parks Department, a subsidiary of the Department of Public Facilities. The county launches are marked by a recognizable red highway sign, as shown on the right. One additional launch on the Marden E. Cobb Waterway Trail, located in Kennedy by the Route 62 bridge over Conewango Creek, is owned and maintained by the Kennedy Fire Department. The following section describes in detail the currently existing infrastructure that is in place to start activation of the waterway trail and will be followed by recommendations for future upgrades.

A typical highway sign, indicating the location of one of the county's launches.

Current Launches

For ease of indicating locations along the different sections of the Marden E. Cobb Waterway Trail and to better visualize distances between access points, we chose to indicate launch locations by their distance from the bottom of the waterway trail at the point where Conewango Creek leaves New York State. This point will be considered mile marker "0" or "Conewango 0", more specifically. Note that the distances indicated represent on-water miles, the true distance one would need to paddle to reach the next landmark on the map. For reference, when followed downstream from Conewango 0, there are another 13.4 miles of Conewango Creek until it reaches the point where it joins the Allegheny River in Warren, PA.
Within Chautauqua County, there are 22.7 miles of Conewango Creek. It enters the county from the east (Cattaraugus Co.) in Waterboro and exits into Pennsylvania south of Frewsburg; its pathway through the county is roughly mirrored by Rt 62. Cassadaga Creek and its watershed are entirely contained within Chautauqua County. The outflows of Bear Lake and the Cassadaga Lakes join about 8-9 miles south of these respective waterbodies to form the headwaters of Cassadaga Creek. The lack of a clearly defined single channel (as opposed to a network of small rivulets) in the upper section of this watershed makes it less suitable for use as a waterway trail. Cassadaga Creek follows this single channel for about two miles before it first crosses a public road. This bridge, on South Stockton-Cassadaga Road (County Rt 71), forms the top of the Marden E. Cobb Waterway Trail. Distances along Cassadaga Creek will be reported in on-water miles, starting at the point where the creek joins Conewango Creek. We will call that point at the confluence "Cassadaga 0", which corresponds with "Conewango 11.5", it being 11.5 miles upstream from the point where Conewango Creek crosses the PA border. From the confluence, the Marden E. Cobb Waterway Trail extends another 29.9 miles north on Cassadaga Creek to reach the South Stockton / Kabob launch.

Using this system, these are the currently available launches that make up the Marden E. Cobb Waterway Trail:



1. Rt 62 / PA Line Launch (Conewango 0.8 mi)
2. Island Camp (Conewango 1.5 mi)
3. Rt 62 / Main Street, Frewsburg (Conewango 5.6 mi)
4. Falconer Frewsburg Rd / Keywell (Conewango 8.4 mi)

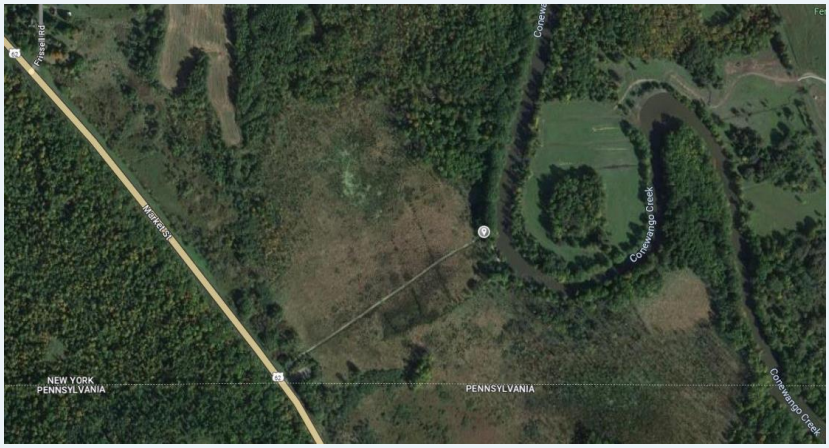
Confluence of Cassadaga Creek & Conewango Creek (= Conewango 11.5 mi / Cassadaga 0 mi)

5. Clark's Corners / Poland Center Road (Conewango 16.8 mi)
6. Levant – at confluence with Chadakoin River (Cassadaga 9.4 mi)
7. Ross Mills (Cassadaga 14.4 mi)
8. Rt 60 / Kimball Stand (Cassadaga 18.6 mi)
9. Red Bird / CWC Kyle's Landing Preserve (Cassadaga 26.7 mi)
10. South Stockton Road / Kabob (Cassadaga 29.9 mi)

Conewango Creek Launches

1. Rt 62 / PA Line Launch (Conewango 0.8 mi)
(42.002582, -79.153123)

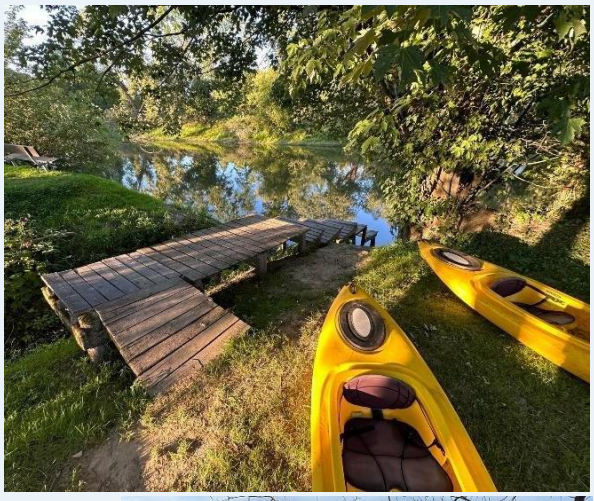
This site is located just north of the Pennsylvania line and separated from Rt 62 by a large, county-owned wetland system. This is a popular launch site and sees significant recreational use, both for people going upstream onto the Marden E. Cobb Waterway Trail and for people going downstream into PA. Nearby canoe/kayak rental outfitters routinely drive customers to this site to put in and have them take out at a variety of downstream locations.



Access to the launch site is restricted by a gate near Rt 62, which is seasonally closed during the fall/ winter/spring when Conewango Creek and its floodplain tend to flood and submerge the access road.

This launch is also the access point for the Island Camp, a lean-to and campsite located 0.7 miles upstream on Conewango Creek, which can only be reached by boat.

The launch site can be reached by car when the main gate is open, and ample parking space is available. The site has a few benches overlooking the river. The actual launch is essentially a series of wooden steps and platforms that step down from the top of the bank to wherever the creek's water level is at a given time. Due to the seasonal flooding, the entire structure is underwater each spring, while even the bottom platform may be hard to reach while sitting in a kayak during a dry summer's low water conditions (**see picture**).

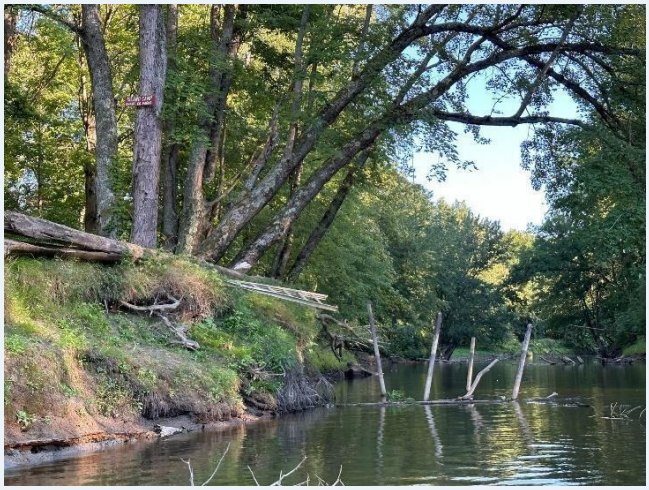


Due to the entire structure being submerged for much of the year, it becomes covered in mud. Once the water levels drop, the wooden steps are caked in several inches of mud, making the structure very slippery. Several users of the launch have expressed concerns that the wooden structure is uneven and feels unsafe. From an aesthetic point of view, another issue is that during the winter, when the access road gate is closed, the area near that gate is used as a place to discard deer carcasses (presumably by a highway department). In early spring, the stench of rotting carcasses is very noticeable, but the sight of numerous deer skeletons at the site's entrance throughout the year is especially uninviting (**see picture**).

2. Island Camp (Conewango 1.5 mi) (42.012567, -79.149794)

This is a county-owned campsite and lean-to located on "Clam Island". It can only be reached via boat, and there once was a launch on the island, but that has washed away with only a few metal pipes remaining (**see photo**).
Visitors beach their canoes or kayaks either on the south side of the island or near the lean-to on the northern side of the island. A very large log jam on the north side of the island has blocked the oxbow that wraps around the east side of the island, but the main channel of Conewango Creek has been cleared and is accessible. Several recent tree falls along the northern, upstream face of the island have led to the formation of the logjam in the oxbow, as much of the lumber was pushed into the channel from the main stem of Conewango Creek. The loss of trees has now left the northern shore of the island exposed to strong currents, and the bank is caving in rapidly, potentially

threatening the lean-to in the near future. Sediment that has fallen off the face of the island now forms a flat beach where visitors park their boats, but it also creates a hydrological modifier that causes strong currents during the winter months to scour away at a higher point on the bank, thus exacerbating erosion and sediment loss. Some type of rock armoring and bank stabilization efforts would be very beneficial but may not be logistically feasible given the lack of equipment access to the site.
Interestingly, the loss of sediment on the northern face of the island has exposed a large shell mound that may be of Native American origin and could potentially represent an archeological site. This has been brought to the attention of Dr. Joe Stahlman, Seneca Nation's Tribal Historic Preservation Office and Assistant Professor in the Department of Anthropology at the University of Buffalo, but despite our best efforts, we have not been able to get his crew out to the site yet.



Remnants of the island camp's boat launch

Eroding exposed face of the island & lean-to

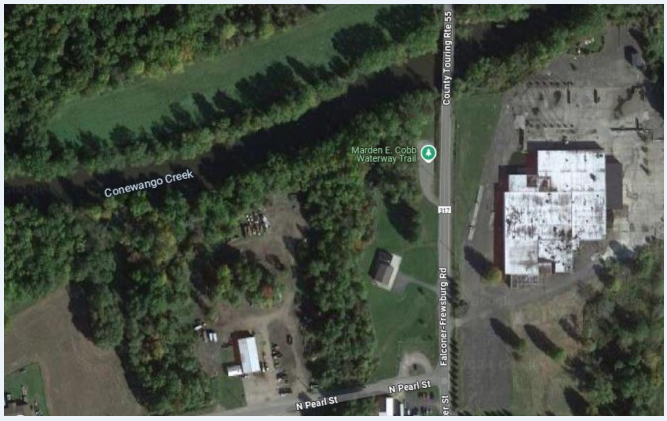
Partially exposed native mussel mound, possibly a Native American archeological artifact.

3. Rt 62 / Main Street, Frewsburg (Conewango 5.6 mi)
(42.052671, -79.175086)

An easily accessible and clearly marked launch site located on the north and east side of the Rt 62 bridge that crossed Conewango Creek west of Frewsburg. There is ample parking space on the grassy lot, as well as a picnic table. Access on and off of Rt 62 can be somewhat challenging for vehicles with low ground clearance, as the drop from the pavement onto the mowed parking area is significant.

The actual launch is minimal and consists of a small wooden platform on the edge of the creek (**see photo**) that is located at a decent height to accommodate paddlers during the lower water levels experienced in the summer, but with even slightly elevated water levels in the creek, this platform will be underwater. This launch site provides good opportunities for both upstream and downstream trips.

4. Falconer Frewsburg Rd / Keywell (Conewango 8.4 mi)
(42.069106, -79.158438)



Located on the north side of Frewsburg, south and west side of the Conewango Creek bridge on Falconer Frewsburg Road. A clearly marked exit leads to a gravel parking area with ample room for several cars. A picnic table is also available.
The launch consists of a narrow sloping walkway that is cut into the bank to reach the water. Planks and evenly spaced crossbeams provide the walking surface. The planks extend well into the water, and this launch is therefore usable at any water level. Mud building up on the walking surface during a period of highwater can make the launch dangerously slippery. A rope has been tied to the top of the walkway to provide a handhold (**see photo**), as the walkway is barely walkable once it is caked with slippery clay. The narrow cut into the bank makes it difficult to walk down this launch while carrying a kayak, as the width is not adequate. This launch is well-positioned in the waterway trail to accommodate wonderful canoe or kayak trips on the Conewango Creek, but it could benefit from some upgrades to the infrastructure.

