

Conestoga River

Water Trail Access Improvement Plan

Summary Report

October 2023

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and
Conestoga River Club

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Conestoga River
Water Trail Access Improvement Plan
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01 Introduction

Water trails have gained significant recognition as valuable resources that promote outdoor recreation, contribute to human mental and physical health, enhance the environment, and boost the local economy. In this report, we present a comprehensive plan for the improvement of the Conestoga River as a water trail in Lancaster County, Pennsylvania. The aim of this plan is to highlight the importance of outdoor recreation, a clean and safe environment, and a vibrant local economy for the well-being of the community.

Importance of Outdoor Recreation for Mental and Physical Health

Outdoor recreation plays a vital role in maintaining and improving human mental and physical health. Engaging in activities such as kayaking, canoeing, and paddleboarding on the Conestoga River not only provides an opportunity for exercise but also enables individuals to connect with nature. Studies have shown that spending time in natural environments can reduce stress levels, enhance mood, and improve overall mental well-being. Physical activity in the form of water-based recreation contributes to cardiovascular fitness, muscle strength, and flexibility. By investing in the improvement of the Conestoga River as a water trail, we can encourage residents and visitors to reap the numerous health benefits associated with outdoor recreation.

Clean and Safe Environment

The preservation and enhancement of the Conestoga River as a clean and safe environment are crucial for the well-being of both humans and wildlife. As a designated water trail, it becomes imperative to address pollution issues and ensure the river's water quality meets or exceeds regulatory standards. By implementing effective wastewater management, addressing non-point sources of water pollution, promoting environmental education, and encouraging responsible recreation practices, we can continue to improve water quality and safeguard the health and safety of recreational users of the Conestoga River. Additionally, improving accessibility to the river through better infrastructure and signage will enable individuals to enjoy the natural beauty of the river and grow the number of river advocates and river stewards.

Vibrant Local Economy

The development of the Conestoga River water trail has the potential to invigorate the local economy. Water trails attract tourists, outdoor enthusiasts, and adventure seekers, all of whom contribute to increased spending in the area. Visitors may engage in various activities such as fishing, birdwatching, or simply enjoying the scenic beauty of the river. By enhancing the river's infrastructure, promoting local businesses, and establishing partnerships with tourism organizations, we can create a thriving recreational destination that stimulates job growth, bolsters local businesses, and generates revenue for the community.

River as Community Asset

The Conestoga River has immense potential to serve as a premier water trail, providing opportunities for outdoor recreation, promoting human health and well-being, preserving the environment, and driving economic growth. This report highlights the importance of investing in the improvement of the Conestoga River as a water trail to harness these benefits. By prioritizing the integration of outdoor recreation, a clean and safe environment, and a vibrant local economy, we can create a sustainable and thriving river community for current and future generations.

Plan Summary

The Conestoga River Club (CRC) has produced the Conestoga River Water Trail Access Improvement Plan to serve as the guiding document to improve the river trail over the next two decades. The plan addresses resident and visitor needs and concerns that currently limit recreational use of the Conestoga River. The plan also establishes a prioritized list and strategic actions necessary to implement water trail improvements. Goals of the plan include improved: safety, access, and experience.

- Safety – Address existing safety concerns of the water trail and anticipate and prepare for future safety issues.
- Access – Improve physical access to the river for all residents and visitors.
- Experience – Interpret the river's rich natural and cultural heritage.
- Stewardship – Create understanding of the interconnectedness of the watershed, advocating for watershed restoration to improve the water quality, while protecting and enhancing the river's historic, natural and scenic resources.

Planning Process

The planning process evaluates the water trail's 33-mile corridor, including the 15 river access points identified in the 2011 *Paddling Guide to the Historic Conestoga River.* The plan evaluates the corridors strengths and weaknesses, with particular focus on essential elements for a safe and enjoyable journey down the Conestoga River. The plan identifies necessary improvements for water trail safety, including dam portage sites that currently pose the greatest risks to boater safety. The plan also identifies gaps in river access and creates a list of the prioritized river access improvements that can be implemented incrementally, over time, as time and resources allow.

Project Implementation

Projects are anticipated to be implemented over the next 20 years, with priority projects concerning safety and access to be implemented in the next 5 - 10 years. Projects will be implemented with a combination of local and state funds. Some projects identified in this report are described at a conceptual level, whereas priority projects are described at a site master plan level to allow for immediate transition to final design, permitting and preparation of grant / funding requests. The report's priority project list should be viewed as a living document that can be updated in response to changing community preferences, needs, and opportunities.

Water Trail Vision

"The Conestoga River Water Trail connects residents, visitors and future generations, to the scenic natural and cultural resources of the Conestoga River, creating an impactful experience that inspires active and healthy lifestyles, environmental stewardship, ownership and belonging in a diverse and vibrant river community."



02 Background

The Conestoga River – An Introduction

The Conestoga River derives its name from the Susquehannock people, also called the Conestoga by some English settlers, who lived in areas adjacent to the Susquehanna River and its tributaries. Conestoga may have translated to 'Great Magic Land' in the tongue of the native people. The river connects a rich natural and cultural heritage from pre-history to the present day, combining themes of William Penn, the Continental Congress, Conestoga Wagon, Pennsylvania Long Rifle, and Robert Fulton's paddleboat. A paddle on the Conestoga River is a paddle through time, surrounded by timeless scenic beauty, and human interaction with the natural world.

The source of the Conestoga River is a large spring in Caernarvon Township, Lancaster County, referred to locally as "Bortz's Swamp' or 'Pengall Field.' It flows sixty miles before emptying into the Susquehanna River in western Lancaster County. The total elevation 'fall' is 390 feet over those sixty miles, and the river drains a watershed area of 475 square miles. On average the Conestoga River is two feet deep, however the flatwater areas behind dams may reach depths of 10 - 15 feet deep.

(From: 'Paddling Guide to the Historic Conestoga River')

Welcome to the Conestoga River Water Trail

The river trail segment of the Conestoga River (lower 33 river miles from Brownstown to Safe Harbor) is primarily a Class I river. The International Scale for Grading Rivers defines a Class I river 'as easy going with occasional small rapids that have low regular waves.' The correct course is easy to find, and the river speed is less than hard-back padding speed. However, this rating is for experienced paddlers. Several areas require maneuvering around rocks in a current that is moving at faster than hard-back paddling speed. Inexperienced paddlers should err on the side of caution and portage around fast-moving water.

The best time for traveling on the Conestoga River is in the spring and early summer. The water level in early September through late fall is generally too low for an enjoyable trip. Following heavy rains and during flood stage, the river can be very dangerous, and travel should not be attempted.

The Conestoga River is one of our region's underappreciated and underused resources. The River passes through a diverse landscape of rural farmland, urban neighborhoods and scenic river valleys, through the heart of Lancaster County, Pennsylvania. Along the way the river cuts through time, geologic time with ancient rock formations, to a landscape that would still be recognizable by Native Peoples that lived along the Conestoga and Susquehanna Rivers. The river paddler will witness remnants of past eras of Native American cultures, early settlement, the birth of a nation, inland navigation, industrialization, technological innovation, and modern examples of transportation, economic development, community revitalization and environmental restoration.

The Conestoga River Water Trail offers a unique recreational experience for the willing explorer. The natural and cultural landscape of the river corridor is Lancaster County's greatest untapped recreational resource. The Water Trail has the potential to become the region's largest public park space, a greenway spanning 33 miles from the water trail's starting point in Brownstown, to the Conestoga's confluence with the mighty Susquehanna River at Safe Harbor. Paddling the Conestoga will require you to be on 'River Time' – a slower pace that is just what the doctor ordered as a balm to the pace of modern life. Slow down, breathe deeply, settle into long, powerful paddle strokes, feel the dappled sunlight on your face while the power of the river current pulls you downstream. Relax and take-in the full body experience that is a trip on the Conestoga River.

What are Greenways and Blueways?

Greenways are linear parks and open space corridors of all kinds, such as rural, urban and suburban walkways, bikeways, hiking trails, jogging paths, nature trails, water trails and wildlife habitats. Greenways may provide both active and passive recreation, education, environmental preservation, and any combination of these. Some, such as walkways in urban settings and bicycle routes along existing roads, may not be 'green' at all, however are still considered 'greenways.' Greenways are often categorized by types, including: Resource Conservation Greenways, Scenic Preservation Greenways and Linear Park and Trail Greenways. For the purpose of this plan, the Conestoga River Water Trail is considered a 'Blueway' within the larger Conestoga Greenway system.

Water Trails and Blueways

Similar to land trails, water trails or blueways, connect people to places. Water trails are suitable for canoes and kayaks, and are comprised of access points (boat launches and boat landings), day use sites, and in some cases, overnight camping areas. Each water trail is unique, a reflection of the region's diverse geology, ecology, communities and history. Water trails help connect people to the natural world and the region's rich history, help stimulate the local economy, and improve the region's quality of life.

Water Trail Requirements

As per the Pennsylvania Water Trail Program, every water trail must have the following:

- ☐ A local managing organization
- ☐ A part in the statewide water trail systems with state designation by the Pennsylvania Fish and Boat Commission
- ☐ A map providing information for using the trail
- ☐ Free information available online and/or printed materials
- ☐ Public involvement by the local community
- ☐ Active volunteers to participate in the management of the trail
- ☐ Signage to direct users, interpret resources and provide safety and orientation information
- ☐ Maintenance of existing and new amenities
- ☐ A water trail feasibility study



Conestoga River Water Trail – Guiding Principles

Partnerships

Cooperating and Sharing – A water trail is the product of partnerships among an array of governmental and nongovernmental entities. With volunteers as the key supporters and advocates of the trail, partnerships are developed among government land managing agencies, private property owners, government regulatory agencies, user groups and local businesses. Together, these groups can create and maintain a successful water trail with broad-based and long-term support.

Stewardship

Leave No Trace! – Water trails promote minimum-impact practices that ensure a sustainable future for waterways and adjacent lands. Water trails embrace the Leave No Trace Code of Outdoor Ethics that promotes the responsible use and enjoyment of the outdoors. A trail user who understands their potential impacts to water, soil, vegetation and wildlife will be a better caretaker. When users learn to protect and restore areas along the trail, they may be inclined to do likewise in their own communities and backyards.

Volunteerism

Experiencing the Joy of Involvement – Most water trails are created, promoted, and maintained through the energy and dedication of local citizens, working individually and through organizations to support the trail. Community involvement and volunteerism are the keys to developing a sense of trail stewardship, promoting the trail within the community, encouraging respect for the trail's natural and cultural heritage, and ensuring that local governments support the trail's existence. Through love of place and of good times, volunteers bring hard work and celebration to the water trail community.

Education

Learning by Experience - Through comprehensive trail guides, signage, public outreach and informative programs, water trail organizations encourage awareness of the natural, cultural, and historical attributes of the trail. Serving as outdoor classrooms, water trails teach through seeing, listening, touching— experiencing.

Conservation

Protecting our Natural and Cultural Heritage - Water trail activities support the conservation of the aquatic ecosystem, contiguous lands, and important cultural artifacts. Trail builders and activists are a respected constituency advocating for resource protection and participating in resource restoration. The water trail community is a watchdog in prevention of environmentally harmful acts, striving to sustain the natural integrity of the trail and preserve the quality of the trail experience.

Community Vitality

Connecting People and Places - A water trail is a network of recreational and educational opportunities. Hiking trails, bikeways, greenways, museums, historic sites, parks and preserves are connected by water trails creating frontiers for exploration, discovery and enrichment. The connections build a sense of place and bind citizens in a love for their community. Water trails link families who grow together through work and play on the trail.

Diversity

Providing Opportunities for All - Water trails are non-exclusive. They benefit the able-bodied and the disabled, the young and the old, the disadvantaged and the advantaged. Water trails welcome all those that want to respectfully enjoy and appreciate the trail experience. Through shared work and play, tolerance and understanding are fostered. Broad-based participation in trail activities is achieved through affirmative outreach and recruitment.

Wellness and Well-Being

Caring for Self and Others - Water trails are wholesome; fresh air and exercise bring fitness and health to trail users. While actively promoting these benefits, water trail users need reliable and accurate safety information and training to responsibly enjoy and appreciate water trails. Safe use requires a commitment to safe design and sound management. Awareness, education and safety skills training in health promote the wellness and well-being of all water trail users.

(From: National Park Service's River Trails and Conservation Assistance Program & North American Water Trails)

Traits of Successful Water Trails

Physical Support
Facilities and Infrastructure –

- Safe and legal river access sites and facilities
- Safe and ample trailhead parking at river access sites
- Places to visit and explore along the trail
- Outfitters and Boat Rentals
- Places to Stay Overnight

Organizational Support
Roles of the Water Trail Manager –

- Serve as a clearing house for water trail information
- River and water trail advocacy
- Provide a regional perspective

Tasks of the Water Trail Manager –

- Develop a water trail vision, goals, actions and schedule
- Develop a master plan for the water trail
- Produce and distribute water trail maps
- Create water trail identify and branding
- Produce water trail orientation and wayfinding system
- Advocate water trail safety
- Promote education and stewardship
- Coordinate volunteers and service programs
- Organize promotion and publicity of the water trail

(From: National Park Service's River Trails and Conservation Assistance Program & North American Water Trails)

The Conestoga River Club

The Conestoga River Club (CRC) is the Conestoga River Water Trail manager and most unwavering advocate for the River. The CRC coordinated the production of this report and will be responsible for the strategic implementation of the plan. The CRC will be the keeper of the water trail vision and will build the diverse partnerships necessary to fully realize the full potential (recreational, environmental, and economic) of the Conestoga River Trail.

Water Trail Access Points – Consistency

With the goal of creating consistency for all designated water trails across the State, the Pennsylvania Water Trail Program requires that all official access points to be:

- ☐ Owned by local, state or federal government OR by a nonprofit organization whose mission encompasses providing public access OR, if privately owned, are subject to an easement or long-term lease whose terms provide for public access
- ☐ Include permissible parking in close proximity to the river access
- ☐ Have at least one access, wayfinding, or safety sign, marker, or symbol

Water Trail Guides and Maps

Water trail guides and maps provide the water trail user the information needed to safely explore the river corridor, showing "trail heads" (boat launch and boat landing points) and provide background about the scenic, cultural, natural, and geologic points of interest along the way. Throw in a little fishing, wildlife watching, and camping and you can see how water works wonders in Pennsylvania. (From: Pennsylvania Environmental Council https://pecpa.org/water/pa-water-trails/)

Boating Requirements for Pennsylvania Water Trails

Boating Safety
One wearable, Coast Guard approved Personal Flotation Device (PFD or life jacket) in serviceable condition and of the appropriate size is required for each person in your boat. PFD's must be worn by all children 12 years and younger on all boats 20 feet and less in length, while under way, and on all canoes and kayaks. All others are strongly encouraged to wear a PFD. Information can be found at the PA Fish and Boat Commission site here: Wearable Life Jackets and Throwable Devices (fishandboat.com)

Water Trail Hazards
Water Hazards appear in many forms: dams, submerged objects, cold water, fast-changing weather, sun stroke and current. These hazards aren't always obvious. Boaters need to recognize these dangers and be ready to avoid them at all times. Developing a keen appreciation and understanding of the overall "boating environment" lets boaters avoid hazards on the water. There is a cold-water life jacket requirement from November 1st through April 30th on all boats less than 16 feet in length and for all canoes, kayaks and paddleboards.