5. Clark's Corners / Poland Center Road (Conewango 16.8 mi)
(42.130445, -79.107025)

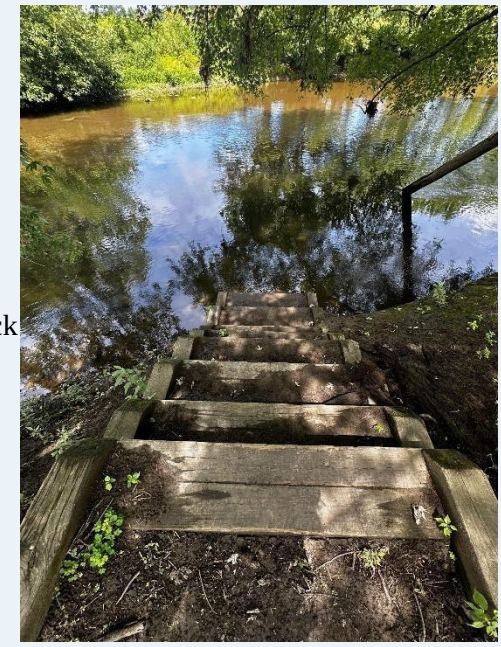
This is the only county-owned launch in the upper Conewango Creek, upstream from the confluence with Cassadaga Creek. It is a small pull-off on the north side of Poland Center Road, near the bridge that spans Conewango Creek. The pull-off provides plenty of room to park several vehicles. This launch consists of a wooden plank walkway that slopes down the bank. The surrounding area is a mowed grass clearing. A handrail follows the walkway down to the water's edge on one side. This launch was recently damaged by falling trees, which have been cut up and moved off the path, but the logs are still present (**see photo**). Damaged sections of the wooden walkway have been removed but not replaced. This is a pleasant and usable launch but is due for some maintenance.

Cassadaga Creek Launches

6. Levant – at confluence with Chadakoin River (Cassadaga 9.4 mi) (42.131501, -79.179756)

The lowest launch on Cassadaga Creek, located 9.4 miles upstream from the confluence with Conewango Creek (and 20.9 miles upstream from Conewango 0, at the PA border). It is also the site where the Chadakoin River, coming off Chautauqua Lake, joins Cassadaga Creek. People launching from this spot can go up and down Cassadaga Creek, leave for a longer trip downstream onto the Conewango, or paddle up the Chadakoin River.

This launch is located off Gerry-Levant Road, between Rt 394 and I-86. The site is marked by an old bridge frame that is located next to the large gravel parking area. A sizeable grassy area provides space for a picnic and offers nice views of the Chadakoin and Cassadaga Creek. Due to the large volume of water that converges here in early spring, after snowmelt events, or during big rainstorms, this entire launch can be underwater at times. The launch itself is small and consists of a series of fairly steep wooden steps leading down from the grassy knoll to the water's edge. The steps extend far enough to make them usable at a variety of water levels, but, like other launches, they get covered in thick slippery clay after high water events, making them treacherous to navigate.



7. Ross Mills (Cassadaga 14.4 mi)
(42.154925, -79.223279)

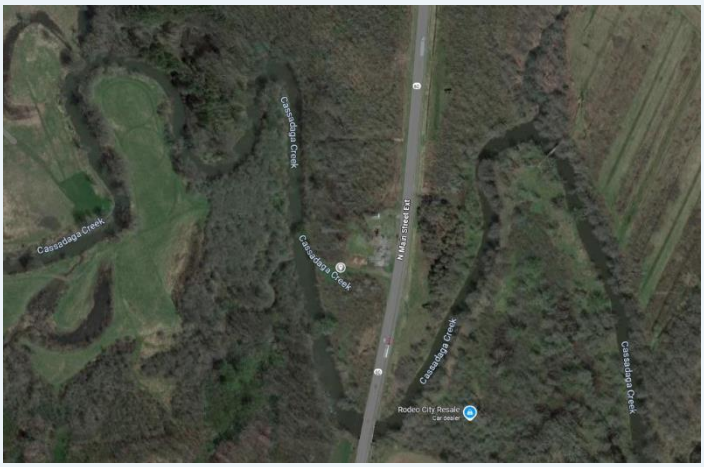
This site is located near the Ross Mills Road bridge, where it meets Route 380. It is a small launch site with a small parking area. It appears that access to the creek has not been maintained, and there is no significant infrastructure (steps, platforms) in place to facilitate launching a kayak or canoe. Nonetheless, this site clearly sees significant use still as people sign in on the visitor sheets provided at this launch, and there are clear signs of people walking down the steep banks, presumably to launch a boat.

It appears that steps were once present, but they are now covered with grass, creating a steep and slippery descent to the water's edge (**see photo**). The lack of a suitable walking surface is creating some erosion issues, and the exposed sediment also makes the walk down the banks even more slippery under wet conditions. This is an important launch point in the waterway trail system, especially now that Cassadaga Creek has recently been reopened to recreational uses. However, some upgrades to the infrastructure are needed.

Remnants of steps are still visible.

Muddy path down to the creek.

8. Rt 60 / Kimball Stand (Cassadaga 18.6 mi)
(42.180700, -79.254363)



This is one of the most visible Marden E. Cobb Waterway access points. It's located on the very busy Rt 60 corridor in Gerry. Unfortunately, marked by an uninviting foundation slab near its entrance, the grassy launch area is pretty and provides plenty of space for several vehicles. There is no platform or other infrastructure provided to safely launch a canoe or kayak, and the launch area is simply a steeply sloping bank covered in lawn. Because of its accessibility and visibility, this is one of the more frequently used launches, but unfortunately, this is also one of the hardest-to-use water access points. The lack of any structures along the water's edge, combined with the very steep and exceedingly slippery slope towards the water, makes safely entering the water with a boat nearly impossible. During the project period, several people have been seen sliding down the bank and falling into the creek or flipping their boat trying to exit as there is no secure footing and nothing to hold onto. In fact, it is clear from existing tracks and trampled vegetation on either side of the launch area that many people have opted to bushwhack through dense pricker bushes and dogwoods to enter or exit Cassadaga Creek, rather than use the space intended for that use.

Unfortunately, this site has been impacted by the non-native, invasive Wild Chervil (*Anthriscus sylvestris*) which grows in dense stands during its early season flowering period and is difficult to eradicate (**see photo above**).

9. Red Bird / CWC Kyle's Landing Preserve (Cassadaga 26.7 mi)
(42.232263, -79.296862)

Located near the crossroads of Rt 380 and Sinclair Drive (Rt 66) in Ellery. The entrance to the parking area is on the north side of Sinclair Drive. This launch is located at a hub of recreational opportunities, as it is also on the county's snowmobile trail and provides access to the Chautauqua Watershed Conservancy's Kyle's Landing Preserve.

A short walking path from the parking area leads to the water's edge near the Rt 66 bridge, where a few steps and a sizeable platform provide one of the best launch experiences of any of the Marden E. Cobb Waterway's access points. A large, submersed concrete slab at the bottom of the steps (**see photo on left**) provides a sturdy and stable launching platform. Note that the steps can get slippery after high water covers them in mud. Also, the scouring action of the water is quite visible on the creek side of the steps where erosion and bank loss can be noticed (**see photo on right**), and some stabilization with rock riprap would help stabilize this launch.

10. South Stockton Road / Kabob (Cassadaga 29.9 mi)
(42.248557, -79.314957)

This is the top of the Marden E. Cobb Waterway Trail and the northernmost launch in the county, located 29.9 miles upstream from the confluence with Conewango Creek and 41.4 on-water miles from the Pennsylvania line.

The recent (summer 2024) work on replacing the South Stockton-Cassadaga Road bridge and the associated reconfiguration of surrounding drainage has led to the complete removal of the launch area. There currently is no launch at this site, although one is scheduled to be installed at a future date.

Launch-to-launch distances (on-water miles) between existing county waterway launches

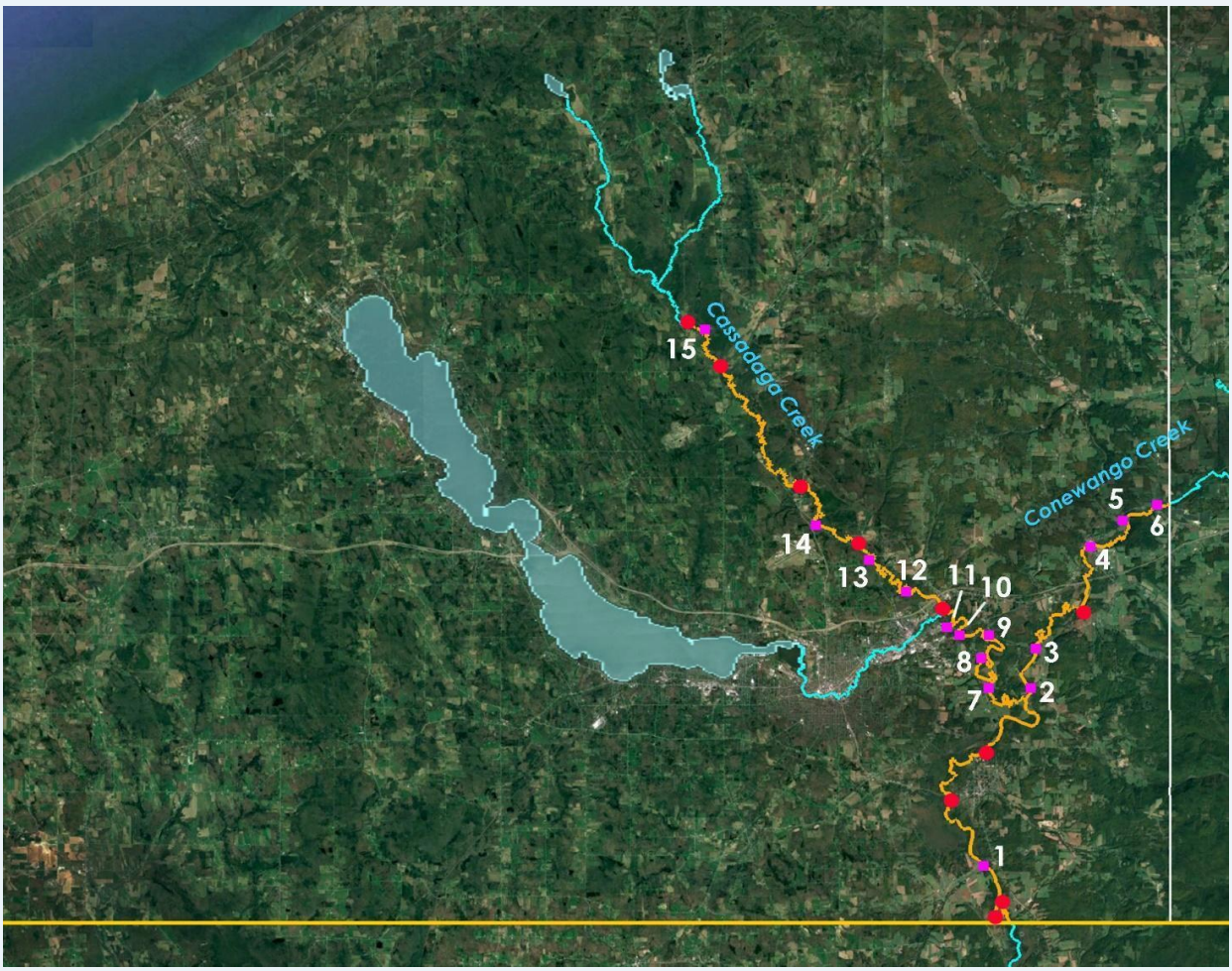
	Kabob / South Stockton	Red Bird / CWC Kyles Landing	Rt 60 / Kimball Stand	Ross Mills	Levant @ Chadakoin River	Falconer Frewsburg Rd / Keywell	Rt 62/ Main St. Frewsburg	Island Camp	Rt 62 / PA line launch	Clarks Corners / Poland Center Road
Kabob / South Stockton	0	3.2	11.3	15.5	20.5	33	35.8	39.8	40.5	35.2
Red Bird / CWC Kyle's Landing	3.2	0	8.1	12.3	17.3	29.8	32.6	36.6	37.3	32
Rt 60 / Kimball Stand	11.3	8.1	0	4.2	9.2	21.7	24.5	28.5	29.2	23.9
Ross Mills	15.5	12.3	4.2	0	5	17.5	20.3	24.3	25	19.7
Levant @ Chadakoin River	20.5	17.3	9.2	5	0	12.5	15.3	19.3	20	14.7
Falconer Frewsburg Rd / Keywell	33	29.8	21.7	17.5	12.5	0	2.8	6.8	7.5	8.4
Rt 62 / Main St. Frewsburg	35.8	32.6	24.5	20.3	15.3	2.8	0	4	4.7	11.2
Island Camp	39.8	36.6	28.5	24.3	19.3	6.8	4	0	0.7	15.2
Rt 62 / PA line launch	40.5	37.3	29.2	25	20	7.5	4.7	0.7	0	15.9
Clark's Corners / Poland Center Road	35.2	32	23.9	19.7	14.7	8.4	11.2	15.2	15.9	0

With only 10 launches spread over nearly 55 miles of waterway trail, and not spread evenly, some launches are currently quite far apart. For example, as shown in **the table above**, the distance between the Levant launch and the next one downstream (Falconer Frewsburg Road) is 12.5 miles, a distance not comfortable or attainable for everyone. The significant distances between launches also represent a safety concern for those interested in utilizing the waterway trail. This is because, in the event of an emergency on the water, there may not be a fast way to get out, and it may also be difficult for emergency responders to reach someone on the water. The more launches and emergency access points that are available, the safer and more accessible the waterway trail will be. Even unrelated to emergency issues, having launches significantly spaced apart may make it difficult for paddlers to plan their trip or for people with less experience or ability to enjoy the creeks.