All canoes, kayaks and paddleboards using PFBC or DCNR access areas must either be registered or display a valid launch permit. Operating any watercraft, including canoes, kayaks and paddleboards, under the influence of alcohol or drugs is illegal. (From: Pennsylvania Fish and Boat Commission)

Incorporating Diversity, Equity, and Inclusion

Ensuring equitable access to amenities and services is of utmost importance to the Conestoga River Club (CRC). The Conestoga River and adjacent parks and trails are considered community-wide resources and the CRC strives to provide access and an equitable experience for all visitors. The Conestoga River flows through a diverse cultural landscape, along Plain Sect farmland in the rural reaches of the river, and in ethnically and economically diverse neighborhoods of the City of Lancaster. The goal of the water trail will be to make the river accessible to everyone.



03 Planning Process

The Need for the Plan

The need for the Conestoga River – Water Trail Access Improvement Plan was identified in the 1999 *'Conestoga Greenways – A River Corridor Conservation Plan'.* Issues, concerns, opportunities and threats identified in that report include: nutrient and sediment pollution, erosion, habitat loss, illegal dumping and trash, loss of biodiversity, encroachment of new development, loss of wetlands, dams and impediments to fish passage, urban pollutants from stormwater, degraded scenic quality, and the need for municipal ordinances or state laws to address these issues. The lack of river access points and sufficient parking was identified in the Conestoga Greenway plan, as well as recognizing that that lack of provision of these basic water trail needs will likely lead to conflicts and ultimately threaten the potential success of the Conestoga River Water Trail.

The Conestoga Greenways Plan identified poorly sited new development as a threat to the scenic quality, as well as limited physical access to the river corridor. New developments have the potential to encroach on the river, degrading the visual character of the corridor, as well as impacting visual and physical access to the river. Providing safe, easy access and a high quality and scenic trail experience is the primary goal of the Conestoga River – Water Trail Access Improvement Plan.

Plan Scope

The entire Conestoga River flows 60 miles from its source to the confluence with the Susquehanna River. For the purpose of this study - the Conestoga River's water trail is a 33 mile corridor from Brownstown, to the final take-out (river landing) at Safe Harbor, just a short distance from the river's confluence with the Susquehanna River. This lower half of the river corridor is considered the navigable segment of the Conestoga River, with the most dependable water flow suited for canoe and kayak paddling.

The Planning Process

The consulting team, working in collaboration with the Conestoga River Club (CRC), have completed the following scope of work to assist the CRC in its mission for improved access to the Conestoga River and help identify and procure state funding for river access improvements:

Background Data Gathering

The following tasks were performed:

- Secure and review all relevant background data, including reports, maps, and studies, on the Conestoga River Water Trail.
- Develop GIS Base Map for the Conestoga River Corridor from Brownstown to the Susquehanna River Confluence, with GIS mapping data provided by Lancaster County Planning and GIS.

River Access Inventory & Evaluation

The following tasks were performed:

- Paddle the entire Conestoga River corridor from Brownstown to the Susquehanna River confluence photo documenting and noting river and river access conditions.
- Site visit / to all 15 river access sites.
- Evaluate each river access for accessibility, parking, restroom, signage, river access, and other river trail support facilities.
- Note the absences of necessary river trail elements, as well as condition and function of existing river trail elements.
- Identify water trail improvements needed for each river trail access.
- Identify gaps in water trail access and / or potential future river access points.

Community Involvement

The following tasks were performed:

- Study Committee - Members of the Conestoga River Club will act as the project Study Committee. There will be 2 meetings held with the CRC Study Committee – (1) to discuss water trail needs and priorities, and (2) to review the draft plan.
- Key Person Interviews – there will be 15 key person interviews with the public and private owners of the existing river access points.
- Focus Groups – there will be 3 focus groups held to discuss key components of the River Trail.
- Public Meetings – 1 or 2 Public Meetings will be held.

River Access Plan & Report

The following tasks were performed:

- Develop a list of Improvements for each of the 15 River Access Areas.
- Concept Plans for 5 priority River Access Areas with sufficient detail to allow for quantity take-offs and cost estimating.
- Improvement Lists and Concept Plans will identify opportunities to stabilize streambanks / reduce erosion, improve habitat and water quality, and improve aesthetics of the river corridor.
- Identify Priority Water Trail Improvements.
- Cost Estimates developed Priority Water Trail Improvements.
- River Access Maintenance and Operations Cost Estimates.
- Establish a Funding Strategy and Phased Schedule for water trail improvement implementation.
- Conestoga River Trail – Access Improvement Plan, draft and final summary report.

Strategic Implementation Plan

The following tasks were performed:

- Identify relevant projects and funding partnerships necessary to implement River Access Plan.
- Contact potential funding partners to discuss priority river access improvements and discuss scope and logistics of a grant application.
- River Access Plan to include relevant information for future grant application(s), including project narrative, concept plan, location map, cost estimate, and project budget.
- Assist CRC in the preparation of grant application for a priority project identified in the River Access Plan.

Conestoga River – Water Trail Map

The following tasks were performed:

- Produce a water trail map, by revising the 2011 map by Lancaster County, making necessary edits and changes.
- Map will be made available digitally for posting on CRC website for free download.

Deliverable Products

The consultants will produce the following deliverable products:

- Digital files of all 'products' including the Grant Application package.
- Digital file of revised water trail map.
- River Access Concept Designs in digital format.
- Conestoga River Trail – Access Improvement Plan – summary report in digital format.


Proposed
Prison
old Kreider Farm
Strand - Buffer Project
Lawns
Landfill
old Landfill
Seepage
Potential
New
Access Pt
Easier
glove
Bridge
LANCASTER COUNTY
BUCHMILLER PARK
L09
Sharpie
Permanent Marker
POINT
#3

04 Existing Conditions

How Did We Get to Where We Are Today?
The Conestoga River – Water Trail Access Improvement Plan builds upon decades of plans, reports, and project initiatives. The goal of this report is not to redo these efforts, but to assess the current status of the water trail and define a strategic approach to improving the infrastructure of the water trail, and elevate the water trail in public perception as one of the region's best recreational resources. All of the actions outlined in this plan will only be realized in partnership with the many individuals and organizations already working towards similar goals of community revitalization, enhanced quality of life, and economic development. A partial list of previous planning documents, studies and influential articles includes:

- Canoeing Guide to the Historic Conestoga. 1976. Published by the Conestoga Valley Association, Lancaster, Pennsylvania
- Earl Rebman Article. 1964. Lancaster County Historical Society, Vol. 68, pp 81-82.
- City of Lancaster – Green Infrastructure Plan. 2011
- Conestoga Greenway Plan. 1999
- Canoeing Guide to the Historic Conestoga – Map and Guide. 2001
- Greenscapes – The Green Infrastructure Element. 2009. From: Envision Lancaster County - The Comprehensive Plan for Lancaster County, Pennsylvania.
- Lancaster County Trails – Corridor Improvements Map
- Municipal Comprehensive Plans and Recreation, Greenway and Open Space Plans
- Planning Our Future Lancaster – Comprehensive Plan Draft Policies & Maps, City of Lancaster, 2023. Chapter: Conestoga River Reimagined, pp 30 – 41.

Mapping of the Water Trail Corridor
Mapping of the corridor was completed to produce a series of maps with themes of Safety, Access, Experience and Environment. The Access map will become the new paddling guide, updating the 2011 map. The safety, experience and environment maps will be used as reference for water trail improvement activities and interpretation opportunities.

River Corridor Inventory & Assessment
A paddling tour of the 33-mile water trail corridor was completed over 3 days (July 19-21, 2022). The corridor was photographed, with notes taken on subjects such as:

- River Access Points
- General Water Trail Corridor Notes
- Municipal Boundaries
- Areas of Safety Concern
- Heritage Interpretation Opportunities
- Bridge Crossings of the Conestoga River
- Environmental / Habitat Areas of Note
- Recreational Opportunities

River Access Site Visit
A separate site visit (August 25, 2022) was taken to each of the River Access sites identified in the 2011 paddling guide, documenting access features, conditions, and any inadequacies or deficiencies. Some of the river access points were determined not to be viable access points and will be removed from the new access map. Reasons for removing sites include excessive distance from river access to parking, private property conflicts, and unsafe or insufficient space for parking / access. While these sites may provide emergency access points or river launch or landings for special activities or events – they should not be promoted as river access points that a general river user can plan the logistics of a trip.

Portage Sites
Site visits were made to the river portage sites at Zook's Mill, Waterworks Dam, and the Amtrak Bridge Dam (weir). The conditions of each site were photographed and documented. Meetings with the affected landowners were held to discuss needs, opportunities and constraints for the new / improved portages.

River Corridor Characterization
Conestoga River – The upper, middle and lower Conestoga River Water Trail
The Conestoga River exhibits different characteristics from its headwaters to its confluence with the Susquehanna River. The river changes in scale and passes through a diverse landscape, from woodlands, to farmland, and from rural, to suburban, to urban. The 33-mile water trail portion of the river corridor passes through 3 distinct character areas, on its journey from Brownstown to Safe Harbor. These different river segments help to define the water trail experience. Since most paddlers are on the river for one day or half-day trips – the river offers them a variety of experience options.

Conestoga River – Upper Water Trail
"An Intimate and Rural River"
10 miles from Brownstown (River Mile 33) to Conestoga Pines (River Mile 23)

Positive: A small, scenic, intimate river in this reach. Closed tree canopy covers river in many places, providing shade and cooler temperatures. The corridor is dominated by farmland, but the river retains its own quality among the trees. Many small homes and river lots with personal docks. Stone arch bridge and covered bridges are highlights.

Negative: poor water quality, nutrient and sediment pollution. Riparian buffers are often very narrow. Some examples of vertical / eroding banks. Pasture close to river and examples of animals in the river. Significant flatwater due to dams. Too few access points in this segment of river – need an additional 1 or 2 access points to improve safety and function as a water trail. Challenge of portages disturb flow of the river trip experience. Busy highways were a negative part of the shuttle experience. Lancaster Golf Course is very unattractive and a poor example of riparian buffer management / natural landscaping. The Water Works portage is currently so cumbersome – the barrier makes through-paddling nearly impossible or not marketable to a general-public audience (due to double portage). Municipal fragmentation is a slight challenge for this upper segment.



Conestoga River – Middle Water Trail
"A City River"
8 Miles from Waterworks (River Mile 23) to Buchmiller Park (River Mile 15)

Positive: Nature 'In' The City / A City River – The river could potentially be accessible by large population. River corridor can directly serve a high number of low- and moderate-income individuals that have limited access to recreation, and outreach to this demographic is part of the CRC strategy to open the beauty and wonder of the Conestoga River to all. Some segments are very easy paddling for beginners, ideal for 'learn to canoe / kayak' programs. Very scenic and beautiful. Amazing opportunities like a 'nature park' focused plan for the Sunnyside Peninsula. Good number of access points / and good percentage of public lands. The river is In the city, but a world away with greenery and scenery. Some interesting rapids at old dam sites – opportunities for heritage interpretation (historic sites, mills and canal). The Amtrak Bridge is a beautiful historic resource, the low head dam could be a fun paddle park if the dam is removed, or a boat passageway is installed, creating an important greenway / blueway hub to the evolving greenway.

Negative: Combined Sewer Outfalls and Plant Outflows produce poor water quality and smell. There is an old landfill seepage that is a water quality / public health concern. More examples of invasive plants such as bamboo taking over the riverbanks. Lacking a river access at down-river end of city for easy and convenient take out for large groups. Additional access points to be coordinated, and designed with input from police and emergency responders. Examples of vertical eroding banks and lack of buffers for residential landscapes (lawn to the river). Municipal fragmentation is a significant challenge for this middle segment of River – with numerous outparcels due to historic ownership, annexation, etc. A truly mind-boggling configuration of municipal boundaries all on the 'edge' (and mostly forgotten or an afterthought) by the municipality. The River is NOT CENTRAL in the thinking or geographic location for ANY one municipal government.



Conestoga River – Lower Water Trail
15 Miles from Buchmiller Park (River Mile 15) to Safe Harbor (River Mile 0)
"A Scenic River"

Positive: This is THE signature river trip of the Conestoga. Escape the City for the Day. Back to Nature with a 'Real' Scenic River Experience. Rolling to the (Susquehanna) River. Glimpses of farms and farmland and a more rural landscape with duck blinds dotting the riverbanks. Bigger Water, lower gradient – easy paddling for beginners. Potential partnership with Millersville University for education, monitoring, and programing. Plethora of other potential partners: Millersville University, Boys and Girls Club of Lancaster, Brookfield Renewable owner of dam and parkland, and Fish and Boat Access points. Incredible birding – bald eagles, herons, swallows, thrushes, and other songbirds. Rock Hill Road – Steel Bridge. Enough 'old dam' rapids to keep it interesting – but easy paddling for beginners. Confluence with Little Conestoga Creek – warm and cold-water fishery – unique habitat. Park-like setting and easy informal public access all along Conestoga Boulevard. Some good examples of residential landscape maintenance that retains riparian buffers while allowing views of the river 'through' the trees.

Negative: Poor water quality and a limited number of river access points for water trail and emergency access. Electric Utility Lines – unattractive, invasive plants and poor habitat value. Vertical bank erosion. Erosion from daily dam release fluctuations in lower sections of River. Some croplands with no riparian buffers.



River Safety

From the beginning of the Conestoga River Water Trail Access Improvement Plan, there was a focus on improving safety and access to the river. Rivers are inherently dangerous and can be deadly. With the recent surge in the number of paddle sport participants, addressing potential safety issues and hazards is a top priority for initial action. Priority areas for improving water trail safety include:

Safe Portages

- Zook's Mill
- WaterWorks
- Amtrak Bridge Dam (Weir)

Improved River Access

Investing in the improvements of water trail launches and landings will improve water trail safety by improving the functionality of the water trail. Having safe and convenient river access points, where paddlers can easily enter and exit the river is a major step in creating a safe water trail experience for everyone.

More River Access Points

In viewing the river access map – you can easily see areas of large gaps between river launches and landing sites. These gaps include the 7-mile distance between Sylvan Fisher Park and Perelman Park, and the large gap of nearly 9.4-miles between functional river access points of Reigart's Landing and Millersville University. In these long river stretches – additional river access points should be identified and developed.

Debris Dams and Strainers

Debris dams consisting of a mix of natural and manmade materials, are a hazard boaters encounter on most streams and rivers. The size of the Conestoga River and Watershed – has the potential to create large debris dams. Strainers, or sweepers, are obstructions that allow water to pass but retain large objects, creating a hazard for boaters. There were a few notable strainers on the water trail during the site inventory. One of the largest strainers was cleared quickly due to direct communication of the existing hazard between the Conestoga River Club and PennDOT. This type of communication and timely response is a great model for the future. As well as training of volunteers, and access to the proper equipment to remove smaller debris dams and strainers.

Riffles / Rapids

River water levels greatly influence the paddling experience. Higher flows are often considered more challenging and dangerous due to the volume and velocity of the flow. This is true in that higher water levels will require the boater to make faster decisions to safely navigate the water trail, but lower flow conditions also offer their own challenges. At low flow conditions, more river obstacles must be navigated. Some riffle locations may require exiting the boat to by-pass rocks and other obstacles that a boater would pass over in normal water level conditions. Always consult the water levels before venturing out to the water trail.

Safe Water Levels

Many river guides will not host trips on the Conestoga River when the water level reaches 5.5' or 1600 CFS at the Conestoga River Gauge at Lancaster. The lower limit for paddling the Conestoga River is around 3.0' for through paddling. Below that, the river is too low for an enjoyable water trail experience. A water level of 4.0 is a sweet spot for paddling. The Conestoga River water level gauge at Lancaster can be viewed here: https://water.weather.gov/ahps2/hydrograph.php?wfo=ctp&gage=lncp1

Planning a Trip – Travel Speed

Water levels affect river flow, which will influence the time it will take a paddler to venture from point A to point B on the water trail. For planning purposes, a water trail user can often cover 3 miles in an hour. Another variable, besides water level, will include whether you are in a flowing or flat water environment (water slowed behind a dam such as Zook's Mill or Waterworks Dam. Dams can create a flat water effect several miles up-river – slowing the progress of the paddler. Wind is also a significant factor affecting the speed of the paddler. A strong headwind can bring even the strongest paddle to a standstill on the river. Planning your trip should allow sufficient time to make the trip – with plenty of buffer for natural factors. Your travel plans should also include a 'Plan B' for an early exit from the water trail in the event of an injury or deteriorating weather conditions. Also inform others of your plan and expected finish time, and never paddle alone.

Combined Sewer Outfalls

A combined sewer system collects rainwater runoff, domestic sewage, and industrial wastewater into one pipe. Under normal conditions, it transports all of the wastewater it collects to a sewage treatment plant for treatment, then discharges to a

waterbody. The volume of wastewater can sometimes exceed the capacity of the combined sewer system or treatment plant (e.g., during heavy rainfall events or snowmelt). When this occurs, untreated stormwater and wastewater, discharges directly to nearby streams, rivers, and other waterbodies (US EPA website: https://www.epa.gov/npdes/combined-sewer-overflows-csos). There are 6 Combined Sewer Outfall (CSO) discharge locations into the Conestoga River in the urban section of the water trail as well as direct and indirect exposure of other municipal wastewater discharges, such as the Borough of Millersville.

Combined sewer overflows (CSOs) contain untreated or partially treated human and industrial waste, toxic materials, and debris as well as stormwater. They are a priority water pollution concern for the approximately 700 municipalities across the U.S. that have combined sewer systems. CSOs are subject to the National Pollutant Discharge Elimination System (NPDES) permitting program, which was created in 1972 through the Clean Water Act to address water pollution. Through the NPDES program, EPA established a national framework for controlling CSOs, called the CSO Control Policy. Communities with CSOs must comply with the CSO Control Policy and have a permit to discharge. The City of Lancaster is currently developing the 'Lancaster's Combined Sewer Overflow Control Plan (Clean It!) and is currently seeking public comment on the Selection of Preferred Alternatives.' The City of Lancaster has also added signage and warning lights to alert river-users when there is an active discharge from a CSO.

Non-Point Source Pollution

The Conestoga River is listed as impaired for recreational use. The Conestoga River watershed is subjected to a variety of nonpoint source pollutants including organic enrichment and siltation from agriculture, on-lot septic systems, streambank erosion and lack of stabilization, and unrestricted cattle access along streams. The Conestoga River and its tributaries contribute the highest nutrient loads of all the nontidal rivers in the Chesapeake Bay drainage. According to USGS, the Conestoga River at Conestoga ranked first in total nitrogen and total phosphorus yields among surface water sites sampled throughout the Chesapeake Bay from 1994 through 1996. Surface and groundwater use as domestic water is impaired by a variety of point and nonpoint sources that add nutrients, sediment and pesticides. Swimming, fishing, and other recreational uses of surface waters are also impaired. (From Watershed Restoration Action Strategy - https://files.dep.state.pa.us/water/BWEW/Watershed%20Management/lib/watershedmgmt/nonpoint_source/wras/wras-07j.pdf).

Healthy Water – Healthy Environment – Healthy People

The Conestoga River Club has the potential to be a leading advocate for continued improvement of water quality for the Conestoga River. Improving water quality will improve public health and safety, and is essential to fully realize the economic potential of the Conestoga as a recreational and 'quality of life' community asset.

Water Trail Risk Management

The Conestoga River Club, as water trail manager, will be the lead advocate for the water trail and its members and partners will be the eyes on the river – noting changing river conditions and hazards. Communications between partners will be key to creating and maintaining a safe water trail system. As hazardous conditions become known, communication among partners is key to finding the best solution, whether it's mobilizing capable volunteers to undertake the clearing of a small strainer, or hiring a specialized contractor to resolve a larger safety hazard. A diverse partnership is key to water trail safety and sustainability.

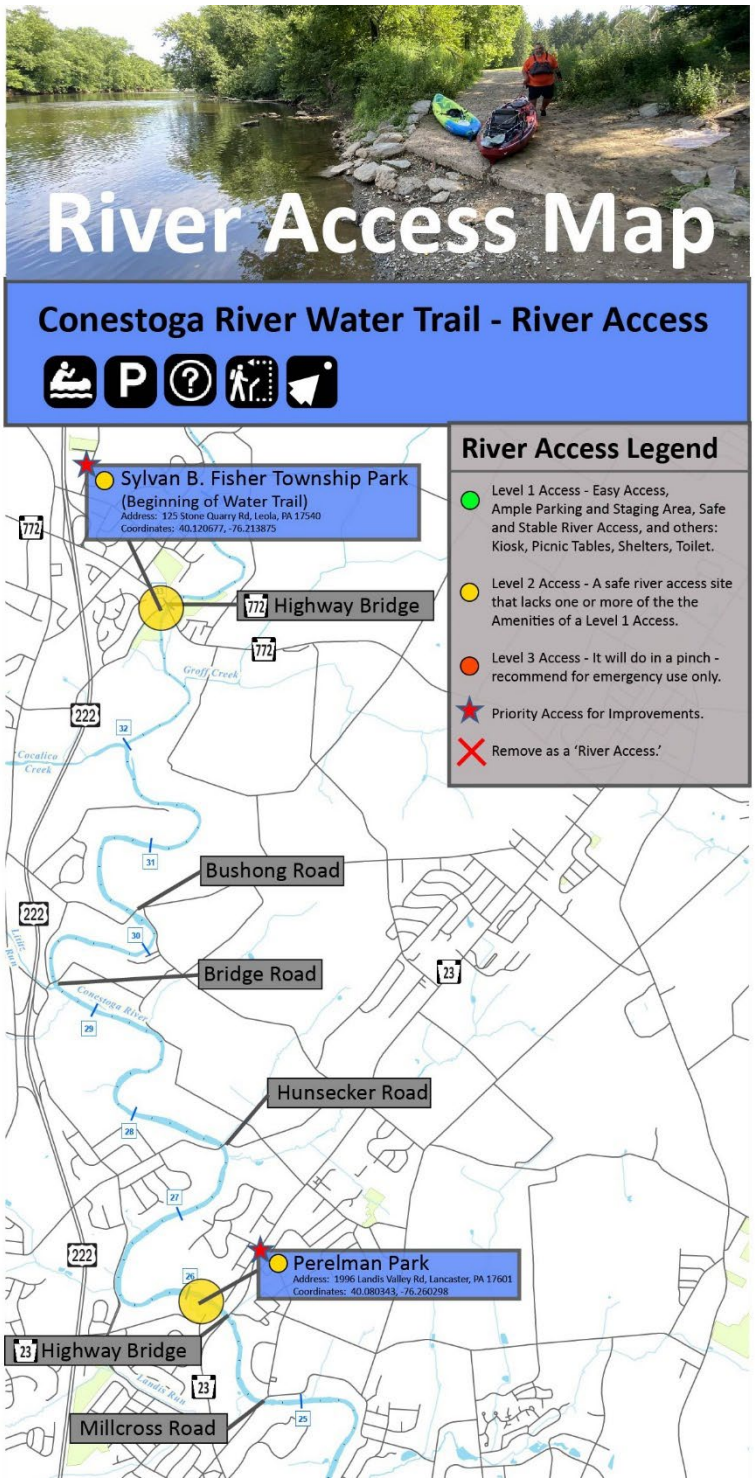
Municipal Partners -

The Conestoga River Club must coordinate and collaborate with the municipalities of the 33-mile water trail corridor. Communication is key to maintaining a safe, accessible, and enjoyable water trail, and collaboration can minimize cost of labor, equipment, and materials. Municipalities that border the Conestoga River Water Trail include:

- Brownstown Borough
- West Earl Township
- Manheim Township
- Upper Leacock Township
- East Lampeter Township
- City of Lancaster
- Lancaster Township
- West Lampeter Township
- Pequea Township
- Millersville Borough
- Manor Township
- Conestoga Township

River Access Assessment

River access is key to a functioning water trail. Maintaining and improving the existing access points, as well as increasing accessibility of the river throughout the entire water trail system, will be key to a successful water trail now and into the future. The following is a summary of the existing river trail access points based on site visits and observations conducted in August 2022.



Sylvan B. Fisher Township Park

Location: Park is located just south of Route 772 in Brownstown.

Address: 125 Stone Quarry Road, Leola, PA 17540

Coordinates: 40.120677, -76.213875

River Mile: 33.0

Owner: West Earl Township

Contact: 717 859-3201



General Notes:
Stone Quarry Park was renamed to honor Sylvan Fisher. Well maintained park with ample parking, easy access, good visibility from roadway and highway. A good River Access to start the Conestoga River Trail.

Existing Features:

Ample parking – about 34 spaces
Drop-Off / Sufficient Staging Area
Informal trailer parking along edge
Porti-Toilet
Walking Trails
Benches
Grills
Picnic Tables
Bluebird Houses
Shade Tree (Silver Maple) Plantings
Existing Kiosk
Asphalt river access ramp – the lower section was damaged by high water flows.

Needs:

Demonstration river access for the water trail system
Repair lower section of river access with Geo-Grid pavers or concrete slats and additional rock armor
Native Vegetation to help stabilize river access and riverbanks
River Trail Directional Signage
Kiosk – River Trail Signage and Branding
New Kiosk – Specifically for the Water Trail

Actions:

Excellent Demonstration for Access Improvements and Water Trail Branding
Priority Project – due to its being the first river access for the water trail system



Additional River Access Needed

There are too few river access sites in the upper Conestoga River Water Trail. There is an over 7-miles gap in river access points between Sylvan Fisher Park to Perelman Park. Opportunities for an additional river access in this area include:

- Zook's Flour Mill / Snake Hill Road Area
- Bridge Road / Pinetown Amish Covered Bridge Area
- Hunsecker's Mill Covered Bridge / Hunsecker Road Area
- *Millcross Road / LPL Financial Site Area*

Perelman Park

Location:	Park is accessed by Landis Valley Road – turn onto Paper Mill Road
Address:	1996 Landis Valley Rd, Lancaster, PA 17601
Coordinates:	40.080343, -76.260298
River Mile:	25.9
Owner:	Manheim Township
Contact:	717 290 7180 or 717 569-6408



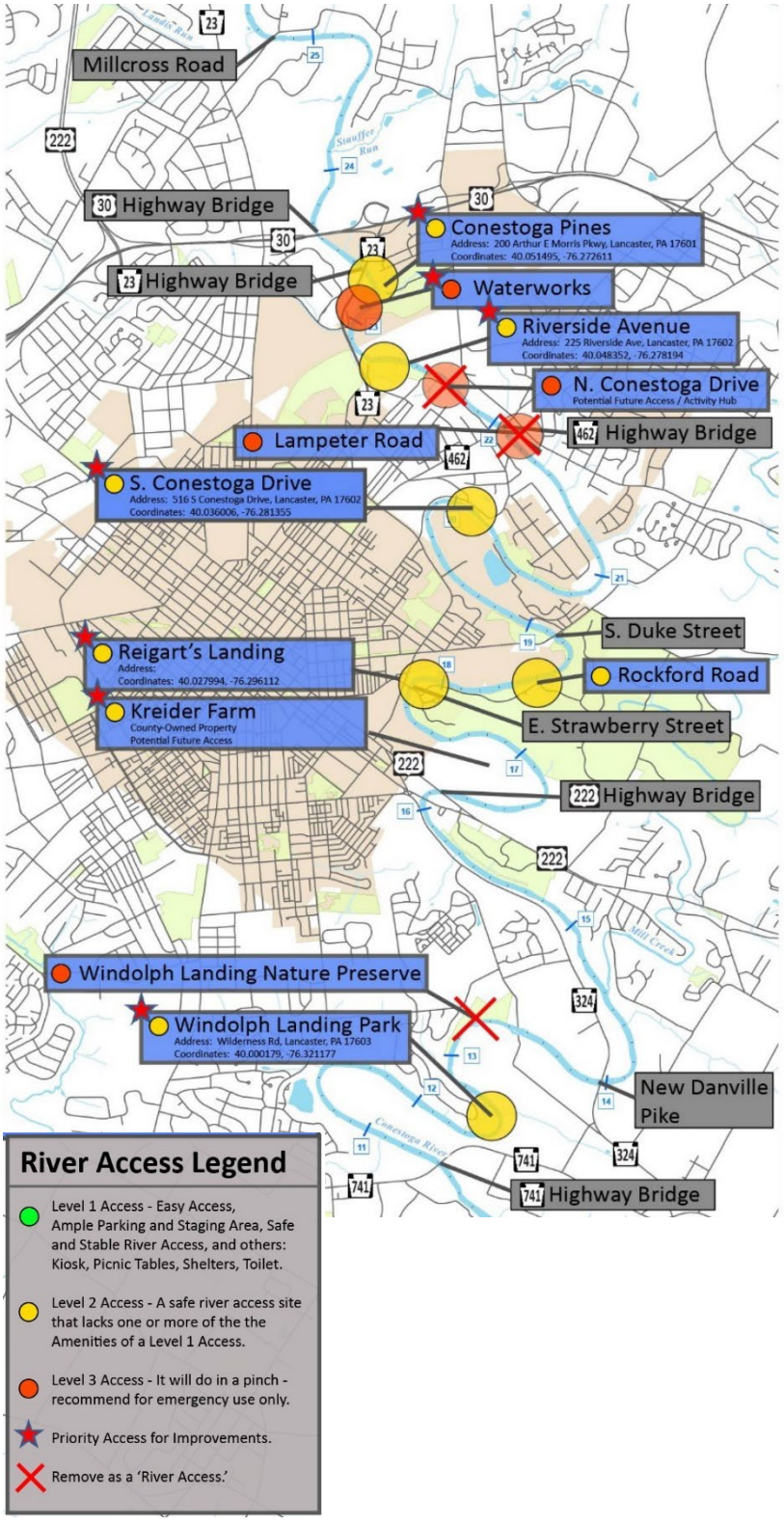
General Notes:
Perhaps the best river access in the existing water trail system. Perelman Park is 5.1 acres and is dedicated to passive recreation. Located along the Conestoga River, off of Landis Valley Road, it was a former site of the American Paper Products Company. Perelman offers a nature trail, a canoe launch, wetland plantings, Butterfly Garden and riparian buffer plantings. Well maintained Kiosk, picnic table / shelter ideal for eating lunch. Nice parking area offering linear parking along loop access road.