Many of the existing launches are in desperate need of upgrades to bring them up to the level of being safe and accessible. As previously mentioned, in some areas, paddlers have even been found to utilize undesignated spots to launch their kayaks or canoes rather than attempt to use the launches in their current state. Improving the conditions of the current launches is necessary as this is the first step in ensuring paddlers have a safe and enjoyable experience. In most cases, more new infrastructure will be needed, and this includes new ramps, railings, steps, and other features. Designing launches may be difficult as each area presents different obstacles and requirements. New launches and other infrastructure needed for their use should be low-impact, safe, and reliable. There are many current options for creating a kayak launch that can be explored, some of which will be discussed later.

In addition to restoring current launches, it will be necessary to explore potential areas for new ones, and it is equally important to identify emergency access points along the entire length of the waterway system to increase its safety and usability.

The following potential new access points are suggested for consideration as either an additional location for a canoe/kayak launch or as a realistic place where emergency services could reach people on the Marden E. Cobb Waterway Trail should such need arise.



Red Circles indicate existing county launches; pink squares indicate the potential (emergency) access sites proposed in the following section.

Potential New Access Points

The following potential new access points are suggested for consideration as either an additional location for a canoe/kayak launch or as a realistic place where emergency services could reach people on the Marden E. Cobb Waterway Trail should such need arise. Note that, similar to the previous section, locations on Conewango Creek are noted relative to "Conewango 0", which is the point where the creek crosses into Pennsylvania. Locations on Cassadaga Creek are indicated relative to "Cassadaga 0", which is the point where Cassadaga Creek meets Conewango Creek (at Conewango 11.5 mi).

Conewango Creek

1. Riverside Road bridge (Conewango 2.6 mi)
Emergency access (42.023351, -79.159472)

Located in the lower Conewango Creek, between two existing county launches (Rt 62 / PA Line & Island Camp and Rt 62 / Main Street Frewsburg).
Farm fields provide water access to Kiantone Creek, which joins Conewango Creek immediately south of the bridge, or Conewango Creek directly.

2. Dollof Road (Conewango 11.7 mi) –

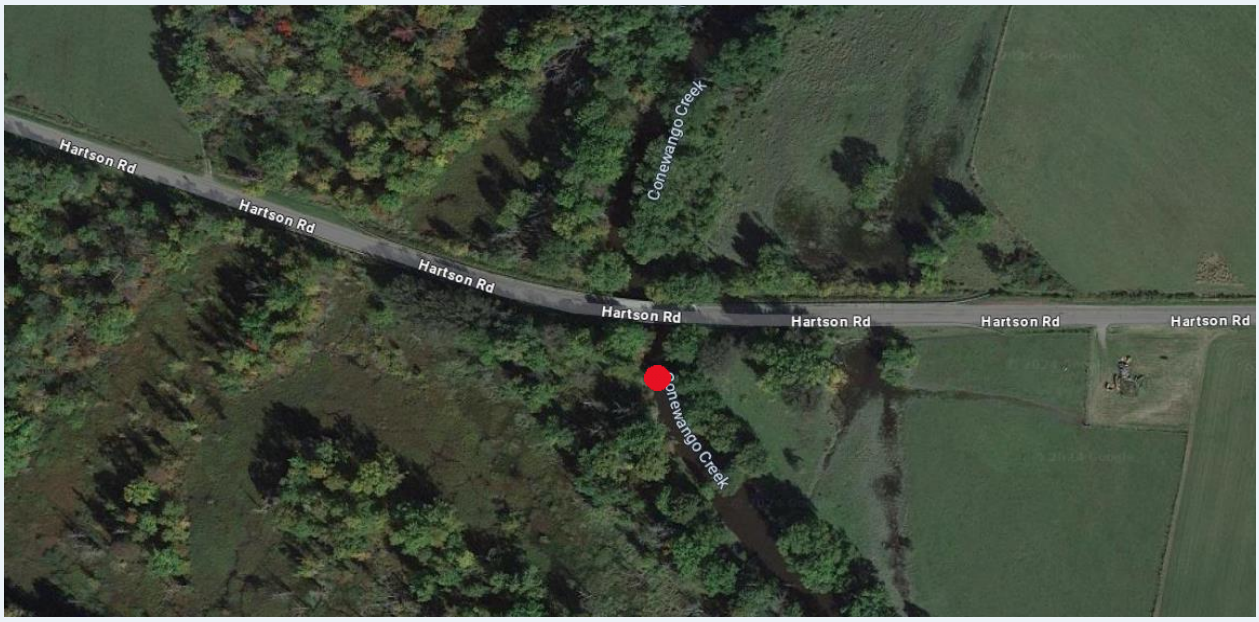
Emergency access & potential launch (42.094432, -79.133443)

Dollof Road is no longer continuous (despite what most maps indicate). When accessed from Rt 62, Dollof Road dead-ends at a dangerously derelict bridge over the Conewango. This site is very close to the Cassadaga-Conewango Confluence (located at Conewango 11.5 mi, less than a quarter mile downstream from this point). There are very few places where one can reach this middle section of the county's waterways, and, besides (emergency) access, installation of an additional launch could be considered. The benefit of an old roadbed is significant for vehicle access. Removal of the bridge is recommended. Perhaps a launch could be constructed where the bridge is currently.

3. Hartson Road bridge (Conewango 13.3 mi)

- **Emergency access & potential launch (42.113038, -79.132616)**

This area is privately owned. A dirt path exists along the south side of the bridge that allows for emergency access and potentially a launch. There is limited space for off-road parking.



4. Kennedy / Frewsburg Rd bridge (Conewango 19.2 mi)

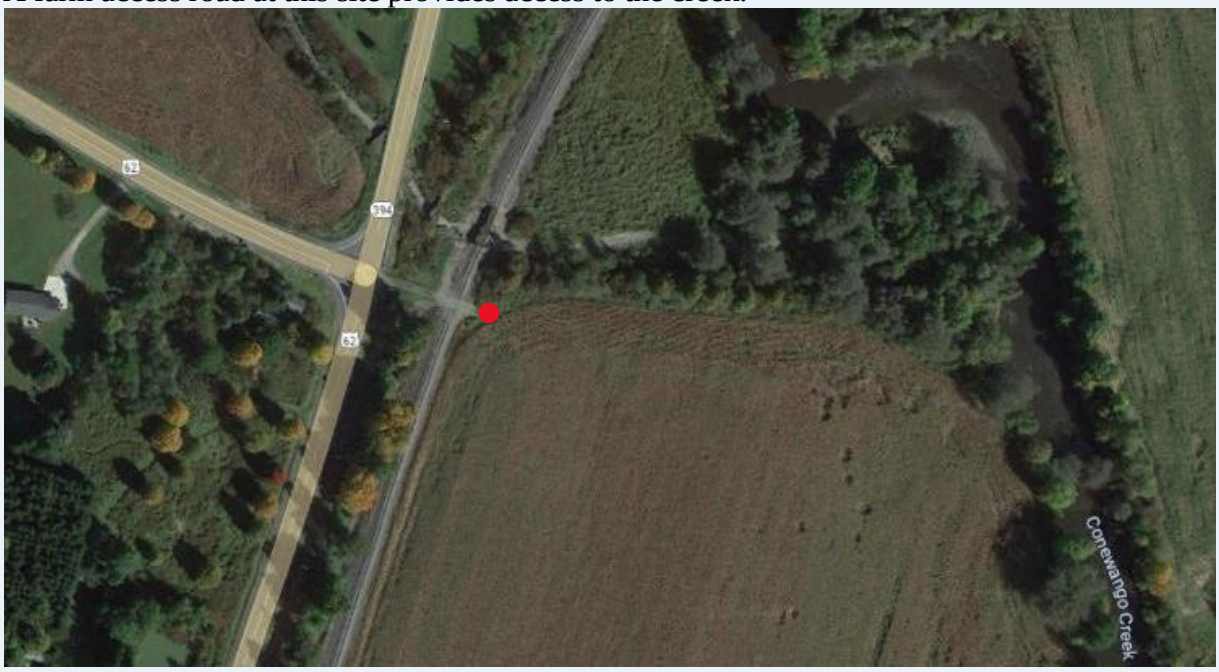
Emergency access & existing launch (42.156213, -79.101245)

This is an existing launch owned and operated by the Kennedy Fire Department. It has ample parking space and allows for easy launching of even larger boats.

Even near the top of the watershed, seasonal and storm-related high water events can dramatically alter the appearance and safety concerns related to the county's waterways. View from Rt 62 bridge in Kennedy shown, looking upstream at upper Conewango Creek.

5. Rt 394 / Rt 62 RR tracks (Conewango 21.2 mi)
Emergency access (42.165273, -79.085705)

A farm access road at this site provides access to the creek.



6. Waterboro / Rt 394 bridge (Conewango 2.3 mi)
Emergency access & potential launch (42.171774, -79.067973)

This site is located only 0.4 miles downstream from the point where Conewango Creek enters Chautauqua County from neighboring Cattaraugus County. It is potentially the farthest upstream location on Conewango Creek where a launch could be considered. Neighboring land owned by Cattaraugus County IDA could potentially be activated for a tourism project. There may be possible access from the private road on Waterboro Hill Road.

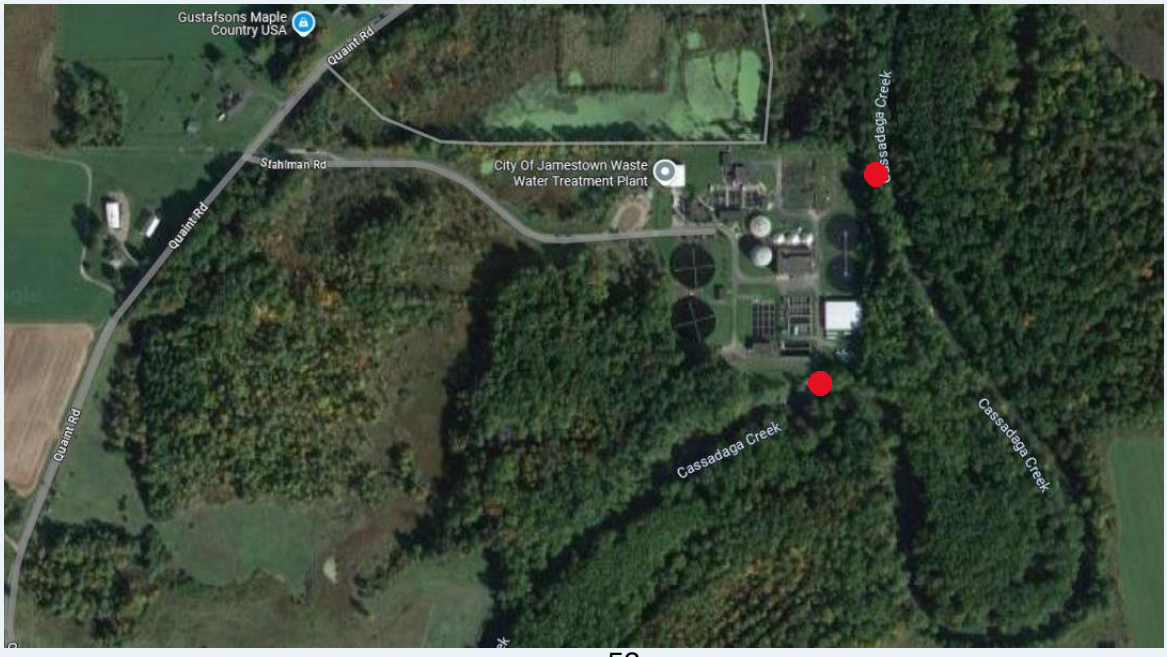
Cassadaga Creek

7. Dollof Road (Cassadaga 2.4 mi)
Emergency access (42.096725, -79.156954)

The west entrance of Dollof Road, off Falconer-Frewsburg Road, is privately owned. Access onto this (discontinuous) road exists, and the bridge over Cassadaga Creek remains functional. The road is gated at the bridge and controlled by the farmer(s) who work the land between Cassadaga Creek and Conewango Creek. Emergency access to the creek is possible here.