Existing Features: Parking and 1 ADA Space and lots of informal lawn parking along access road
Asphalt paved access with boulders stabilizing and protecting the paving
A well designed river access with ramp, boulder reinforcement blending with existing boulders / bedrock
Stable geology rock footing at the point of river access
Combo shade structure / picnic table
Walking Trails
Kiosk – Boy Scout Project – well designed – serve as model for a unified kiosk design for the system

Needs: River Trail Directional Signage
Kiosk – River Trail Signage and Branding
Porti-Toilet



Actions: A critical river access in a segment of river that has few river access points – important for safety and general functionality of the water trail.


Millcross Road
30 Highway Bridge
23 Highway Bridge
Conestoga Pines
Address: 200 Arthur E Morris Pkwy, Lancaster, PA 17601
Coordinates: 40.051495, -76.272611
Waterworks
Riverside Avenue
Address: 225 Riverside Ave, Lancaster, PA 17602
Coordinates: 40.048352, -76.278194
N. Conestoga Drive
Potential Future Access / Activity Hub
462 Highway Bridge
Lampeter Road
S. Conestoga Drive
Address: 516 S Conestoga Drive, Lancaster, PA 17602
Coordinates: 40.036006, -76.281355
S. Duke Street
Rockford Road
Reigart's Landing
Address:
Coordinates: 40.027994, -76.296112
Kreider Farm
County-Owned Property
Potential Future Access
E. Strawberry Street
222 Highway Bridge
Windolph Landing Nature Preserve
Windolph Landing Park
Address: Wilderness Rd, Lancaster, PA 17603
Coordinates: 40.000179, -76.321177
New Danville Pike
741 Highway Bridge
River Access Legend
Level 1 Access - Easy Access, Ample Parking and Staging Area, Safe and Stable River Access, and others: Kiosk, Picnic Tables, Shelters, Toilet.
Level 2 Access - A safe river access site that lacks one or more of the the Amenities of a Level 1 Access.
Level 3 Access - It will do in a pinch - recommend for emergency use only.
Priority Access for Improvements.
Remove as a 'River Access.'

Conestoga Pines

Location: From Pitney Road – follow Arthur E. Morris Parkway to large parking lot at end

Address: 150 Pitney Road, Lancaster, PA 17601 to
200 Arthur E Morris Pkwy, Lancaster, PA 17601

Coordinates: 40.051495, -76.272611

River Mile: 23.2

Owner: City of Lancaster

Contact:



General Notes:
Large Parking Lot shared with Conestoga Pines Pool – No direct river access – 100+ linear feet of lawn between parking lot and access. River Access not stabilized in any way – vertical earthen bank. Very small and easy to miss. Kiosk – poor condition. Outer bank location – erosion potential moderate. Access location 0.20 miles upriver from the Waterworks Dam makes Conestoga Pines an alternative take-out location for the 'Upper Conestoga River' water trail – day float. An improved river access would make this a more desirable take-out location above waterworks dam. River Access on River Left

Existing Features: Ample Parking – including potential for diagonal trailer parking
Large Lawn Staging Area

Easy access – level grade from parking to the river
Benches
Kiosk – poor condition

Needs:

Improved Stabilized Access – Demonstration of Sustainable Access Design
River Trail Directional Signage
Kiosk – River Trail Signage and Branding
New / Replacement Kiosk
Shade structure / picnic tables
Invasive Plant / Vegetation Management to make park more visible from the river
Porti-Toilet



Actions:

Promote as the Preferred Take-Out Location for paddlers of the Upper Conestoga River Water Trail.
Priority Project – for Improved River Access, Signage and Water Trail Branding

Waterworks Park

Location: From Route 23 (E. Walnut Street) turn east on Pleasure Road to Waterworks parking

Address:

Coordinates: 40.051567, -76.276726

River Mile: 23.0

Owner: City of Lancaster

Contact:



General Notes: Difficult take-out with soft, vertical river banks. Several options for take out (with two options well within the 200' dam buffer area). Many conceptual options for portage, must be coordinated with the City to maintain security of the waterworks. Access and Portage must also be coordinated with Conestoga River Greenway land based trail and other recreation initiatives. The Double Portage for the Water Works Dam and the low head dam (weir) under the Amtrak Railroad Bridge – makes this a logical terminus of the Upper Conestoga River Water Trail. To portage both dams is likely NOT for the general public and takes a true commitment to through paddling.

Existing Features: Warning Signs for the dam
Portage warning signs

Parking for a small number of cars
Dead end roadway – not ideal for boat trailers
Wooden stairway with no canoe or kayak 'slide' accomodation

Needs:

New River Access (river landing) – a minimum of 200' above the dam
Modify Wooden Stairway to accommodate canoe and kayak slide.
Improved River Portage Route
Improved River Access (river launch site) below the waterworks dam for through paddlers
Improved safety signage
Site trash clean up and better maintenance
River Trail Directional Signage
Kiosk – River Trail Signage and Branding
Porti-Toilet

Future opportunity to create a greenway hub for water trail and greenway trail, and a 'paddling park'



Actions:

A Priority Project to create a safe river access (river landing) and portage route around waterworks dam.

Riverside Avenue

Location: From Rank Mill Road, take Riverside Avenue north to its end at the Conestoga River.

Address:

Coordinates: 40.048352, -76.278194

River Mile: 22.8

Owner: City of Lancaster

Contact:



General Notes:
A Priority River Access Improvement due to location below Water Works and Amtrak bridge dams. Potential Priority Access Point and Greeway / Blueway Hub Location. Design in conjunction with Conestoga Greenway Trail – signature trail hub with greenway trail and potential paddle park. Opportunity for boat drop off area, kiosk and signage. Easy paddle upstream to view historic Amtrak masonry stone arch bridge

Existing Features: Existing Parking Area – Greenway Trail Head - 6 spaces – 5 regular and 1 ADA parking space

Needs:

Coordinate all design with Greenway Trail
New River Access
Formalized Boat and Gear Drop-off Site
River Trail Directional Signage
Kiosk – River Trail Signage and Branding
Best Access site for any future Paddling Park just upriver
Porti-Toilet



Actions:

Priority River Access as a launch site for the middle and lower Conestoga River Water Trail

North Conestoga Drive

Location: N. Conestoga Drive just south of Ranck Mill Road

Address:

Coordinates: 40.044091, -76.274708

River Mile: 22.3

Owner: City of Lancaster Municipal

Contact:



General Notes: Small, dirt (muddy) pull off with maybe room for 2 cars
Not a good access, located at end of old mill tail race.
Close as river access and make it a fishing access instead?
Easy access to river – ok for an informal or emergency access point
Located near a CSO discharge site

Existing Features: Small car pull-off from the roadway
Natural surface trail to the river

Needs:

Actions: Not enough space to develop a fully functional river access
This access should be maintained as an emergency launch or landing – but not be formally developed
Access should be removed from the map as a 'formal' access point

Lampeter Road

Location: Located just south of the 462 highway bridge – river left

Address: 1520 Lincoln Hwy, Lancaster, PA 17602

Coordinates: 40.036942, -76.273125

River Mile: 21.9

Owner: Thien X. Nguyen

Contact:



General Notes: NOT A RIVER ACCESS – PRIVATE LAND CONFLICT
Warehouse Storage - Private Landowner now gated and locked
Potential to secure EMS use of the site or explore opportunity to reestablish as a river access

Existing Features: Existing concrete launch and dock has potential as ADA Accessible river access
Site is potentially the best site for a accessible boat ramp and launch

Needs:

Actions: Remove as an access on the map
Continue contact and communication with landowner to explore options for the future

South Conestoga Drive

Location: S. Conestoga Drive, just north of the intersection with Betz Drive

Address: 516 S Conestoga Drive, Lancaster, PA 17602

Coordinates: 40.036006, -76.281355

River Mile: 20.0

Owner: Complete Healthcare Services

Contact:

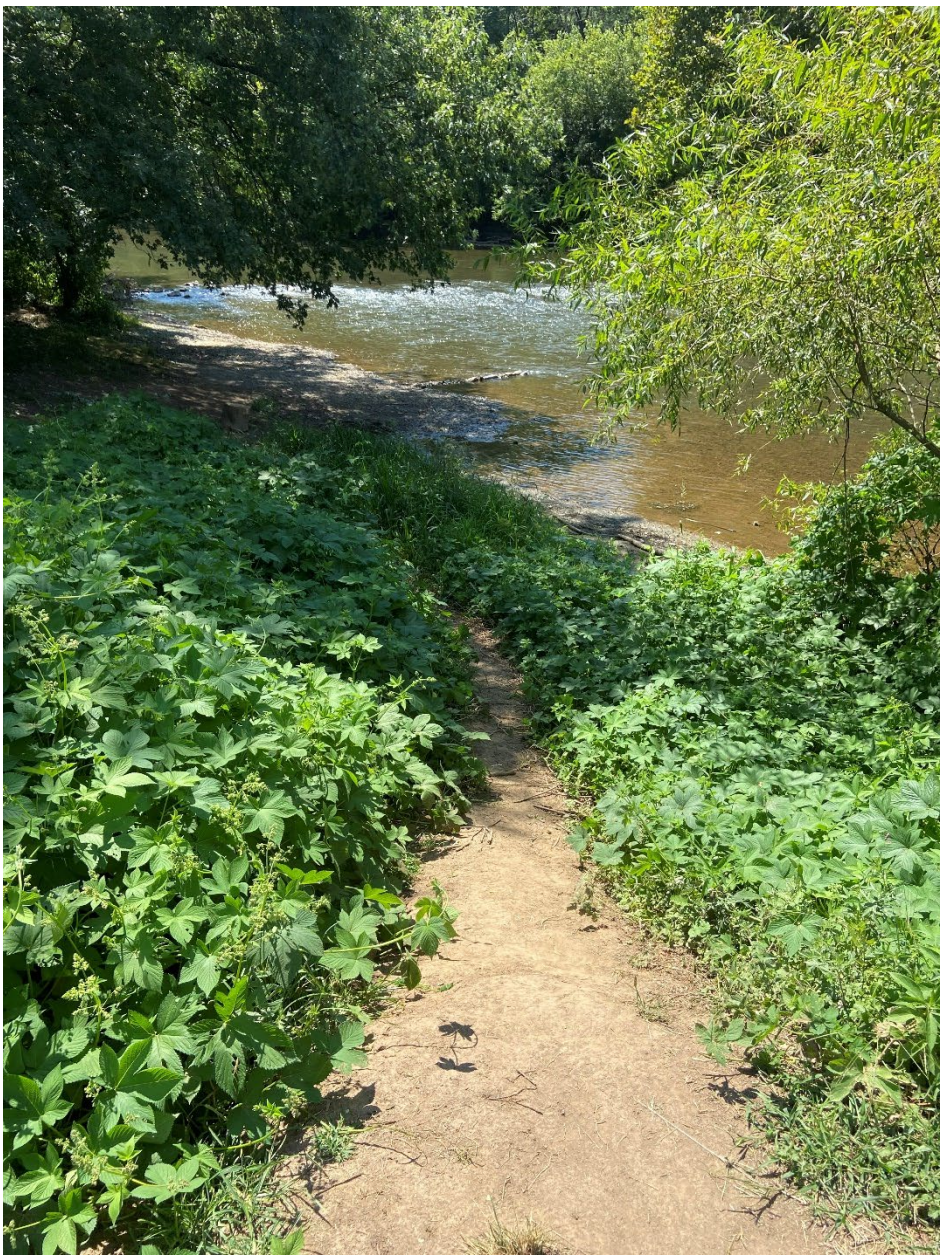


General Notes: Conflicts with Roadway (must cross road from parking area)
And conflicts with greenway trail – boaters must cross trail
Steep slope and unstable outerbank river situation.

Existing Features: A good greenway trail head.
10 paved Parking spaces, including 2 ADA Spaces

Needs: New River Access up-river from parking
River Trail Directional Signage
Kiosk – River Trail Signage and Branding
Need a site for Team River Runner – Universal Design Access

Drop-Off Location separate from Parking Area



Actions: Explore the potential of a Universal Design Access at the site with Team River Runner

Rockford Road

Location: Located at the intersection of Rockford Road and Williamson Road

Address: 1050 and 881 Rockford Road

Coordinates: 40.022140, -76.288170

River Mile: 18.5

Owner: Lancaster Parks Department and Rockford Foundation (Historic Rock Ford Foundation)

Contact: Lancaster County Central Park – 717 299-8215



General Notes: Space limited, small gravel pull-off
Heritage Hub – Interpret Fulton and Historic 'Rock Ford' and surrounding area
A better trail head location for greenway trail – at gate on old riverside roadway…

Existing Features: Small Parking Area - perhaps space for 6-8 vehicles

Needs: Maintain as an emergency river access site
Heritage Interpretation Opportunities



Actions: Remove as a formal river access site on the map

Reigart's Landing

Location: Rockford Road, east of the intersection of Rockford Road and E. Strawberry Street

Address:

Coordinates: 40.027994, -76.296112

River Mile: 17.9

Owner: Lancaster Parks Department

Contact: Lancaster County Central Park – 717 299-8215

General Notes: The City's Historic Canal Port – connecting the city with Susquehanna River and the Chesapeake Bay
A well maintained county park
High visibility County Park



Existing Features: Parking Lot – 30 paved and lined car parking spaces
Good Lawn Staging Area - 120' of lawn area to the informal earthen access
Picnic tables
Grills
Nice Shade Trees
Warning signs of CSO – sign depicts map of 6 outfalls locations in the city



Needs:
- New River Access (Universal Design)
- River Trail Directional Signage
- Kiosk – River Trail Signage and Branding
- Picnic Table / Shade Structures
- Accommodations of Team River Runner programming
- Invasive plants. Need better cutting / maintenance
- Canal Heritage Interpretation Opportunity
- Porti-Toilet

Actions:
- Develop the Park in partnership with Lancaster County and Team River Runner
- Priority River Access to improve universal access to the Conestoga River Water Trail



Historic Photo of Reigart's Landing – the beginning of the canal linking the City of Lancaster with the Susquehanna River at Safe Harbor. https://unchartedlancaster.com/2020/06/18/side-quest-conestoga-navigation-companys-lock-6-in-safe-harbor/?fbclid=IwAR2BoPCXB91uLia3zSLU_5Zkeh06HUHA-2u7uJBxmqcGUz3_NW6INmXXEfU

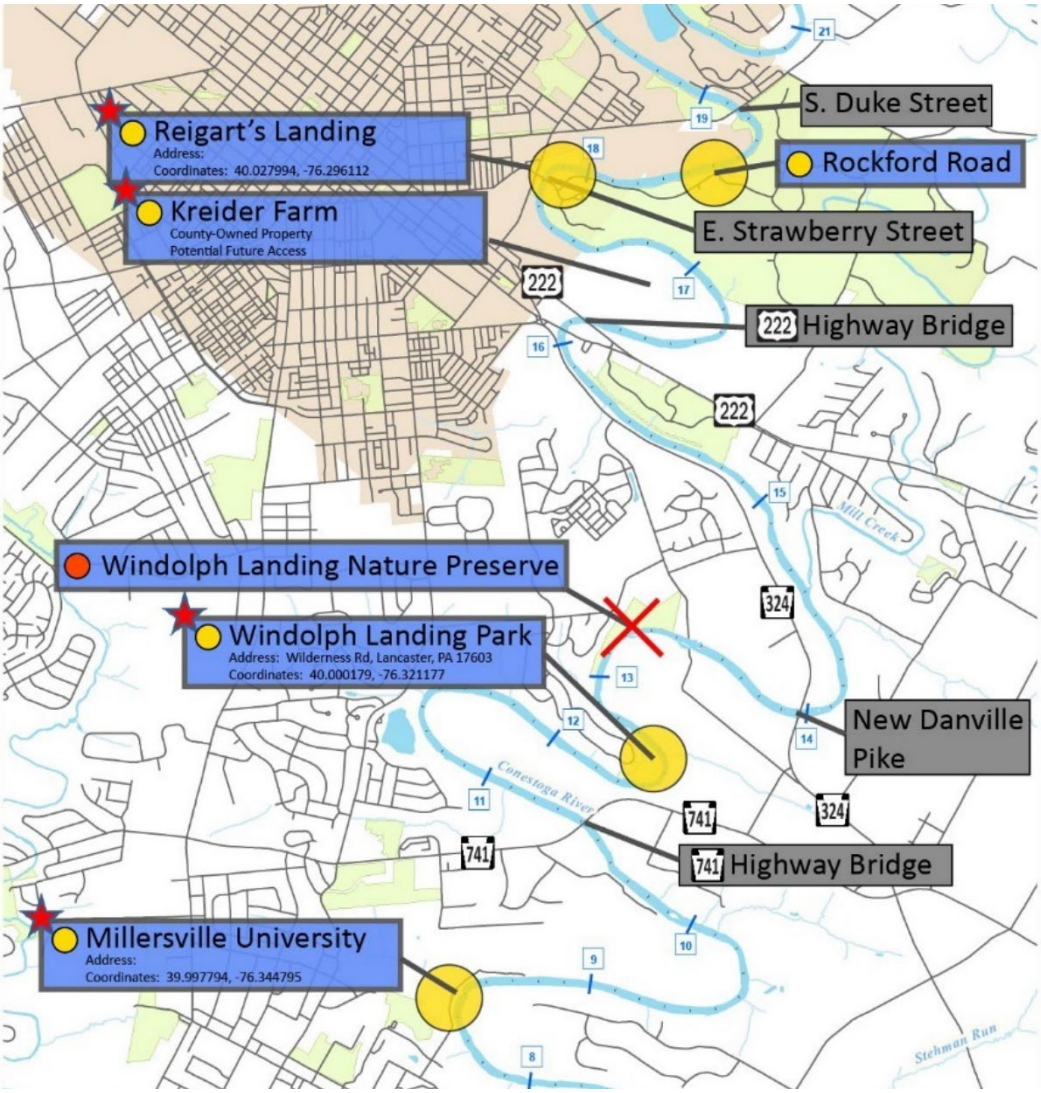
ADDITIONAL RIVER ACCESS NEEDED –
Nearly 6 miles to Windolph Landing Park or nearly 10 miles to Millersville University

- *New County-Owned Property (Old Kreider Farm)*
- *Buchmiller Park*



River Access Legend

- Level 1 Access - Easy Access, Ample Parking and Staging Area, Safe and Stable River Access, and others: Kiosk, Picnic Tables, Shelters, Toilet.
- Level 2 Access - A safe river access site that lacks one or more of the the Amenities of a Level 1 Access.
- Level 3 Access - It will do in a pinch - recommend for emergency use only.
- Priority Access for Improvements.
- Remove as a 'River Access.'



Windolph Landing Nature Preserve

Location: Take Bean Hill Road, or Hoover Road, to 2ns Lock Road

Address: 2nd Lock Rd, Lancaster, PA 17603

Coordinates:

River Mile: 13.2

Owner: Lancaster County Conservancy

Contact:



General Notes: 22 acres nature preserve
Managed for passive recreation
Parking area on hilltop – long distance from the river
Site is conservancy land and offers a 'natural area' hub on the water trail

Existing Features: No River Access

Actions: Remove from map as a river access

Wildolph Landing Neighborhood Park

Location: Bean Hill Road to Wilderness Road – park located at south end of Wilderness Road

Address: Wilderness Rd, Lancaster, PA 17603

Coordinates: 40.000179, -76.321177

River Mile: 12.6

Owner: Lancaster Township

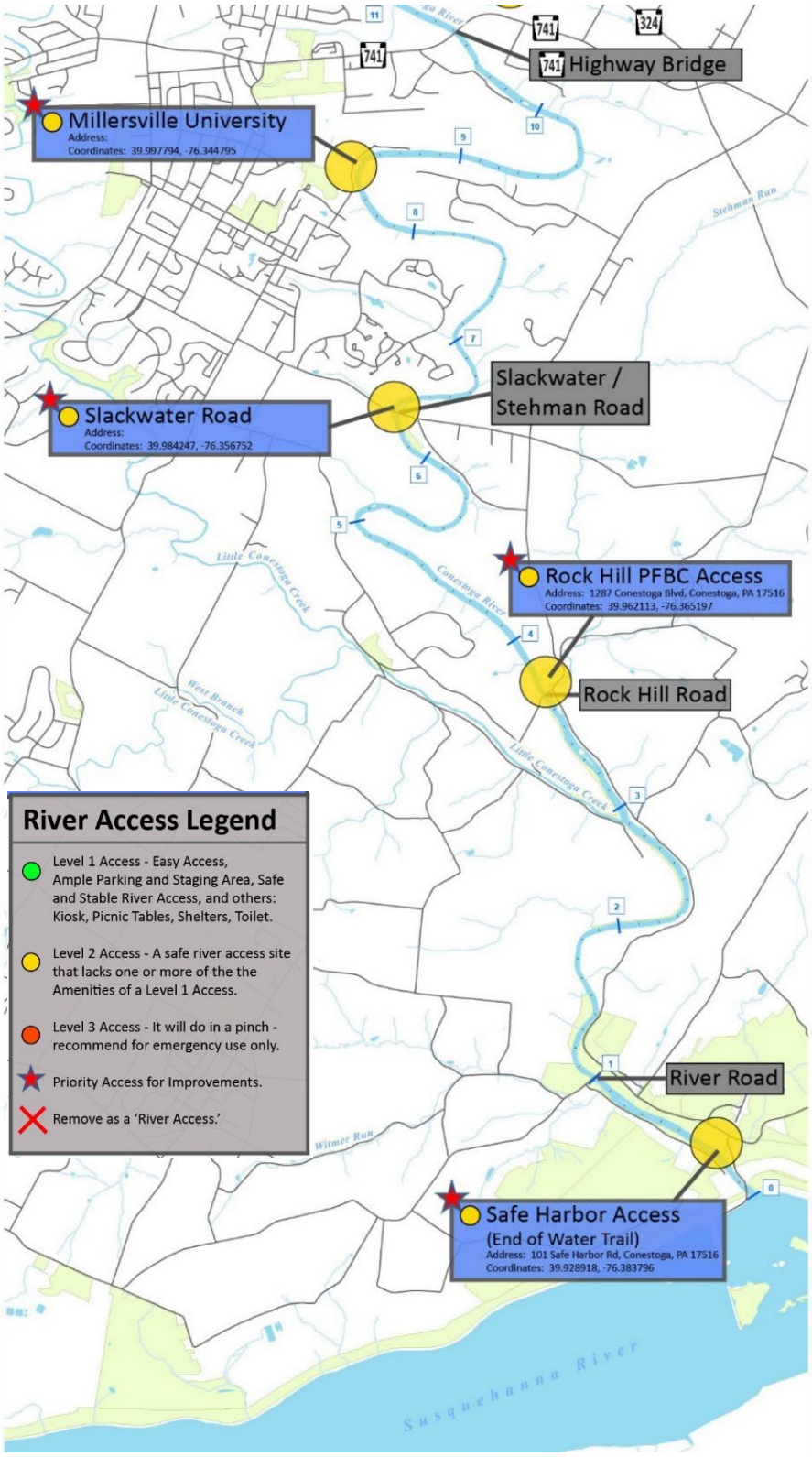
Contact:



General Notes: Not a good public river access
But a good neighborhood / emergency river access
Well maintained township park

Existing Features: Parking - 9 lined parking spaces – paved
Large Lawn Area
Shade Structure / Pavilion
Picnic Tables (4)
Trash Cans
Playground

Actions: Not a good river access – too far of a distance from parking to river access (>500')
Remove as a river access on the map
Maintain as an informal or emergency river access point



Millersville University

Location: From Millersville University campus – take Creek Drive east to the river.

Address:

Coordinates: 39.997794, -76.344795

River Mile: 8.5

Owner: The General State Authority - Harrisburg

Contact:



General Notes: Strategically an important river access – long distances between access points
Existing geology provides stable access to river.

Existing Features: Small gravel parking area
Existing natural surface access to the river



Needs: Create ‘steps’ or stabilized river access to improve safety
Formalize Parking Spaces
River Trail Directional Signage
Kiosk – River Trail Signage and Branding
Porti-Toilet

Actions: Essential River Access Point for the functioning of the water trail system.
Medium Priority - Encourage access improvements investment made by Millersville University

Slackwater

Location: S. Duke Street to Slackwater Road

Address:

Coordinates: 39.984247, -76.356752

River Mile: 6.3

Owner: Commonwealth of Pennsylvania – PA Fish and Boat Commission

Contact:



General Notes: PA Fish and Boat owns property on 4 corners of Slackwater Road and River intersection – but access to the land impacts private property. Best river access location may be the larger PA Fish and Boat Commission parcel on the SE corner of River and Bridge – but will require access road and parking investment.

Existing Features: Mowed, natural surface access route to the river
No Parking
Existing access at NE corner has poor highway site distance



Needs: PA Fish and Boat Commission needs to resolve access and private land conflict issues

Actions: Has potential to be a good and strategic access site
Resolve access issues before investing in river access improvements
Maintain as informal / emergency river access
Heritage Interpretation – Canal Lock #4 Site

Rock Hill

Location: River access on Conestoga Boulevard, just east of the intersection with Rock Hill Road

Address: 1287 Conestoga Blvd, Conestoga, PA 17516

Coordinates: 39.962113, -76.365197

River Mile: 3.8

Owner: Commonwealth of Pennsylvania – PA Fish and Boat Commission

Contact:



General Notes: Good Existing Access – Potential Demonstration Site for Sustainable River Access Design
PA Fish and Boat Ownership and Management / Maintenance
Strategic Access – 6+ miles between Millersville University and Safe Harbor

Existing Features: Gravel parking
Several river access points – both above or below rapid (old mill dam)
Historic Area: Historic Steel Bridge, Historic Tavern, Old Mill Site (stone foundation remnants), Lancaster County's first court - Postlewait's Tavern



Needs: Improved River Access – Potential Site for Universal Design river access
Formalize Parking Space – make parking more efficient
River Trail Directional Signage
Kiosk – River Trail Signage and Branding
Porti-Toilet

Actions: Heritage Interpretation – Historic Mill, Postlethwait's Tavern, Rockhill Tavern, Canal Lock #5 Site

Safe Harbor

Location: Access is just west of the intersection of River Road and Powerhouse Road

Address: 101 Safe Harbor Rd, Conestoga, PA 17516

Coordinates: 39.928918, -76.383796

River Mile: 0.3

Owner: Safe Harbor Water Power Company

Contact:



General Notes: Essential Final Take-Out for River Trail. Well maintained park.

Existing Features: Parking – gravel parking for about 12 cars, informal roadside lawn parking for trailers
Nice lawn staging area
Picnic Tables (2)
Trash Can
Benches



Needs: Improved River Access – access bottom stabilization with concrete slats or geo grid pavers
River Trail Directional Signage
Kiosk – River Trail Signage and Branding
Expanded parking - gravel parking for trailers, or parking closer to the access (110’ possible)
Turf-stabilized access road linking roadway directly to the river access
Porti-Toilet

Actions: Priority Project – Final Landing of the Conestoga River Water Trail

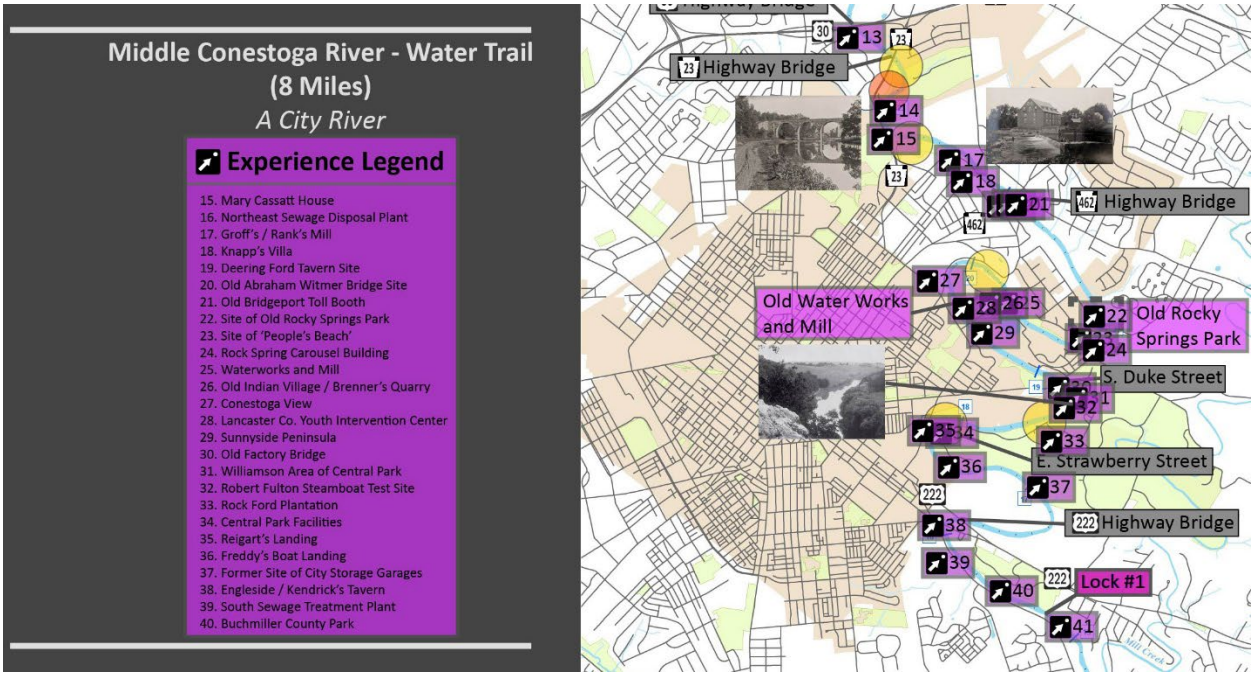
River Experience

The "Paddling Guide to the Historic Conestoga River" (2011) document contains 46 points of interest identified on the water trail – including both present-day and historic features. A dozen years later, some of the 'present-day' features are now outdated and need updating. Many of the historic points of interest have little or no remaining artifacts, while others are still operational and functional today. Most of the points of interest lie somewhere in-between and require either a trained eye to identify them, or additional information to adequately tell the story of the river and of this unique place.