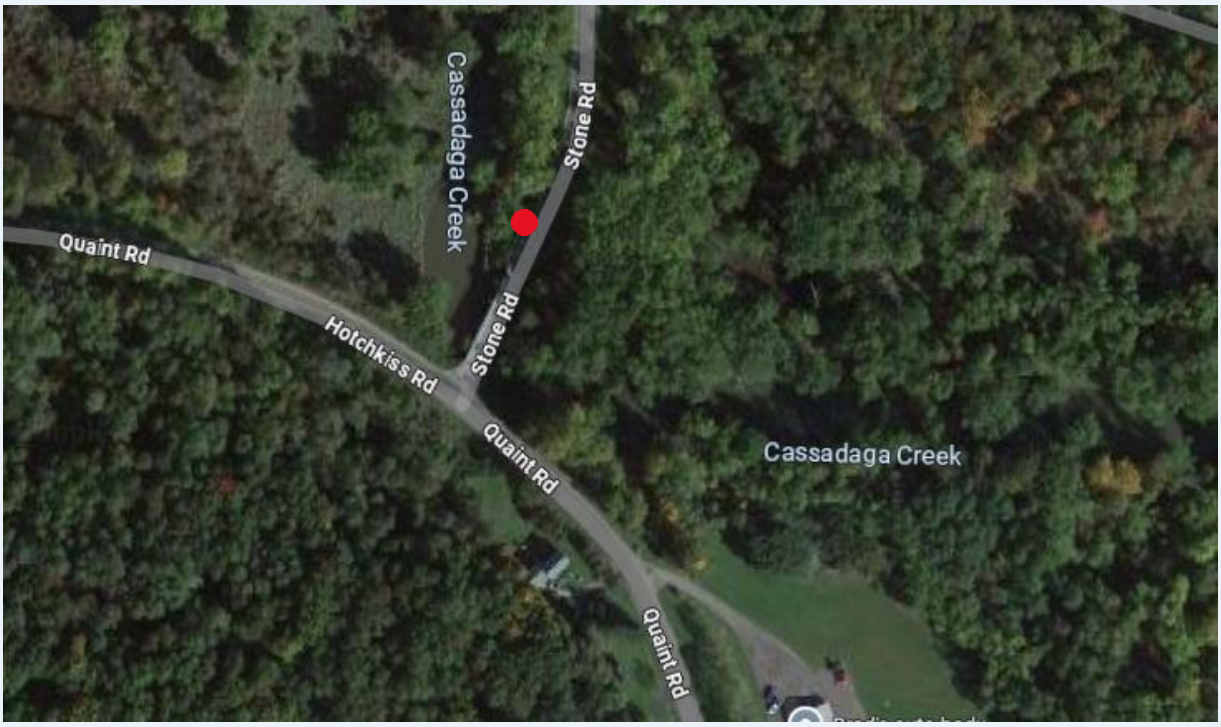
8. City of Jamestown water treatment plant / Stahlman Rd (Cassadaga 4.2 mi)
Emergency access (42.110171, -79.157043)

Multiple emergency access points could be considered at this site, owned and operated by the Jamestown Board of Public Utilities (BPU).



9. Stone Road bridge (Cassadaga 6.3 mi)

Emergency access & potential launch site (42.117102, -79.157479)



This appears to be the site of an old (now abandoned) launch. A concrete slab on the water's edge (**see photo on left**) is a reminder of prior use of this, now privately-owned, site. Emergency water access is very feasible, but this may be a site considered for a future launch. Proximity to several roads makes access very easy, but parking may not be feasible as the water level in this section of the creek rises significantly during the winter months. Some type of historic marker is present at this location (**see photo on right**).

10. NYSDEC Quaint Rd / Blanchard Rd RR tracks (Cassadaga 7.3 mi)
Emergency access (42.118548, -79.168457)

This is an old oxbow lake, a remnant of a prior path of Cassadaga Creek, with close proximity to Quaint Road. Water access from the road connects to nearby Cassadaga Creek. It is not clear if water depth is an obstacle to reaching the current Cassadaga Creek corridor during periods of very low water.

11. SKF / Blanchard Rd (Cassadaga 8.3 mi)
Emergency access (42.122691, -79.176084)

This is similar to the previous site. The proximity to Blanchard Road could provide emergency access to Cassadaga Creek.

12. BPU 3 (Cassadaga 10.5 mi) & BPU 2 (Cassadaga 11.2 mi) & BPU 1 (Cassadaga 11.9 mi) Emergency Access (42.136268, -79.195313), (42.136529, -79.202014) & (42.140178, -79.206298)

There are multiple emergency access possibilities at this large site with significant creek frontage, which is owned and operated by the Jamestown Board of Public Utilities (BPU). Access to the BPU facility is off of Rt 380. Very few other access opportunities exist in this remote section of the county's Marden E. Cobb Waterway Trail.

13. Niagara Mohawk / N Main Street (Cassadaga 13.7 mi)

Emergency Access (42.149109, -79.216769)

The proximity of Rt 380 to Cassadaga Creek at this location is the main reason for considering this site as a potential emergency access point. A utility right-of-way by Niagara Mohawk provides some clearing between the road and the creek, but additional clearing would be needed to create a path access point.

14. County lean-to (Cassadaga 16.3 mi)

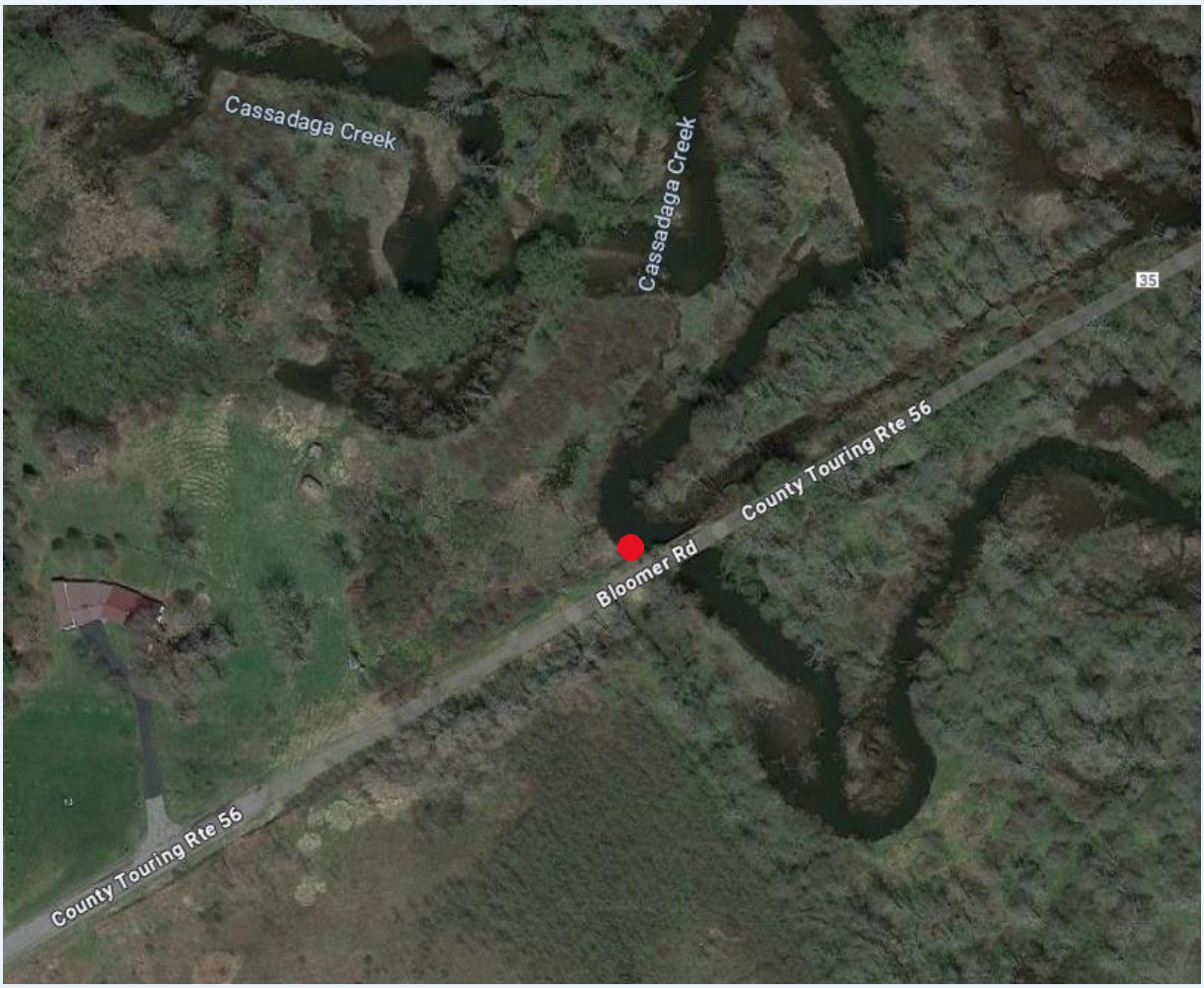
Emergency Access & potential launch (42.165503, -79.246062)

This site is the location of a county-owned lean-to. An old, abandoned parking lot exists next to the structure that could be re-purposed to accommodate additional vehicles. A grassy trail leads down to the lean-to and to the creek, where a launch site could potentially be constructed.

The abandoned parking lot, access path to lean-to & access from lean-to to Cassadaga Creek, respectively

15. Chautauqua Watershed Conservancy's Cassadaga Creek Preserve (Cassadaga 29.0) Emergency access & potential launch (42.244519, -79.307278)

Bloomer Road (accessed from Rt 380) is blocked and discontinued at the bridge crossing Cassadaga Creek. There is some parking where the road dead-ends, which is where visitors to the Chautauqua Watershed Conservancy preserve park. The creek can be accessed from either side of the bridge for emergency purposes, but consideration could be given to installing another launch somewhere near this bridge.



Concepts for New and Upgraded Launches

With the significant need to upgrade and improve the Marden E. Cobb Waterway Trail boat launches, there are a few things to consider. Probably the more important one is the fact that, depending on where one is in the watershed, water levels may vary by as much as 8 feet between flood stage high and summer drought low levels. Even during the months when safe recreational creek conditions are most likely (roughly May through October), water levels will still be dropping significantly between spring and fall, depending on the amount of rainfall received. Bear in mind that the Conewango Creek watershed encompasses some 900 square miles. Most of that is in Chautauqua County, and all of it will need to drain excess water through a single channel (lower Conewango Creek) before it discharges into the Allegheny River. As is the case these days, storms are becoming more intense and less predictable. In our case, a major rain event anywhere in the Conewango Creek watershed will have a major impact on water levels in the downstream section of the system. When exploring new designs for launches, it is therefore critical to keep in mind that any design that is used needs to be functional at a wide range of water levels.

Bank erosion, scouring, and sediment loss are challenges for the existing launches. Deposition of mud on top of existing structures, making steps dangerously slippery, is another problem that almost all launches face. Those launches without any built structures (e.g., Kimball stand) are the most problematic ones, as lawn grass does not provide structural stability that prevents erosion, and the lack of any solid footholds or flat surface to walk on causes folks to lose their footing, slip, and potentially fall in the creek.

A preferred launch design should therefore: 1) be constructed along a slope or gradient that allows it to function at different water levels; 2) add to the stability of the bank, not cause excessive erosion; 3) be permeable, so water can drain through and dry any accumulated mud quickly; 4) provide a non-slippery surface to eliminate the risk of injury.