Many factors will positively affect the experience of the river user. Some, such as improved safety and better river access have been discussed previously. Other factors that will improve water trail experience includes:

- Improved Water Quality
- Land Use Protections
- Riparian Buffer Plantings
- Habitat Plantings and Habitat Improvements
- Ecological Land Management of the River Corridor
- Riverbank Stabilization / Floodplain Restoration
- Scenic Viewshed Protection of the River Corridor
- Better Interpretation of River History (Natural and Cultural Heritage)



Water Trail Branding and Marketing, and Signage

There is a complete lack of signage for the Conestoga River Water Trail. The development of a water trail branding and marketing plan, and the production of a unified signage system will go a long way to raising awareness of the Conestoga River Water Trail, and encourage more residents and visitors to explore the river.

05 Plan – Vision, Priorities, Actions

The Vision

> *"The Conestoga River Water Trail connects residents, visitors and future generations to the scenic natural and cultural resources of the Conestoga River, creating an impactful experience that inspires active and healthy lifestyles, environmental stewardship, and ownership and belonging in a diverse and vibrant river community."*



Photo by Susquehanna Valley Team River Runner

Priorities

Defining Needs and Priorities

Among the dozens of possible improvements for the Conestoga River Water Trail – a hierarchy of need was determined to be necessary to help establish priorities. An easily defensible prioritization for river trail improvements was adopted, listing in order of importance:

- Safety
- Access
- Experience

Safety

The most dangerous conditions faced by paddlers of the Conestoga River, during normal water flow and weather conditions, occur at the 3 dam/ weir portage sites. A boater accidentally drowned in the spring of 2022, and the memory of that tragedy is still on the minds of many. Addressing safety of the portage sites is top priority for initial action.

Access

Access is the second priority for the Conestoga River Water Trail. All river access points, launches and landings, currently have deficiencies needing to be addressed. Some sites require little improvements to make them a fully functional river access, while others require significant investments. A description and list of elements you can expect to find at a Level 1, 2 and 3 Access include:

- Level 1 Access – Easy to find from public roadways, ample parking, large staging area, stable river access, informational signage and kiosk, picnic tables, shelters and toilet.

- Level 2 Access – a safe river access site that lacks one or more of the amenities of a Level 1 Access.

- Level 3 Access – a river access that will do in a pinch – recommend for emergency river access or exit use only.

While the Conestoga is a navigable river, providing for use and enjoyment by all, access to the river is mostly controlled by private landowners along the river's banks. You can't experience something you can't access, so maintaining easy access to the river is essential for proper public use and enjoyment of the water trail now and into the future. Accordingly, the existing system of river access points needs to be maintained, improved and in some areas expanded. There are segments of the river with a deficiency of access points. The 7-mile distance from Sylvan Fisher Park and Perelman Park, for example, is too long in the event of an accident or changes in weather conditions requiring an exit from the river. All new river access points should be coordinated, and designed with input from police and emergency responders. The Water Trail system is one that should continually change and evolve, always looking for opportunities to improve public access to the resource.

Investments for river access are not exclusively for paddlers. Access to the river improves recreational experiences for all. Whether you are fishing, wading, tubing or just enjoying the view, improved river access will benefit visitors, as well as neighborhood residents by providing close to home recreational opportunities.

Experience

A tertiary goal for the water trail is the improving the trail user's experience. While improved safety and river access will also improve the paddler's experience, these elements will add richness to any journey on the river. Improving the experience of the Conestoga River Water Trail may include:

- Land Conservation / Preservation
- Improved Public Access to the River (not just at river access sites)
- Preservation or Enhancement of the River Corridor's Scenic Quality
- Environmental / Habitat Restoration
- Improving Water Quality
- Interpretation of the Geology and Landscape
- Celebration of Native American Culture
- Interpretation of the River Corridor's Historic Sites
- Ecological Land Management of Public and Private Lands of the River Corridor

Improvements to the Conestoga River Water Trail will bring more recreational paddles to the water trail and create an opportunity for watershed education and advocacy. The more people understand the connection between water quality and our collective stewardship of the land – the more informed they are, and the stronger advocates they become for the Conestoga River. Improving the paddler's experience helps create a bond between people and the river. Having a relationship with the river is necessary to transform a water trail user into a river steward.

Potential Projects

Safety

- Zook's Mill Portage – a safe portage around a historic mill dam.
- Waterworks Portage – a safe portage and river access support infrastructure around waterworks dam.
- Amtrak Bridge Weir Portage – a safe portage for through paddlers around weir structure.
- Create sufficient number of safe and legal river access sites with ample parking and support facilities.

To address the safety concerns due to lack of River Access in the upper Conestoga River Water Trail, establish additional sites. Potential river access sites may include:

- Zook's Flour Mill / Snake Hill Road Area
- Bridge Road / Pinetown Amish Covered Bridge Area
- Hunsecker's Mill Covered Bridge / Hunsecker Road Area
- Millcross Road / LPL Financial Site Area

Additional River Access Points for the middle Conestoga River Water Trail – Addressing large gap below Reigart's Landing – *Potential Sites:*

- *New County-Owned Property (Old Kreider Farm)*
- *Buchmiller Park*

Other Safety Improvement Projects and Programs may include:

- Establish Additional Emergency River Access Points
- Advocate for water trail safety – with signage, information, and programming
- River Rescue Training for emergency responders and water trail volunteers
- River Hazard Removal Program – A collaborative partnership dedicated to quickly identifying and addressing water trail hazards such as large debris dams, strainers, and damaged water trail infrastructure. Potential Demonstration Project: Debris Dam Removal at Old Bridge Piers near historic Lock #4 – River Mile 8.2

Access

The following Conestoga River Water Trail access area will improve boater safety:

- Conestoga Pines – Improved River Access – Designated landing for upper Conestoga River Water Trail

Improvements to the following Conestoga River Water Trail access areas will create a demonstration for Universal Access:

- Universal Access Demonstration – in Partnership with 'Team River Runner'
    - S. Conestoga Drive – River Access Improvements
    - Reigart's Landing – River Access Improvements

Basic improvements are needed for the following Conestoga River Water Trail access areas:

- Sylvan Fisher Park – River Access Improvements
- Perelman Park – River Access Improvements
- Millersville University – River Access Improvements
- Safe Harbor – River Access Improvements
- Rock Hill – River Access Improvements

Major improvement, or anew river access, are needed at the following locations:

- Riverside Avenue –A New River Access Launch Site for the middle and lower Conestoga River Water Trail
- County Owned Property (Old Kreider Farm)

Experience

The following programs and products are needed to improve the Conestoga River Water Trail experience:

- Create a Water Trail Signage Design Guidelines
- Program: More Kids in Boats - Breaking Down Barriers to the Conestoga River Water Trail
- Produce, print, and distribute water trail maps
- Develop a Water Trail Branding and Marketing Plan

Develop an Interpretation Program for the following historic features of the Conestoga River Water Trail:

- Pinetown – Amish Covered Bridge / Stone Arch Bridge – Heritage Hub
- Waterworks and Railroad Bridge – Heritage Hub
- Old Water Works – Heritage Hub
- Rockford Road – Heritage Hub
- Conestoga Navigation Company – Canal Locks – Heritage Hub
- Canal Lock #6 – Heritage Hub

Place-Making – develop recreation and conservation hubs along the water trail to encourage exploration:

- Example: Peninsula Nature Park - land-based trails, environmental center, and overnight camping
- Example: Windolph Landing Nature Preserve – land-based trails and environmental education
- Spaces may include educational programming, art, and fellowship, to connect the community to the river.

Environmental improvement opportunities along the Conestoga River Water Trail include:

- Riparian Buffer Demonstration Projects (Golf Courses, Farms and Residential Landscapes)
- Invasive Plant Control Demonstration (Utility, Municipal and Private Landowners)
- Support on-going watershed improvement projects that address nutrient and sediment pollution

Improving the Visitor Experience and Encourage Tourism:

- Create a list of Outfitters and Boat Rental Businesses
- Create a recommended list of Places to Stay (camping, bed and breakfasts, hotels, etc.)

Protect the Conestoga River's Scenic Qualities

- Advocate for Land Use Plans and Policies that protect the river corridor from encroaching development
- Produce a River Corridor Scenic Assessment to target areas for protection and improvement
- Education and outreach to landowners on ecological land management and native landscaping, to protect the scenic qualities of the Conestoga River corridor

Protect the Conestoga River's Natural Habitats

- Identify and protect critical habitat areas of the river corridor
- Identify and restore important habitat areas
- Develop a landowner's guide to ecological land management of the Conestoga River corridor

Create a Greenway and Blueway Hub on the Conestoga River

- Conestoga River Paddle Park – develop a recreational paddle park for beginning and intermediate boaters to get more people involved in paddle sports and as a recreational amenity for city neighborhoods and schools.

Feasibility

Evaluating the feasibility of potential projects will help to determine priorities, or at least determine which projects are ready to move forward now. Land ownership and control is a primary determinant of project feasibility, as it can take years to acquire land, resolve landowner disputes, or develop long-term easement agreements. The following questions need to be asked and answered to proceed with a priority project.

Feasibility Checklist:

- ☐ Legal Feasibility – Who owns and controls the resource?
- ☐ Physical Feasibility – What are the conditions, opportunities, and constraints?
- ☐ Political Feasibility – Does the landowner and community support the project?
- ☐ Market Feasibility – Will the proposed project be used?
- ☐ Design Feasibility – Can it be built? And what will it look like and how will it function?
- ☐ Financial Feasibility – What will it cost to build and maintain, and where will the money come from?
- ☐ Operational Feasibility – Who will own, manage, and maintain?

Priority Project:
Creating a Safe Water Trail

Safe Passage –
'Paddling Safety Improvements for the upper Conestoga River Trail'
A Program of Portages and River Access Improvements

Program Elements:
Safe Portages:

- Zook's Mill Portage
- Waterworks Portage
- Amtrak Bridge Weir Portage

Needs and Benefits:
The upper Conestoga River Water Trail, nearly 10 river miles from Sylvan Fisher Park to Conestoga Pines and the Waterworks, offers the paddler a unique river experience on a small, intimate-scale river flowing through a rural and scenic agricultural landscape. The safety of the upper Conestoga River will be greatly improved with the creation of a safe portage around Zook's Mill Dam and the Waterworks Dam, as well as a new river access at Conestoga Pines Park. These safety improvements, along with basic amenity improvements of improved signage and updated water trail information at Sylvan Fisher Park and Perelman Park, will improve safety and access for all water trail users.

Water Trail Safety Improvements:
Zook's Mill Portage (River Mile 30.2)
Safety Concern: Insufficient distance from portage take-out to the dam. PA Requires 200' buffer above the dam which extend to just upriver of the Bushong Road Bridge. Portage design will involve 2 landowners and PennDOT. Easement agreements must be secured before construction.

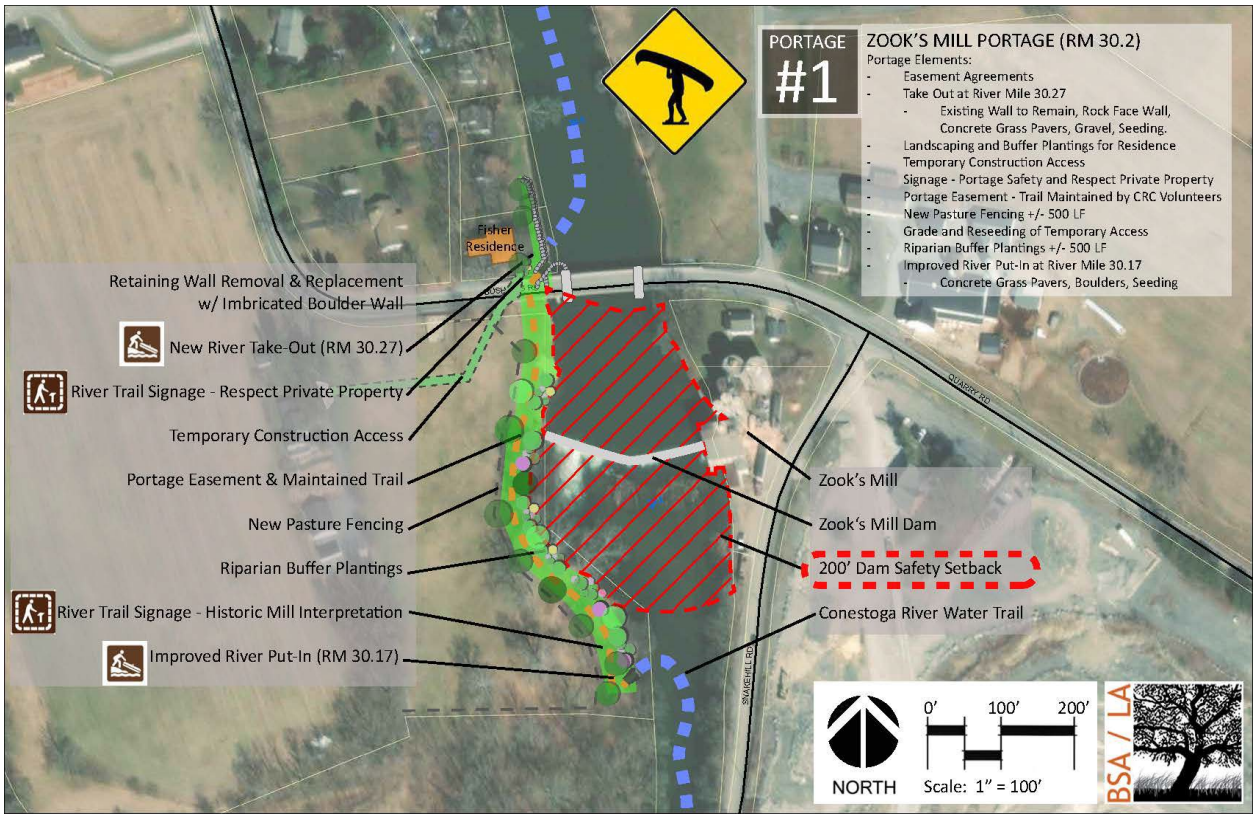


Opportunity: Portage design can accommodate the needs of landowners, while accommodating safe dam passage. Private residence landowner with erosion issues – offers opportunity to do improved portage at same time as riverbank stabilization. Portage trail may require new streambank fencing and offer opportunity for riparian buffer plantings.

Coordination: Mill owner (Frank Deim) wants to improve dam for mill efficiency and 24-house use for making wood pellets from saw dust and for electric generation to sell to the grid. Permit process from PUC offers opportunity for public comment on water trail accommodation and safety concerns. Potential coordination between dam improvements and portage permitting and construction.

Resolving Conflict: Mill owner is frustrated with water trail users parking at the Mill for extended time, and has had vehicles towed. Seek to resolve conflict by either identifying a designated parking area, or signing the site as no parking.

Interpretation: Signage to encourage paddlers to 'Respect Private Property.' Educational signage on Dam Safety and Heritage Interpretation of Zook's Mill – the oldest continually operating mills in the state of PA. Possible digital interpretation of the mill and site with links to historic photo and additional information.



Waterworks Dam – River Landing / Take-Out and Portage (23.1)
Safety Concern: Difficult take-out with soft, vertical river banks. Several options for take-out (with two options well within the 200' dam buffer area). The double portage (of the Water Works and the Amtrak bridge dam) makes this a very challenging and difficult portage site.



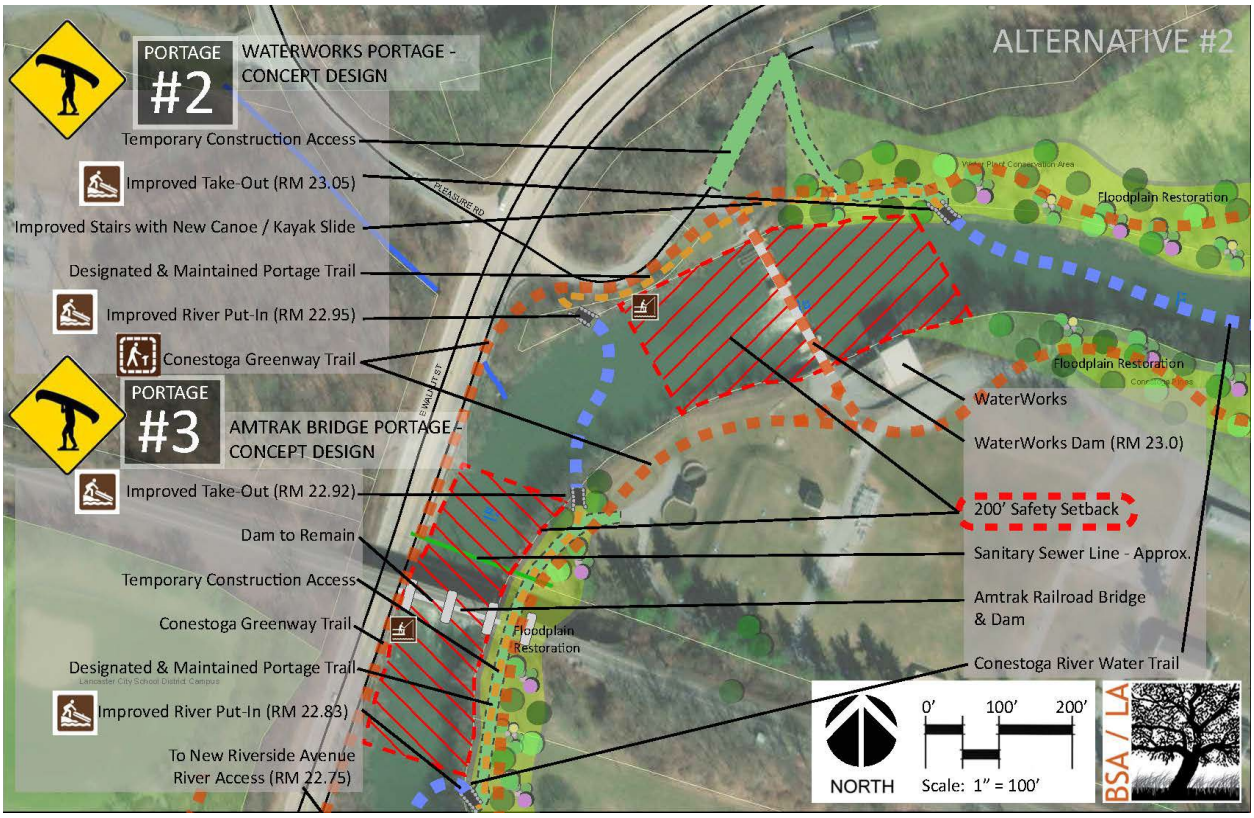
Opportunity: An improved river access (take out) would greatly improve boater safety, and an improved portage route would improve the water trail user experience.

Challenge: The Double Portage for the Water Works Dam and the low head dam under the Amtrak Railroad Bridge – makes this a logical terminus of the Upper Conestoga River Water Trail. To portage both dams is likely NOT for the general public and takes a true commitment to through paddling.

Coordination: This site is at a strategic convergence of public infrastructure and recreational trail opportunities. All work in this area must be coordinated with Lancaster City and water works facility, Lancaster County, Lancaster Heritage Tour Program and Conestoga River Greenway.

Conflict: How to navigate the various recreational interests of the site: land and water-based trail users, passive recreation users, and anglers.

Interpretation: Opportunity to raise awareness of Dam Safety, the function of the water works and the public drinking water supply, and the historic Amtrak bridge.



Amtrak Bridge Weir Portage – River Take-Out and Portage (22.9)

Need: Clearly mark and create a functional portage around dangerous low head dam (weir). Make necessary safety improvements while laying the ground work for a more permanent, comprehensive solution: a navigable river trail passage and / or creating of a recreational paddle park.

Partnership: Initial creation of a functional portage, for through paddlers, can be completed by water trail volunteers clearing vegetation at the take-out and put-in locations, and clearing the portage route. This would minimize expense and preserve other options for the future, including modification that would make the Amtrak Bridge Dam (weir) a navigable river passage for paddlers.



Priority Project:
Creating an Accessible Water Trail

> *"What is the good of your stars and trees, your sunrise and the wind, if they do not enter into our daily lives?"*
>
> –E.M. Forster

'Universal Access Demonstration Project in Partnership with Susquehanna Valley - Team River Runner'

Program Elements:
Universal River Access and River Access Improvements to South Conestoga Drive and Reigart's Landing.

Needs and Benefits:
In partnership with 'Team River Runner' create a 2 miles segment offering universal design access from River Mile 20 at S. Conestoga Driver river access, to River Mile 18 the Reigart's Landing river access.

Partnership with Team River Runner:
Team River Runner seeks to provide "health, healing, community purpose and new challenges through adventure sports and adaptive paddle sports." This partnership between and Conestoga River Club and Team River Runner will create better access to the River for all residents – while providing unique programming and educational opportunities to break down the barriers to river recreation for people with a wide range of disabilities.

The 'Team River Runner' organization opens opportunity for participation in adaptive paddle sports for veterans and their families. However, investment in basic river access amenities will benefit all potential Conestoga River Water Trail users with disabilities – helping to break down barriers and providing access to all seeking healthy, healing outoor recreational adventures on the river.

What is Universal Design?
(From the UD Project - https://universaldesign.org/accessible-vs-universal-design#:~:text=ADA%20Accessibility&text=The%20big%20difference%2C%20compared%20to,for%20%E2%80%9Ceveryone%20else%E2%80%9D).

Despite 'universal design' being a thing since the 1980s, there is still widespread confusion about it today, which is largely due to people not fully understanding the depth of what it means. If someone hasn't heard of universal design, the first association is almost always 'design for people with disabilities.' This is understandable, but short-sighted. Let's look at the differences between universal design and the ADA (Americans with Disabilities Act) definition of accessibility.

Some Definition to Help Understand Universal Design:
Universal Design – *(noun) design that's accessible by all people, to the greatest extent possible, without the need for adaptation for specialized design.* Please note that the definition doesn't mention disability.

Accessible – *(adjective) capable of being reached; capable of being used or seen; capable of being understood or appreciated.* When something is accessible to everyone, it becomes obvious that the immediate beneficiaries are people who are typically excluded. This is why universal design is commonly associated with something for people

with disabilities. It's important to recognize the diversity of functional issues that are present in our society in order to understand that universal design is indeed accessible – to everyone.

The ADA (Americans with Disabilities Act), is legislation with specific requirements, intending to fully include people affected by disability in society. The big difference, compared to universal design is that ADA allows for segregation, or design options for people with disabilities alongside options for everyone else. Universal Design is a design solution to be used by everyone.



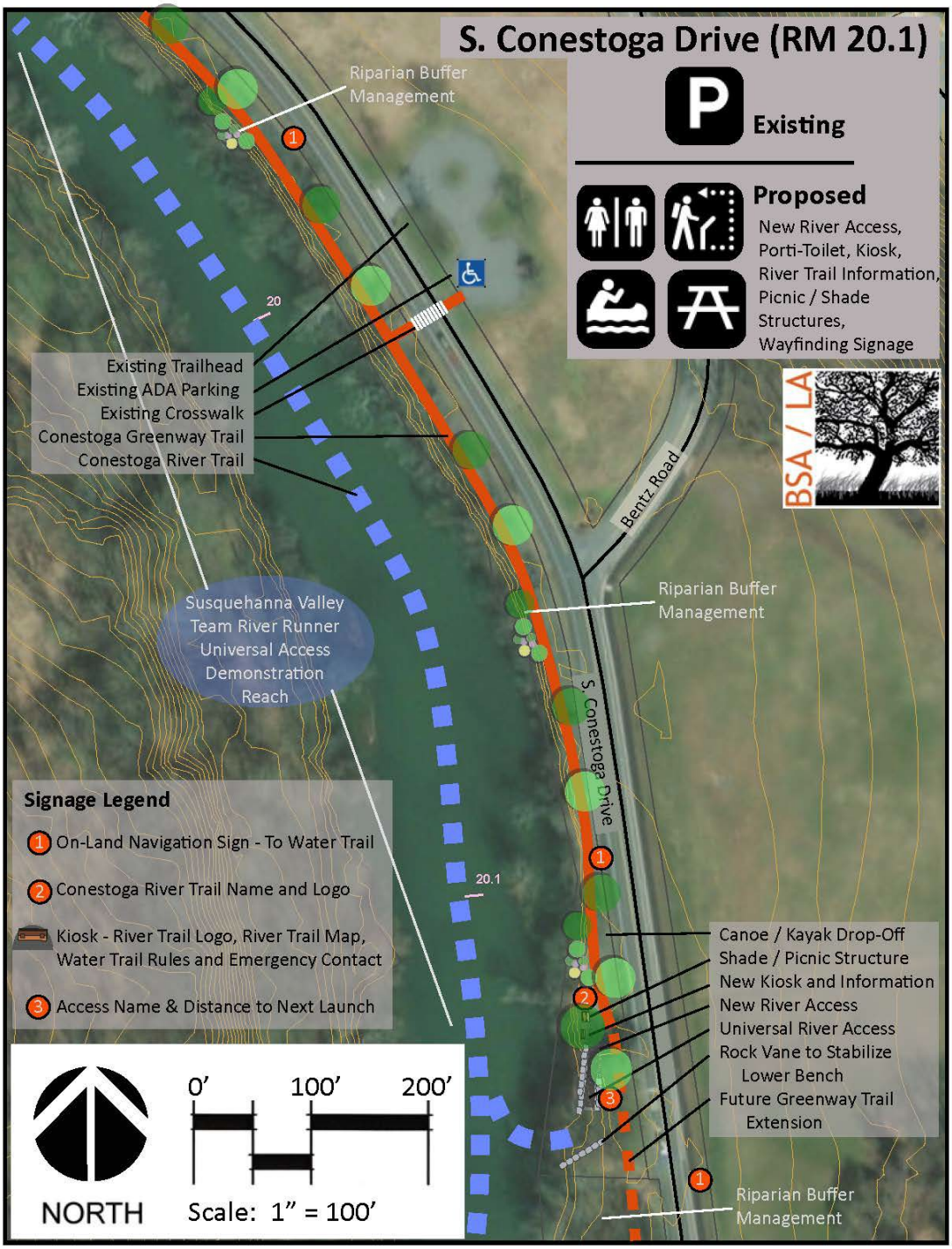
Photo by Susquehanna Valley Team River Runner

Water Trail Access Improvements:

S. Conestoga Drive - River Access A8 (River Mile 20.0)

Convenient in-city put in location, especially for Team River Runner Program – offering short 2 miles river float experience to Reigart's Landing river access.

Install new river access, signage, kiosk (with CRC, CRT, TRR info, map, etc.)