The use of large river rocks buried deeply to prevent them from eroding out of the bank matrix could be considered (**see image on right**). However, a design like this will undoubtedly result in an uneven walking surface that could lead to tripping incidents.

Since most of the existing Marden E. Cobb Waterway Trail launches have gravel, lawn, or combined lawn/gravel parking areas, picnic areas, and access trails to the launch area, a good solution can be to consider using open-faced lawn blocks to provide added stability to grassy areas close to the water. A gradually sloping bank that is stabilized with these open-faced pavers will allow for added drainage while being

more stable than a lawn-only approach to the water's edge. The exposed pavers will provide added traction even when the grass and underlying soil are wet. Excessive growth of grass through the openings can easily be curtailed as part of the routine mowing regime. An example of such open-faced lawn blocks is shown below.

A few examples of more intensively engineered and more expensively executed canoe/kayak launches are shown below. These are well-thought-out designs that have held up well under intensive public use. In the design shown below, a few features stand out. The steps, created from stacked concrete blocks, are a simple enough design that can be applied readily at county launches. However, the use of large river rocks on either side of the steps, particularly rocks that are slightly taller than the steps, is a clever addition that should be included. As the current moves over the top of these steps during high water events, vertical eddies created by the elevated and irregularly shaped rocks will aid in washing away sediment that would otherwise have settled on the flat surfaces.

The addition of dense willow stands on the upstream side of the armored launch adds a living shoreline element to this design. Willows grow well in very wet conditions and propagate quickly. Their roots are extremely suited to maintaining bank integrity and preventing erosion, while their dense stand of stems will dissipate much of the energy that rushing water would otherwise exert onto the sides of the launch. In essence, adding suitable plantings to the upstream section of a launch will provide a resilient, nature-based solution to ongoing erosion and bank loss challenges in high-energy settings like the county's waterways.

One other aspect worth considering applying to our upgraded launches is the placement of one or a few large rocks on the upstream side of the end of the launch, as shown in the design below.

As can be seen clearly in this image, by carefully placing these rocks below the launch, the current is effectively pushed away from the bank towards the center of the creek. This not only helps reduce erosion and bank loss but also creates a small eddy – a section of quiet water – at the base of the launch. This makes it much easier for people to enter and exit a canoe or kayak, as the boat rests in much calmer water while the current is temporarily directed offshore.

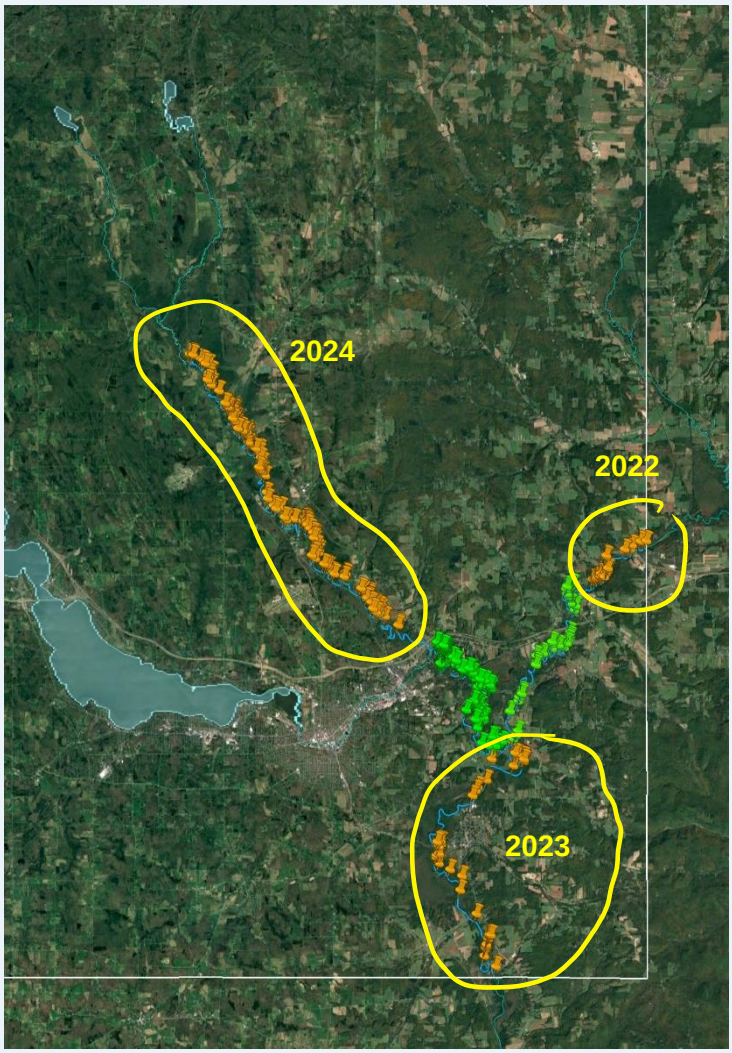
8. Current Projects

Over the past decade, the invasive forest pest Emerald Ash Borer has killed nearly all Ash trees in our area, effectively wiping out nearly 25% of the trees that grow in our floodplains and along our riverbanks. Dead-standing Ash trees have been shedding large branches over the past several years, and by now, the remaining trunks are falling over. Given that many of these trees are growing in floodplain habitats and on the slopes above our lakes and streams, many fallen logs end up in the waterways and are increasingly inhibiting stream flow throughout the region. The Marden E. Cobb Waterway system is no exception to this, and routine waterway maintenance has not been able to keep up with the removal of these obstacles for some time now.

Even though submersed logs can create valuable habitat for fish and other wildlife, excessive debris accumulations and log jams are often negatively impacting water quality. Mobilized by winter high water and strong currents, these logs tend to move downstream and get caught on existing blockages and strainers, over time creating very large log jams that can block the entire stream and alter the hydrology of the waterway. If it is unable to go under or through them, water will find a way around these log jams. In doing so, banks are undercut and/or eroded away as the creek carves out a new path. Many cubic yards of sediment tend to get washed downstream in such events, negatively impacting the water quality downstream. Similarly, bank trees that topple into the creek with their roots still attached can leave large gaping holes in erosion-prone banks. In addition, the scouring action of tree trunks being dragged by the current can also cause significant bank erosion. Eroding and collapsing banks and dangerous currents carving out new flow patterns all impact the many properties that are located along the county waterways. Beyond causing erosion and potential loss of property and structures, these submersed logs, strainers, and log jams can also create potentially dangerous conditions for recreational users, making canoeing, kayaking, or fishing nearly impossible in many areas.

Sadly, a tragic incident on the upper Conewango Creek in Kennedy in 2022 that caused a kayaker to lose their life in one of these dangerous log jams was the impetus to recent hazard removal work carried out by the Chautauqua Watershed Conservancy. Since then, the organization has conducted multiple removal efforts and successfully cleared large sections of the waterway trail. As of the end of 2024, the upper section of Cassadaga Creek (20.5 miles), the upper section of Conewango Creek (3.5 miles), and the lower section of Conewango Creek (11.5 miles) are all hazard-free, allowing for safe recreational use besides in a few trouble areas noted below. Additionally, the Chadakoin River is mostly cleared from Chautauqua Lake to the confluence with Cassadaga Creek, except for a 1.4-mile section in Ellicott and a few spots in Falconer. While a lot of work has already been done, there are still major areas that need to be cleared. The middle section of the Marden E. Cobb Waterway Trail (approximately 17 miles) on either side of the confluence of Cassadaga Creek and Conewango Creek still needs to be cleared to allow water to flow uninterruptedly through all three waterways, to allow for safe recreation throughout the county, and to ensure that woody debris after high water events does not have the opportunity to accumulate as it has in past decades.

Snapshot of Work Completed to-date



2022: Town of Poland – complete removal of all hazards and log jams on upper Conewango Creek between Kennedy launch and Cattaraugus County line (**3.5 miles**).
2022-23: City of Jamestown- complete removal of all hazards and strainers from the Jamestown section of the Chadakoin River. Removal of dead standing Ash trees & remediation of other live (potential) hazard trees by a certified arborist (3.5 miles).
2023: Removal of hazards and restoration of natural flow in lower Conewango Creek, below the confluence with Cassadaga Creek (**11.5 miles**).
2023-24: Hazard removal from Chadakoin River in Falconer & Jamestown (various locations).
2024: Removal of hazards and restoration of natural flow in upper Cassadaga Creek, between Kabob and confluence with Chadakoin River (**20.5 miles**).

Town of Poland (2022)

The Chautauqua Watershed Conservancy collaborated with the Town of Poland to undertake a restoration project in the Conewango Creek, between the Rt. 62 bridge in Kennedy, NY, upstream to the Cattaraugus County Line, a section measuring 3.3 miles. For many years, this section of the Conewango Creek had experienced downed trees, debris dams, severe erosion, and flooding, which negatively impacted property values and investment. In addition, the hazards and flow impediments in this section of Conewango Creek have led to injuries and the tragic loss of human life in recent years.

On August 9, 2022, the town board of the town of Poland voted unanimously to engage in a contract for services with CWC to:

- Remove downed trees & log jams to restore the natural flow in the creek along 1.5 miles of Conewango Creek, upstream from the Rt 62 bridge
- Evaluate 1.8 miles of Conewango Creek, upstream from the project area to end at the County line; including minimal log removal without mobilization of equipment
- Provide environmental review, permit applications & stakeholder coordination (e.g. town, county, NYSDEC) & ARPA reporting

The town allocated $58,750 of American Rescue Plan Act (ARPA) funding to this project, and work commenced upon receipt of a fully executed contract in October 2022. Utilizing experienced tree crews and certified arborists (Tactical Tree Solutions) who had been involved in prior projects on the Chadakoin River (**see p. 74**), a water-based approach was used to cut through the existing log jams. A barge-mounted crane was used to move logs out of the creek, while land-based equipment support (excavator and winches) was used, where feasible, to drag cut lumber onto the shore. Logs were stacked to provide additional bank stabilization and/or direct high-water currents away from the banks. During the month of October, 10 crew days were spent to complete the deliverables on this project and, in the process, cleared the first section of the Marden E. Cobb Waterway Trail.

Example of a before-after hazard removal situation on the Conewango Creek in Kennedy, NY

Barge-mounted crane in use – on-water hazard removal – Upper Conewango Creek, Kennedy, NY.

Log jam in upper Conewango Creek – example of drone survey

On-water log removal crew – barge-mounted crane on Upper Conewango Creek, Kennedy – Logs moved out of channel and along bank to protect eroding shoreline and create fish/wildlife habitat, while creating safe recreational passage.

County Waterways Projects (2023)

Upon completion of the project in Kennedy and informed by similar work that the Chautauqua Watershed Conservancy was carrying out simultaneously in the Chadakoin River, conversations were started with county staff and legislators to explore opportunities to expand this work into the county's major waterways (Cassadaga Creek and Conewango Creek), which includes the entire length of the Marden E. Cobb Waterway Trail. It was acknowledged that COVID-related staff and equipment shortages have led to a situation where the county's waterways are now beyond routine maintenance level and locally require more intensive debris removal efforts before a return to routine maintenance can be considered again. In addition, a comprehensive plan is needed to restore the health and functionality of these waterways and increase the county's ecological health, sustainability, scenic beauty, and public safety, as well as provide myriad opportunities for development, tourism, and strengthening local economies for residents and visitors.

In February 2023, the Chautauqua County legislature voted to approve two contract proposals with the Chautauqua Watershed Conservancy that were relevant to this effort. One was specifically designed to evaluate the combined ~52 miles of major waterways, using aerial surveillance (drone) and on-water surveys, as well as the production of this plan, outlining challenges and opportunities for the waterway trails. In addition, a specialized tree crew, which included a certified arborist, dedicated barge-mounted equipment, and land-based crane operators, would be mobilized to the areas deemed as the highest priority for a total of 10 crew days. This $105,000 contract was administered through the county's Department of Public Facilities (DPF), which includes the county parks department that oversees the Marden E. Cobb Waterway Trail.

The second contract ($95,000) was administered through the county's Department of Planning and Economic Development and served to establish a pilot rapid-response emergency action program for waterways throughout Chautauqua County. This program will act on an as-needed basis to identify, evaluate, prioritize, and address the most immediate stochastic threats to water quality. The Chautauqua Watershed Conservancy would take the lead on identifying such emergency erosion and other pollution control needs, in collaboration with the county's Soil & Water Conservation District, and would also be a point of contact for the public to report such issues.

Although these emergency situations generally start small in scale, they can become a source of major sediment loss and cause structural bank damage and sedimentation if not addressed quickly and adequately. This newly established reserve fund will greatly improve the efficiency at which they can be addressed and thus significantly reduce the costs of emergency repairs to our streambanks and lakeshores because funds are now available to address new threats quickly before the problems become bigger and more expensive to fix.

Both contracts were funded through the county's ARPA allocations. Due to delays in contracting, work on the waterways contract could not start until September 2023. Between 9/15/2023 and 10/3/2023, crews spent a total of 10 composite crew days removing previously identified hazards from the lower section of Conewango Creek north of the Pennsylvania border. Since this section of the waterways represents the "biggest water", i.e., it combines the outflow of the Chadakoin River, Cassadaga Creek, as well as the upper parts of the Conewango Creek watershed, fewer true log jams existed in this section of the waterways as it is harder to completely block the wider stream corridor. In addition, clearing potential catch points from the largest drainage in the waterway system also minimized the chances that floating debris would get caught during future high-water events, thus exacerbating already existing smaller strainers and other hazards.

Over the course of this project period, crews were able to remove all navigational hazards, log jams, and other undesirable debris accumulations from the 11.4-mile section of the lower Conewango Creek, from the Pennsylvania border to the confluence of Conewango Creek and Cassadaga Creek. An additional consideration for prioritizing this section of the waterways was that it could conceivably clear a continuous stretch of the Marden E. Cobb Waterway Trail that could then be activated in 2024, as it would represent the safest stretch of traversable water in the county.

Conewango Creek after hazard removal.

County Waterways Projects (2024)

On-water and drone surveys carried out by Chautauqua Watershed Conservancy staff in 2023 and early 2024 created a comprehensive picture of the various hazards and other navigational challenges that exist throughout the county's waterways. Resurveys of the upper Conewango Creek section that was cleared in the fall of 2022, as well as the lower Conewango section that was cleared in the fall of 2023, showed that both were still safely navigable despite a new log jam that formed in the Kennedy area. Additional funding was requested from the Chautauqua County legislature, again in collaboration with the county's DPF, to clear additional sections of the county's waterways. An additional $100,000 ARPA allocation was approved by the legislature in February of 2024 and made available in July. The target area for 2024 was the approximately 20-mile section of Cassadaga Creek between Kabob and the confluence with the Chadakoin River. A significant difference with clearing the upper, smaller sections of the waterways, when compared with the work done in 2023 in wider sections of the creek, is that in these small water sections of the creek, even a single tree fall can block the channel. As a result, the number of navigational challenges and log jams encountered is far higher than in the downstream sections of the county's waterways, but in general, these obstructions can be smaller in size as well.

Between July and September of 2024, a variety of crews worked both on water and on land to remove 79 hazards and log jams from over 18 miles of the project area, spending 21 crew days. As water levels dropped throughout the summer, it became clear that log jams identified and assessed during the spring reconnaissance efforts were considerably larger than initially estimated. Lower water levels sometimes revealed that identified log jams were resting on top of multiple layers of logs that were hidden from view earlier in the year. Wherever landowner access was granted, crane crews would support on-water chainsaw crews to extract lumber from the creek and stage it on land, on top of the bank above the high-water line, to avoid it washing back into the creek in the future.

Upon completion of the contracted workdays, on September 27, most of the project area had been cleared besides approximately a dozen log jams. These were scattered along the length of the 2024 project area and represented large log jams that were located in areas where no landowner access permission could be secured and no on-land crane support was available. Given that these obstructions would create significant erosion and bank loss problems once the water levels in the creek rise again, permission was granted to allocate approximately $22,000 from the 2023 pilot waterways emergency action program to supplement the 2024 efforts. This additional funding allowed crews to add six more project days between October 30 and November 13, clearing an additional 15 log jams, blockages, and some recent blowdowns, as well as 30 fallen trees that obstructed the natural flow of Cassadaga Creek at the time of removal, or during upcoming periods of high water. At the conclusion of the 2024 project period, the entire 20.4-mile upper section of the Marden E. Cobb Waterway Trail's Cassadaga Branch, from the confluence with the Chadakoin River (Levant kayak launch) to the Kabob kayak launch has been cleared for activation in 2025 and should have an uninterrupted flow during the upcoming winter/spring flood stage.

Cassadaga Creek post-hazard removal in 2024. Note the diameter of the trees removed from the waterway.

9. Future Recommendations/Outlook

Future Efforts (2025-beyond)

With 3.3 miles of the upper and 11.4 miles of the lower Conewango Creek finished, 7.5 miles of that waterway remain to be cleared. In addition, another 9.3 miles of Cassadaga Creek between the confluence with the Chadakoin River and the confluence with Conewango Creek still need significant work. With adequate funding, the remaining 16.8 miles of the 52-mile Marden E. Cobb Waterway Trail can be made safe for recreational use and restored to its normal, unobstructed flow pattern in 2025. The current assessment of this middle section of the county waterways revealed at least 142 downed trees, strainers, blockages, and large log jams that need addressing. A funding request to cover these removal efforts, as well as a rapid re-survey of the already cleared sections to ensure no new hazards have emerged over the 2024- 2025 winter high-water season, will be submitted to the county legislature soon.

Recently cleared sections of the waterway trail will be checked in spring 2025, once the water levels have dropped to safe levels, to ensure that no new tree falls or other hazards have emerged during the past winter. Once deemed safe, these sections will be added to the new CHQ trail app found **HERE** and made available to the general public.

Cleared section of the Conewango Creek flowing freely.

The Chautauqua Watershed Conservancy was recently awarded a Chautauqua County 3% occupancy tax grant to design and install kiosks and wayfinding signage at several kayak launches along the Marden E. Cobb Waterway Trail. Additional funds will be sought to ensure that all functional launches will be outfitted with maps and important safety information soon.

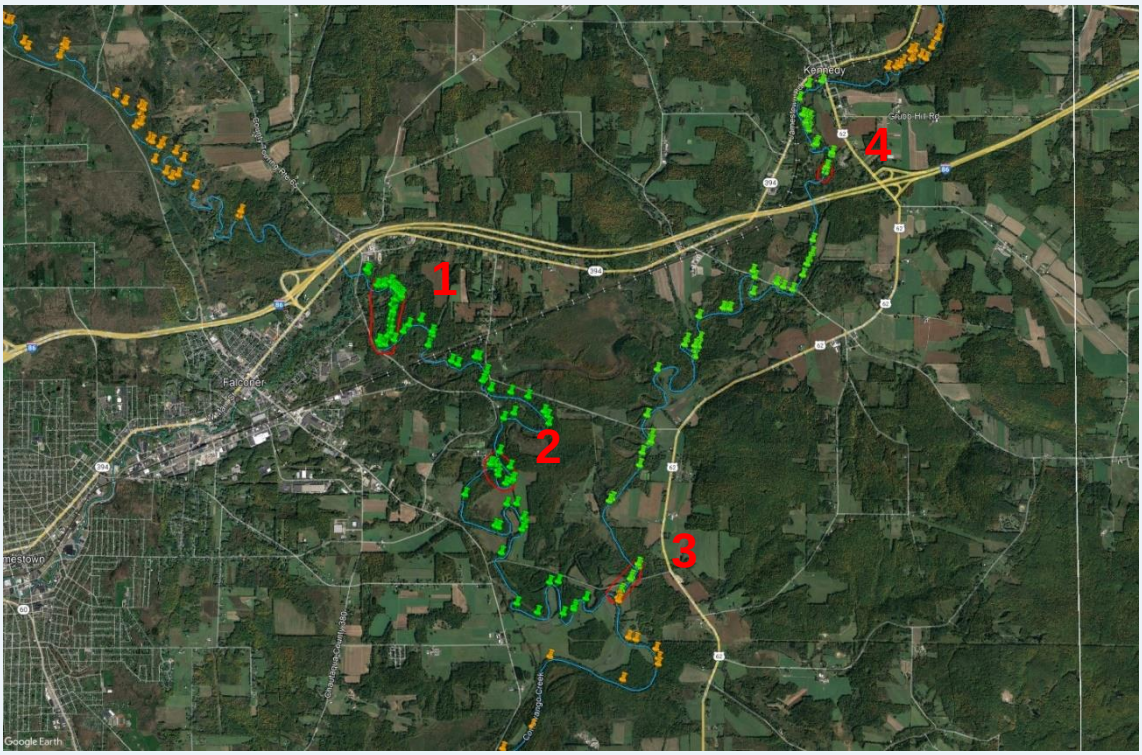
Phased activation of cleared sections of the county waterway trail will start in 2025 as hazard removal from the middle section of the system continues. Public information and marketing efforts to direct traffic to the appropriate sections will need to be undertaken, while potentially new economic opportunities associated with newly activated launch sites (e.g., public paddle events, demonstrations, pop-up kayak and equipment rentals, food trucks, etc.) can start to be explored.

The Friends of the Chautauqua County Greenways (FCCG) is considering organizing a county-wide trail event in 2025 – potentially associated with National Trail Day on June 7, 2025 – where various hiking, mountain biking, equestrian, and paddling opportunities will be offered to the public, hosted by members of the FCCG. Guided paddles along the Cassadaga Creek section, supported by on-site kayak rentals and continuous boat shuttles, are being considered.

Cassadaga Creek aerial shot via drone.

Pathway to Clearing the Remaining Sections of the Trail in 2025

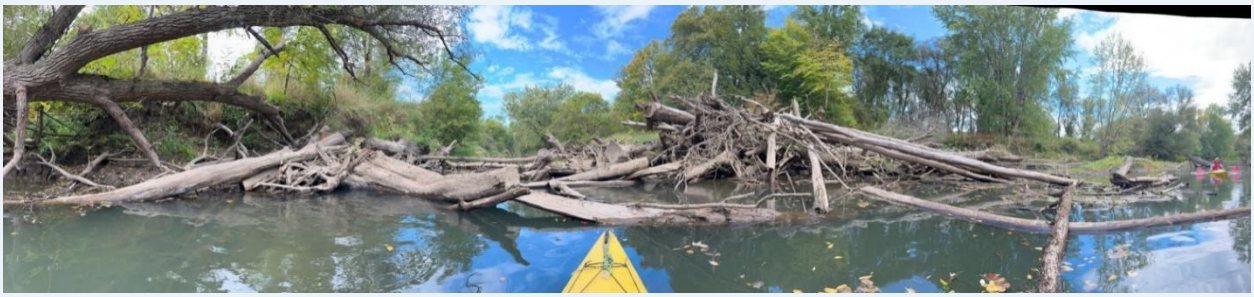
The remaining 17-mile section of the waterway trail has 145 hazards and log jams that were identified at the end of 2024. As a point of reference, at least 249 hazards have been removed from the 35.5-mile sections that had been cleared at that time.



Action steps:

- The entire waterway system needs to be reviewed as early as possible in 2025 (once water levels reach a safe level) to assess any changes (minor or major) to the already cleared sections of the Marden E. Cobb Waterway Trail & start activation of those areas
- The majority of the hazards in the remaining 17-mile section are small to medium in size and can be removed relatively quickly using boat-based crews (estimated ~10 crew days)
- There are 4 major areas of concern that have massive log jams (**see map above**). If equipment access (excavators) can be achieved, these can be cut up and removed from the waterways. Alternatively, if they cannot be extracted, they will need to be opened using chainsaw crews. As has been done in the past, the priority will be to restore the natural flow and allow for the safe passage of boaters. Where possible, large logs will be cut to reduce their size & allow the log jam to break up during a future high-water event. Remnant debris will be too small to create a similar jam downstream. The estimated time allocated to break up these four problem areas is 10-15 crew days.

Examples of log jams in the four most severe trouble spots:



Areas of Concern Outside the 17-mile Proposed Project Area

During a final sweep of the waterways in late 2024, two additional trouble spots were identified outside the 17-mile central area:

- Upper Conewango Creek ~2 miles upstream from Kennedy
- The "elbow" around the county campsite on Clam Island

Kennedy

An opening was cut into this log jam in 2024 to allow for safe passage, but this log jam has already caused a massive bank collapse and will reroute the Conewango through neighboring farm fields if left as-is.

Clam Island

The blockage of the "elbow" east of the main stem of Conewango Creek is causing water to flow into that section of the stream and bounce back off the log jam, causing significant erosion on the upstream-facing side of Clam Island directly below the county lean-to (**bottom photo**). Restoring flow into the elbow will likely ease some of the pressure on the island & county assets.

Long-term maintenance needs post-2025

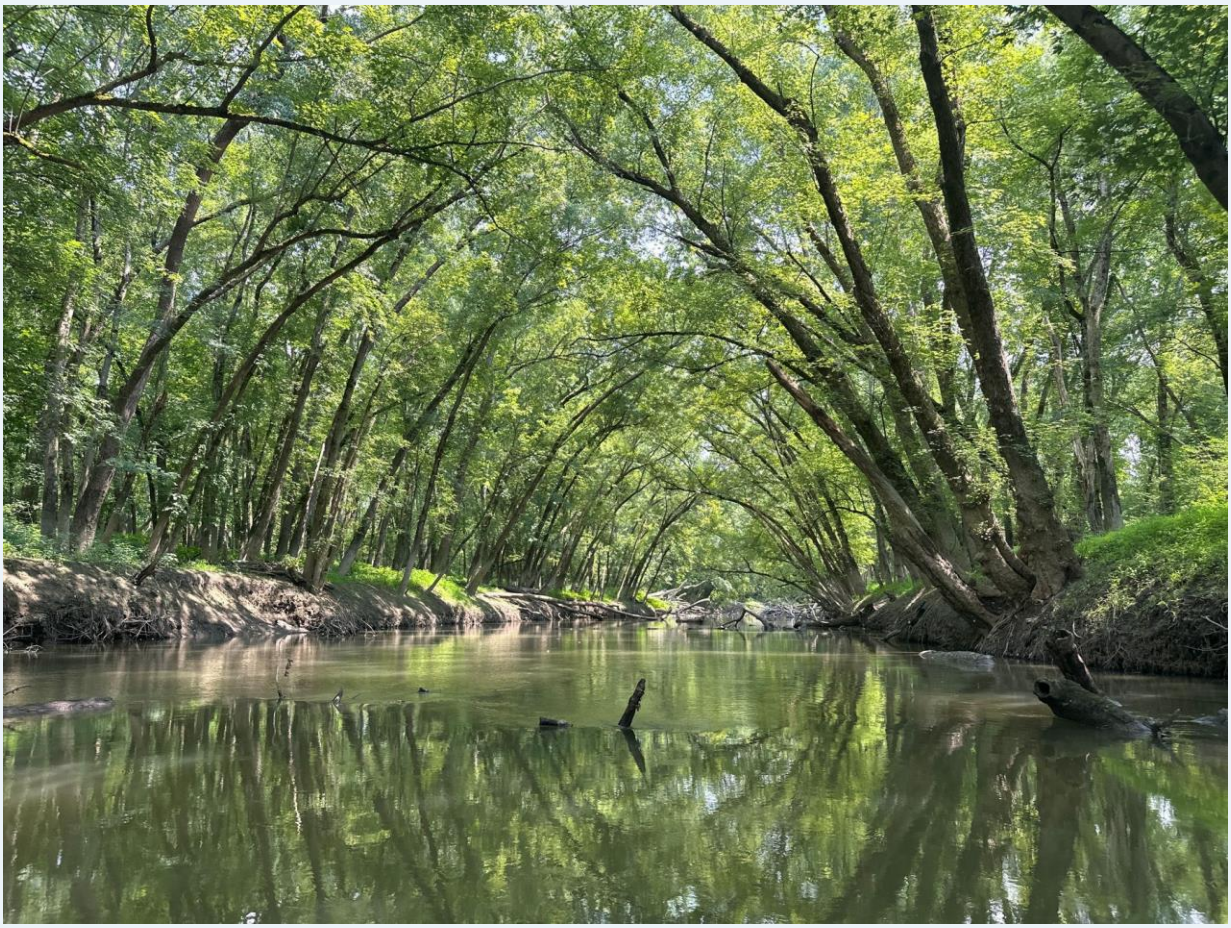
Once the entire Marden E. Cobb Waterway system has been cleared of debris and hazards, unimpeded flow will reduce the risk that woody debris will get caught and accumulate in the same manner that it had before embarking on this project. Nonetheless, trees will continue to fall into the creeks, and strong currents will continue to move debris into undesired locations. Especially once the waterway trails become more frequently used for recreational paddling and fishing, increased vigilance to quickly identify and remove hazards is imperative. An early season survey of the waterways (ideally using kayaks/canoes) once the winter/spring flood waters recede will be an important annual activity. This is the most reliable way to assess in-water hazards and identify areas that need cleaning before opening the waterways to the public. The surveys will additionally allow for the optimization of a hazard removal schedule to ensure things are done efficiently. Alternatively, drone surveys could be used in certain areas to expedite this process. However, those should take place prior to leaf-out, typically early spring, to allow maximum visibility through the often-dense tree canopy.

Emerald Ash Borer

The impact of the invasive forest pest, Emerald Ash Borer, is painfully visible across the Chautauqua County landscape. About a decade has passed since local ash trees first became infested with this beetle's larvae, ultimately killing up to 20% of our trees. Initially, dead ash trees shed small branches, but at the time of writing, what is left is mostly dead-standing trunks with few, if any, branches left. Gradually, these dead-standing ash trees will fall and decay. However, for the foreseeable future (likely up to 5 years), such snags that are located on the water's edge or on a steep slope above the water can end up in the waterways and, due to their large size, will continue to pose problems. Once debris and hazard removal is completed from the waterways, a 2026 recommendation would be to send a chainsaw crew out to the properties that have allowed access in prior years and simply drop the dead snags that are within reach of the creeks in a safe place on top of the bank. Cutting full-sized trees into smaller pieces will give the landowner access to free firewood (if so desired) but will also ensure that any coarse woody debris that enters the water is not of a size that will get hung up and cause a blockage or strainer.

Other impacted trees

Similarly, a chainsaw crew led by a certified arborist can proactively identify and remediate large bank trees that are leaning into the creek or sever large limbs that can cause future problems. The banks along many sections of the waterway trails are occupied by very large riparian tree species, such as black willow, silver maple, or cottonwood. These trees are critically important to bank stabilization because their extensive root systems hold the sediment together and prove a resilient, living shoreline. As long as they are alive and properly rooted, they prevent runoff, erosion, loss of property, and other negative water quality impacts. These trees are able to withstand periodic flooding and provide critical resiliency during storm and snowmelt events. However, during flood stage flow, their lowest branches may be in the water and subject to strong currents, which may cause stress on the trunk and cause the trees to split or topple.



When large trees fall, the displacement of their root system can create large holes in the bank, where water subsequently enters and scours the sediment, often causing the bank to collapse. Proactively trimming such limbs and removing weight from the water-facing side of such large bank trees can prolong the life of these important trees by decades and maintain the stabilizing effect that their roots have on the system. Such pre-emptive maintenance will prevent much more expensive tree removal and bank restoration needs if these trees are allowed to topple. Any proactive efforts to minimize the risk of entire trees falling into the waterway trail system will make the annual maintenance more feasible.

Identifying potential problem areas

It will be very helpful to document and log (GIS) any areas where future maintenance needs are focused. Combining future hazard and debris removal with the existing data layers that indicate where hazards have been removed already will indicate sections of the waterway system that are more prone to blockages than others. Being able to anticipate where annual maintenance is most often needed will streamline spring cleanup efforts and increase efficiency.

Based on data accumulated during the waterway cleanup efforts, areas most prone to blockages are those areas where the creek makes a sharp (180-270 degree) turn, as well as areas where tributaries enter the main body of the creek. Any tributaries big enough to carry a full-sized tree have the ability to insert large amounts of debris perpendicular to the main current, which causes entering logs to turn and lodge into the bank.

It is also important to note that the nearly 12 miles of the waterway trail downstream from the confluence of Cassadaga Creek and Conewango Creek carries the outflow of both those waterways, as well as the Chadakoin River. This section of the system tends to have a wider stream bed, greater depth, and exerts

more hydrological pressure during storm and melt events to move debris. Due to the greater width (wider than most trees are tall), it is less likely that this section of the waterway trail will become blocked. For this reason, annual maintenance needs in this section are likely to be the lowest, while the potential for safe activation is the highest. Stream sections farther upstream are more likely to be obstructed by a single tree and/or beaver dams and will likely require more maintenance to keep them readily passable.

Maintenance funding

There is economic and ecological merit in combining the long-term maintenance and activation needs of the county's three major waterways (Cassadaga Creek, Conewango Creek & Chadakoin River). In its current configuration, the Chadakoin River is not part of the county's Marden E. Cobb Waterway Trail, and no funding stream currently exists that covers the section of the Chadakoin River downstream from the Warner Dam in Jamestown. Coordinated management and activation of all three waterways will greatly increase opportunities for recreational improvements while also providing a holistic approach to promoting hydrological resiliency throughout the entire watershed.

Due to the dynamic nature of the system and the remaining presence of significant numbers of dead snags near the waterways, as a result of Emerald Ash borer infestations, annual maintenance cost will likely be higher for the next 1-5 years still, but should decrease annually as additional dead standing trees and compromised living bank trees are removed. Although it is impossible to estimate those costs right now, it will be significantly lower than the combined hazard removal costs incurred while addressing decades of deferred maintenance in the past few years.

Initial conversations with Senator Borello's office and with Assemblyman Molitor have led to a commitment from both representatives to help find funding at the NYS level to facilitate necessary ongoing infrastructure maintenance to allow for economic development and increased resiliency in all three waterway systems. Additional conversations will be had to determine an appropriate funding level and prepare the necessary documentation to submit a budget request prior to the November 2025 deadline.

Parallel efforts – the Chadakoin River

Although not part of the county's Marden E. Cobb Waterway Trail, the 8.2-mile-long Chadakoin River drains Chautauqua Lake and connects to Cassadaga Creek in the Levant area of Ellicott. Given the connection to Chautauqua Lake and the proximity of the county's largest population center, the City of Jamestown, a case can be made to consider adding the Chadakoin River to the waterway trail over time as it could greatly expand economic opportunities when considering activation efforts along the county's "blueways".

Kayakers on the Chadakoin River in Jamestown, NY. Photo courtesy of Chadakoin.org.

The Chadakoin River and its connection to Chautauqua Lake, Cassadaga Creek, and Conewango Creek.

Regardless of the future economic potential associated with the potential activation of the Chadakoin River, the existing economic impacts on a mostly urban river, created by downed trees, debris dams, severe erosion, bank collapses, and local flooding, have long been negatively impacting property values and investments. Since 2021, the City of Jamestown has invested more than $275,000 of its ARPA funds in cleaning out and restoring the Jamestown section of the Chadakoin River in collaboration with the Chautauqua Watershed Conservancy. In addition, CWC has secured additional funding to remove hazard trees and navigational hazards from the Chautauqua Lake outlet and the Chadakoin River basin – investments that have been leveraged to secure well over $1M in additional economic development and ecological restoration funds. In addition, through the targeted application of approximately $50,000 from the 2023 pilot waterways emergency action program, some of the highest-priority obstructions in the Falconer section of the Chadakoin River were removed in 2023 and 2024.

Chadakoin River hazard removal before (left) and after (right).

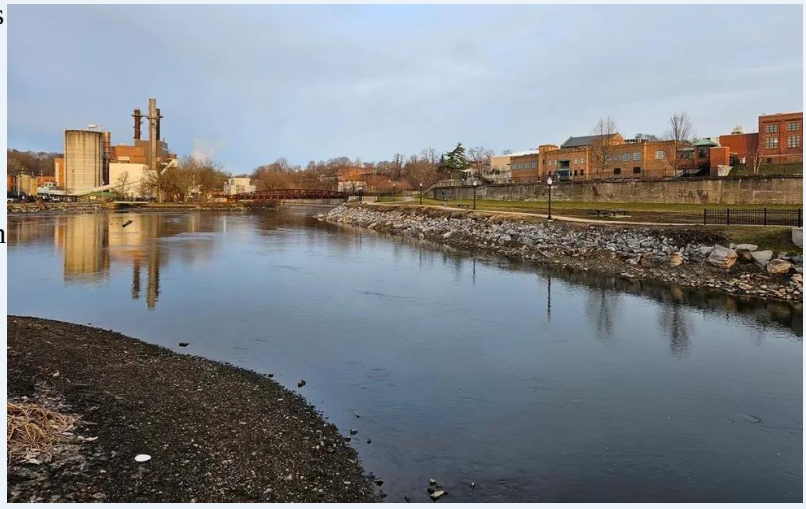
Even though most of the hazards and obstacles in Chadakoin River have already been cleared prior to the fall of 2024, additional clearing in the 1.1-mile Falconer and the 1.4-mile Ellicott sections is still needed. There are a few challenges that remain to be resolved before the Chadakoin River in its entirety can be considered a "recreation-ready" river. Currently, the upstream section from the Warner Dam to Chautauqua Lake (2.3 miles to the Riverwalk kayak launch on the Clifton Avenue city limit) sees significant use by recreational, non-motorized watercraft (kayaks, canoes, standup paddle boards & water bikes). However, the Warner Dam in downtown Jamestown forms a physical barrier to the downstream use of the river (as does a second low-head dam near Buffalo Street). The current NYSDEC rule curve for regulating the water level in Chautauqua Lake (which is managed through operation of the Warner Dam) has not been conducive to having adequate flow in some downstream sections of the Chadakoin River to allow for navigation – particularly during moderate drought years, as we have seen in 2023 and 2024. These and other challenges will be addressed in greater detail in a Chadakoin River master plan that is being developed by the Chautauqua Watershed Conservancy in collaboration with the City of Jamestown in 2025, via funds made available through a NYSDEC Nonpoint Source Planning Grant.

The Warner Dam on the Chadakoin River.

In addition to all of these efforts, Chadakoin Restoration funds have also been used to leverage additional outside funding to restore and improve failing bank sections that create flooding and erosion hazards and/or threaten local infrastructure, private homes, and businesses. Since 2021, combined efforts in the Chadakoin River have accomplished the removal of most debris and existing obstructions from the river, as well as dying trees from the river's banks. These efforts have not only accomplished the immediate removal of critical safety hazards to people and property but have also signaled a strong commitment to the value of the Chadakoin River and its adjacent neighborhoods. These efforts started as a reactive step to undo the effects of long-term inadequate maintenance but have now morphed into a distinctly proactive exploration of infrastructure solutions, community opportunities, and economic prospects. Any investments in improving the ecology and economy of the Chadakoin River also represent an investment in future generations, who will benefit from clean water, healthy green spaces, increased climate resiliency, and exciting new opportunities for recreation and development downstream from the Warner Dam. Kayaking, fishing, and other opportunities for outdoor recreation in urban nature are within easy reach. The associated opportunities to activate and energize non-downtown neighborhoods to also become drivers of the city's health and economy are real.

The Chadakoin River in Jamestown, NY, and the problematic trees that have since been removed.

Even though the Chadakoin River is not part of the Marden E. Cobb Waterway Trail in its current configuration, the lessons learned from much of the work that has been done to improve the Chadakoin River in recent years can serve as a valuable guide to potential future efforts in the county's major waterways.



The Chadakoin River in Jamestown, NY during a bank stabilization project.

10. Rules, Regulations, and Definitions

While utilizing the Marden E. Cobb Waterway Trail, there are rules and regulations that need to be followed. These guidelines for waterway usage can vary based on the stream, the type of vessel, and the state that a boater is in, and as a result, it is recommended to determine this information prior to any trip. This is important to understand while using the Marden E. Cobb Waterway Trail to avoid any potential infractions. Boaters should be aware that the Conewango Creek flows into Pennsylvania, where the regulations and rules may be different than in New York. One of the main rules that must be followed when utilizing the waterway trail system is the practice of leaving no trace. While this does include bringing out what you bring in, it is a bit more complicated than that. Within the Leave No Trace framework, there are 7 principles that should be followed, and these include: plan ahead & prepare, travel & camp on durable surfaces, dispose of waste properly, leave what you find, minimize campfire impacts, respect wildlife, and be considerate of others (10). More information on the Leave No Trace framework may be found **HERE**. All activities that are conducted should be sure to be respectful to others and should avoid causing harm to the land or water. To be considerate of others when on the water, paddlers should paddle in a line and not abreast to avoid blocking other boaters when in groups, should not block carries (portage trails), put-in, or take out locations with their watercraft or gear, should load or unload their gear out of the way of others who may be ready to launch or retrieve their boat, should watch ahead when portaging to prevent accidentally running into others, and should speak quietly to avoid disturbing other paddlers, homeowners, or wildlife (13). Along with speaking quietly, an adequate distance from wildlife should be kept to avert potential disturbances. In order to avoid leaving gear or supplies behind, it is recommended to pack everything in waterproof bags that are strapped or secured to the kayak or canoe (13). In addition to being recommended year-round, all boaters under the age of 12 and all recreational boaters on a vessel that is less than 21 feet are required to wear a lifejacket between November 1st and May 1st, and all boats must have one lifejacket onboard per person at all times. While in New York, it is not required to register paddle craft or to have a boater safety certificate for manually propelled crafts, it is required for all crafts that are equipped with a motor. Boating, including kayaking and canoeing, while intoxicated in New York is illegal and may result in heavy fines, imprisonment, and or the suspension of operator privileges.

An essential aspect of ensuring the land and water are protected is done by practicing the clean, drain, dry method (CDD). New York State regulations require all boats and equipment to be cleaned, drained, and dried in order to prevent the spread of aquatic invasive species. This includes those utilizing the Marden E. Cobb Waterway Trail. This practice ensures that the waterway trail remains clean and healthy. Given the abundant number of sensitive, rare, or threatened species that occur here, practicing CDD is a crucial component of guaranteeing the viability of these species in the region. All boats entering the water should be cleaned before their arrival, including the removal of any mud or debris. Any standing water should be removed, and this includes even small quantities. Boats should also be dried in between uses in order to guarantee there aren't any invasive species that survive. By following these steps, boaters are able to ensure that even difficult-to-see species are not transferred from one body of water to

another. More detailed information on preventing the spread of aquatic invasive species may be found on the NYSDEC website located **HERE**.

Certain Acts Prohibited

In addition to the rules and regulations found above, there are a few other basic prohibited acts that need to be considered when using the waterway trail. These prohibited acts include:

A. No person shall operate or store a motor vehicle upon any portion of the County trails at any time.
B. No person shall ride on horseback or operate any horse-drawn sleigh, wagon, or similar conveyance on any County trail.
C. No person shall camp for a period exceeding twenty-four (24) hours at any designated camp area on or adjoining any County trail. Camping shall be confined to designated areas only. Foregoing provisions shall not be applicable to State-owned lands.
D. No person shall ignite or maintain any fire on or adjoining a County trail, except at areas designated for campfires. Foregoing provisions shall not be applicable to State-owned lands. No person shall leave any fire unattended.
E. Trespassing on private lands adjoining County trails is prohibited.
F. No person shall deposit, discard, or dump any garbage, refuse, trash, litter, or rubbish or alongside any County trail at any location other than at sites or in containers provided for such deposits.
G. No person shall injure, deface, disturb, or befoul any part of a County trail or building, sign, equipment, or other property found thereon, nor shall any tree, flower, fern, shrub, rock, or other plant or mineral be removed, injured, or destroyed.
H. No person shall use threatening, abusive, or insulting language, perform any obscene or indecent act, throw stones or other missiles, or interfere with, obstruct, or render dangerous any trail, do any act tending to or amounting to a breach of the peace.
I. Every person shall comply with the reasonable demand, direction, or order of any authorized person; every person shall comply with directions or signs controlling use of County trails.

Definitions

A. County trails – any designated pathways or areas of land that are under the supervision and control of the County of Chautauqua through the County Park Commission.
B. Motor Vehicle – every vehicle including motor driven cycle, motorcycle, and snowmobile, driven or operated by any power other than muscular power
C. Authorized Emergency Vehicle – every ambulance and every vehicle operated by a police department and fire department when engaged in duties of an official capacity, or by an authorized public utility when on emergency calls, and by any law enforcement officer of the New York State Department of Environmental Conservation when engaged in performance of a duty in enforcement of the Environmental Conservation Law.

References

1. *Chautauqua Lake Watershed Program.* (n.d.). Department of Environmental Conservation. https://dec.ny.gov/nature/waterbodies/watersheds/management/chesapeake-bay-watershed-program/chautauqua-lake-watershed-program.
2. *Environmental Resource Mapper.* (n.d.). Department of Environmental Conservation. https://gisservices.dec.ny.gov/gis/erm/?_gl=1*1h9zjah*_ga*MTU2MTI4MDEyMS4xNjgwNjIyMjI2*_ga_QEDRGF4PYB*MTczMjIyMDc1My4xNi4xLjE3MzIyMjI1NDAuMC4wLjA.
3. *Fishing warmwater rivers in western New York.* (n.d.). Department of Environmental Conservation. https://dec.ny.gov/things-to-do/freshwater-fishing/places-to-fish/western-ny/warmwater-river-fishing.
4. Grabski, S. (2015, July 31). *Conewango Creek earns its place as Pennsylvania river of year.* Erie Times-News. https://www.goerie.com/story/news/local/2015/07/31/conewango-creek-earns-its-place/24907485007/.
5. Haag, Graf, Cummings, Watters, G. T., Strayer, D., Jirka, K. J., Metcalf-Smith, NatureServe, Therres, G., Mahar, J., Landry, M., Williams, J. D., Stein, B. R., Harman, W. N., Lord, J., & White, J. (2013). *Species status assessment for Rayed Bean.* Department of Environmental Conservation. https://extapps.dec.ny.gov/docs/wildlife_pdf/sgcnrayedbean.pdf.
6. Leenders, T. (2016, February 5). *Turtles of the Chautauqua Watershed.* post-journal.com. https://www.post-journal.com/life/nature/2016/02/turtles-of-the-chautauqua-watershed/.
7. Leenders, T. (2023, October 27). *Re-Activating county's waterways.* post-journal.com. https://www.post-journal.com/life/nature/2023/10/re-activating-countys-waterways/.
8. *Love Our New York Lands.* (n.d.). Department of Environmental Conservation. https://dec.ny.gov/things-to-do/love-our-new-york-lands.
9. *Marden E. Cobb Waterway Trail | Cassadaga Creek and Conewango Creek.* (n.d.). Chautauqua County Visitors Bureau. https://www.tourchautauqua.com/directory/marden-e-cobb-waterway-trail.
10. *Public Fishing Rights maps [Report]*. (2009). Department of Environmental Conservation. https://extapps.dec.ny.gov/docs/fish_marine_pdf/cassadagack.pdf.
11. *Paddling.* (n.d.). Department of Environmental Conservation. https://dec.ny.gov/things-to-do/paddling#:~:text=A%20helmet%20is%20strong%20recommended,November%201%20and%20May%201.
12. Pennsylvania Fish and Boat Commission. (n.d.). *Boating Safety and Water Trails Guide.* https://pfbc.pa.gov/watertrails/conewango/conewango_text.pdf.
13. Pignataro, T. (2017, September 1). *Endangered Mussels Seem to Thrive in New Home in Cassadaga Creek.* Buffalo News. https://buffalonews.com/news/local/endangered-mussels-seem-to-thrive-in-new-home-in-cassadaga-creek/article_301ac3fc-d5e1-5279-aab5-d4a10a13cd62.html.
14. POWR Pennsylvania Organization for Watersheds and Rivers. (2015, January 21). *2015 River of the Year.* Pawatersheds. https://pawatersheds.org/2015-river-of-the-year-2/2015-river-of-the-year/.
15. *Recreation & Education.* (n.d.). Conewango Creek Watershed Association. https://www.conewangocreek.org/recreation/.

16. Sample, J. & Chautauqua County Historical Society. (2012). *The history of early water transportation in southeastern Chautauqua County.* https://mcclurgmuseum.org/collection/library/lecture_list/cchs2012lecture-jsample-earlywatertransportation-07112012.pdf.
17. *Village history.* (n.d.). Village of Cassadaga, NY. https://www.cassadaganewyork.org/village-history.html.
18. *What we believe.* (n.d.). Chautauqua-Conewango Consortium. https://www.cccwaters.org/about/what-we-believe/.

Acknowledgements

Special thanks go to the waterway crews whose grit, determination, and creativity made this project possible, led by ISA certified arborist Vince Liuzzo (Vince Liuzzo Arborist Services), Shawn Anderson (ProCret concrete and excavation services), Justin Miller (Tactical Tree Solutions), Andrew Hanson, and Johnny “Mac” MacCarthy.

Additional gratitude goes to the landowners who allowed equipment and crews to work on or from their respective properties: Chris Matayas, Monty Winton, Alan Gustafson, Rick Heath, Patrick Lamar, Max Crandall, Ken Asel, and the Jamestown Board of Public Utilities.