Reigart's Landing River Access A8 (River Mile 17.9)

River Access Demonstration to raise visibility of Conestoga River Trail in the City and as a training facility for Team River Runner

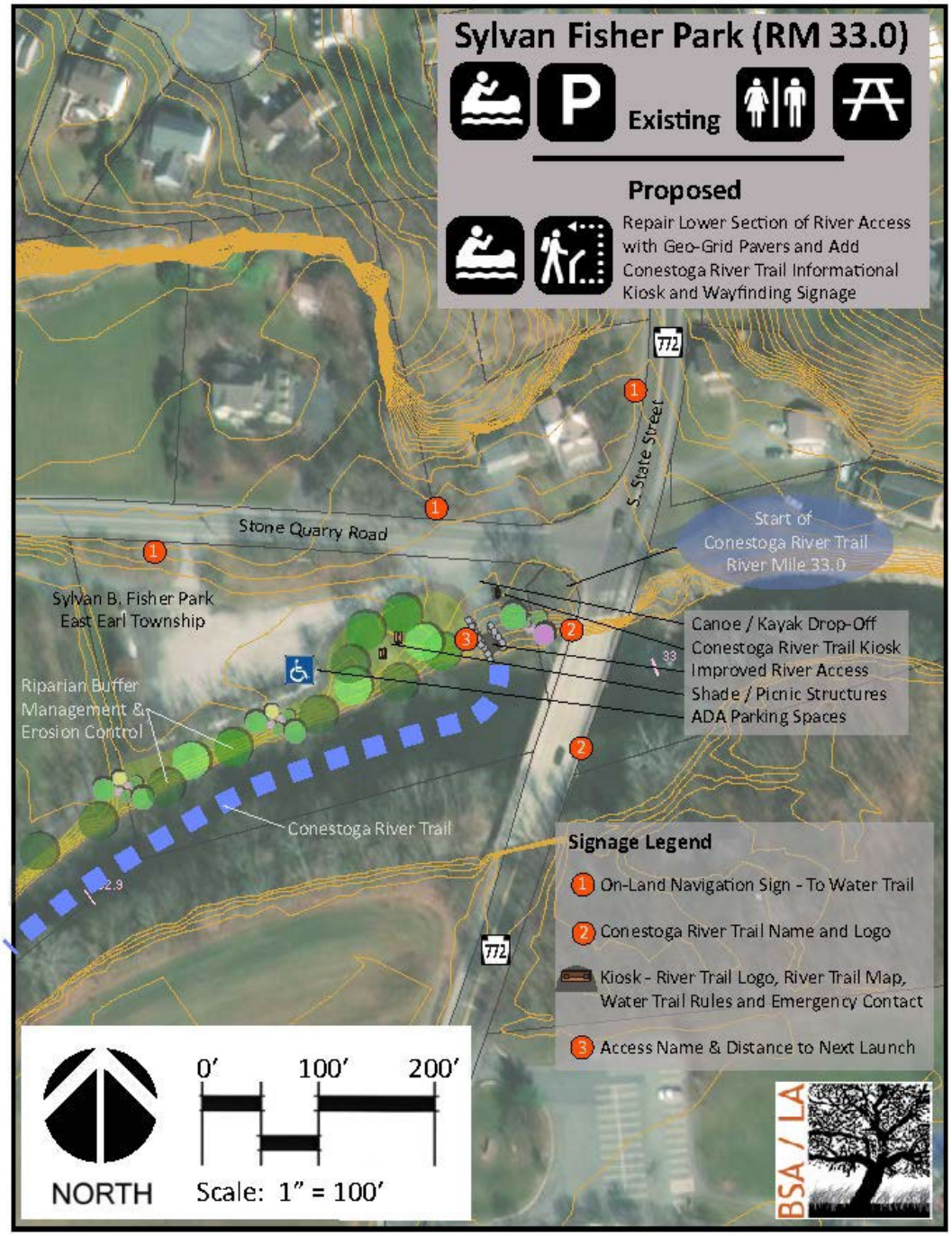
Install Signage, Kiosk (with CRC, CRT info, map, etc.)

Interpret The City's Historic Canal Port – connecting the city with Susquehanna River and the Chesapeake Bay



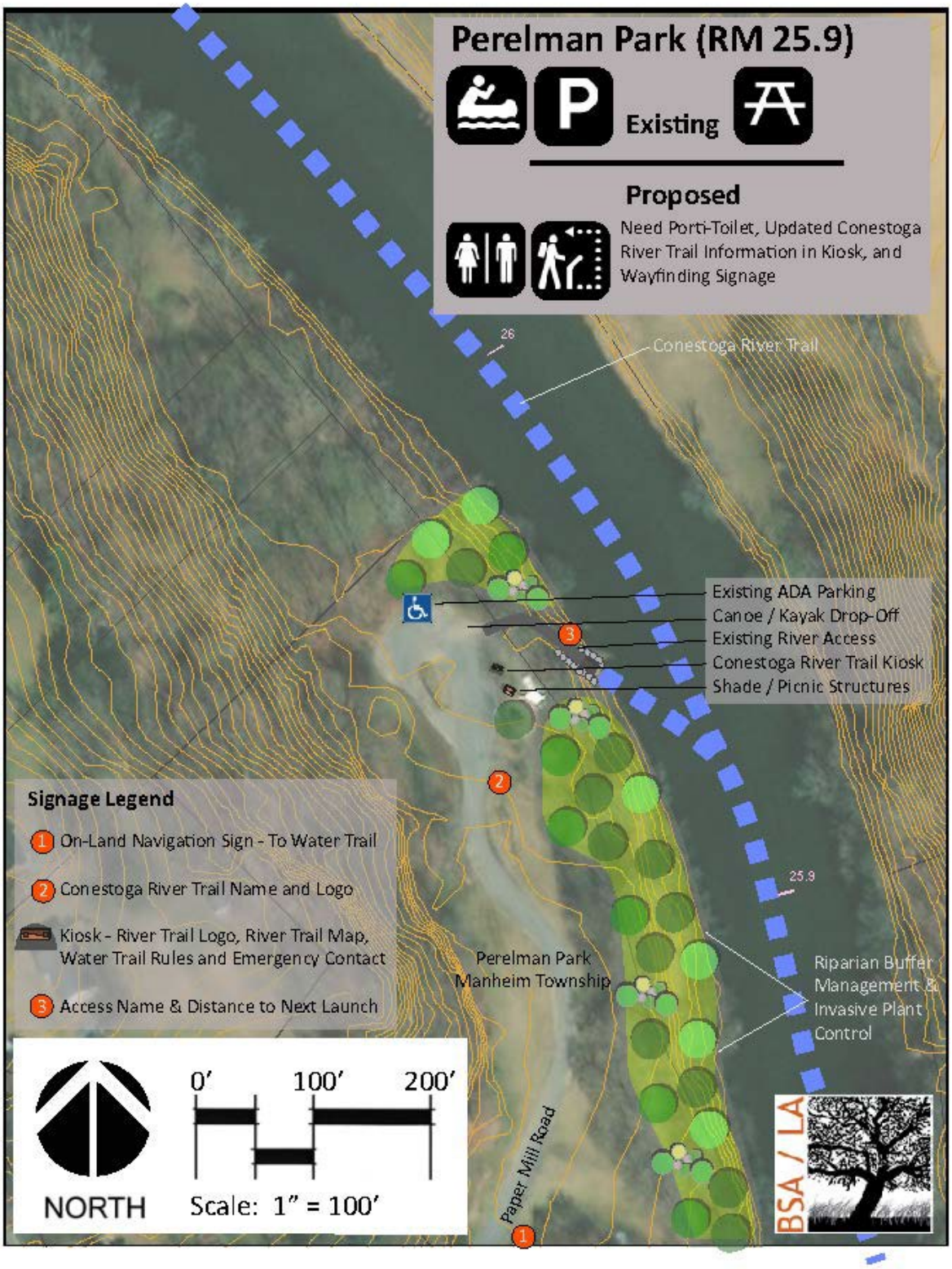
Additional Projects:

River Access Improvements for the upper Conestoga River Water Trail –
Sylvan Fisher Township Park (River Mile 33.0)
Priority River Access – at Start of Conestoga River Trail
Demonstration of Sustainable River Access Design – enhancing existing river access (repair lower part of river access), along with River Trail Information Kiosk containing: River Trail Signage, River Trail Information, River Trail Map and CRC and River Trail Logo.



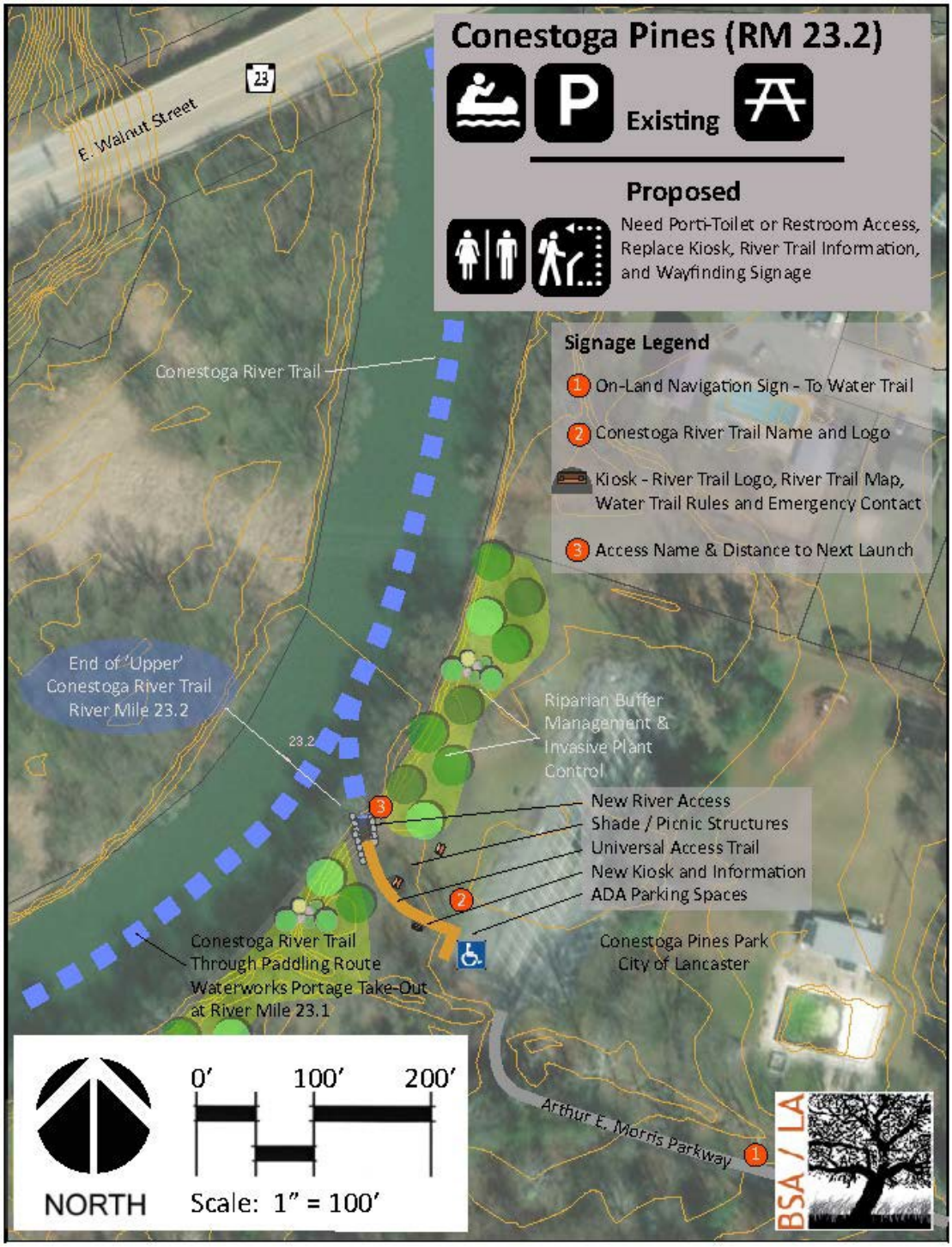
Perelman Park (River Mile 25.9)

Priority River Access – because of the limited number of river access points in the upper Conestoga River Trail.
Enhancing existing river access with: River Trail Signage, River Trail Information, River Trail Map and CRC and River Trail Logo.

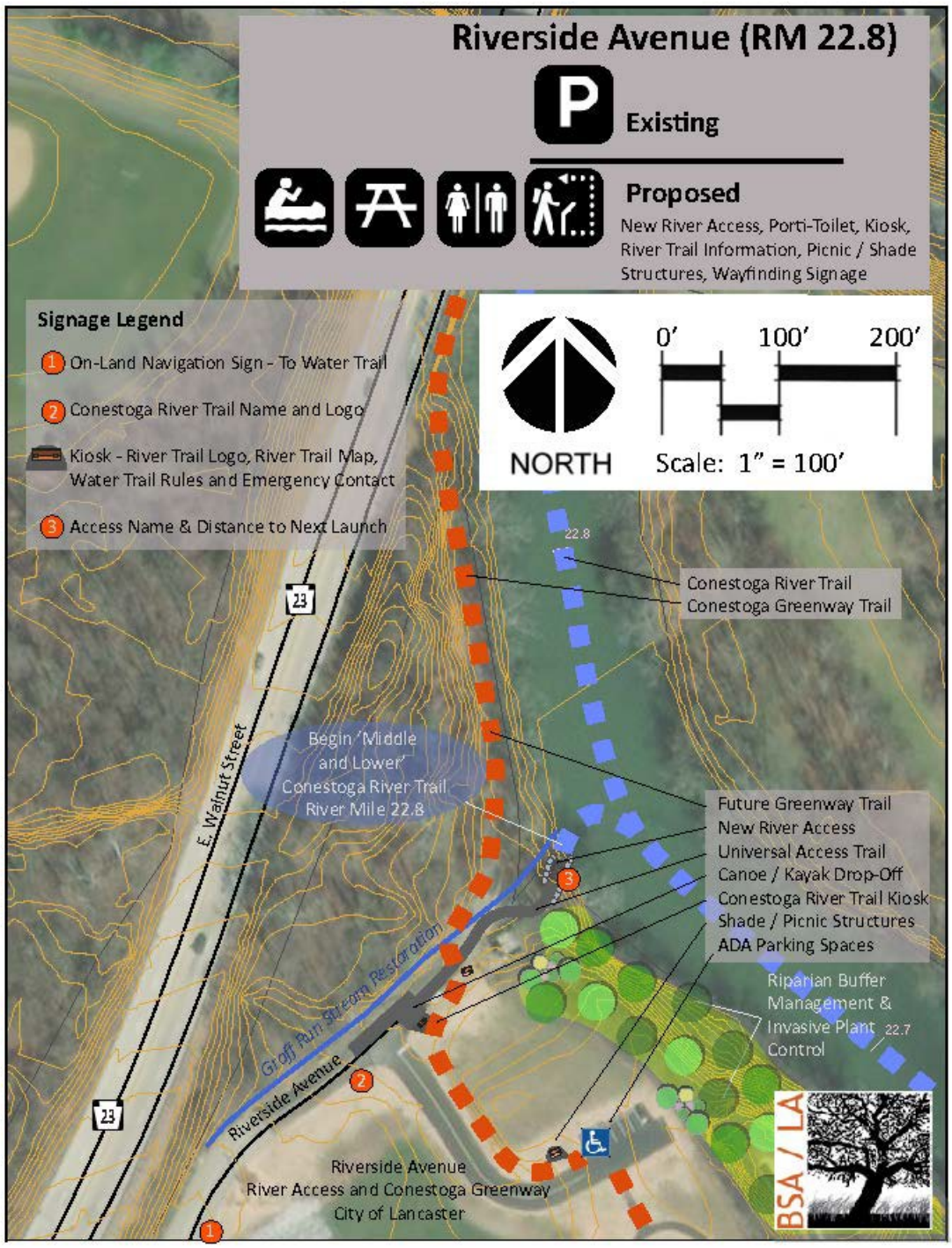


Conestoga Pines – New River Access (River Mile 23.2)

Preferred Take-Out Location for upper Conestoga River Trail – only 0.15 miles ABOVE Waterworks Dam
Ample Parking and Lawn Staging Area, Easy access from parking to river
Improvements to be made to access: Signage, Kiosk, Improved Stabilized River Access – Demonstration of Sustainable River Access Design, Shade structure / picnic tables, Benches.



Improved Access for the middle Conestoga River –
Riverside Avenue – New River Access – (River Mile 22.9)
Located behind the City Ops Building
Priority River Access Improvement due to location below Water Works and Amtrak bridge dams. Potential Priority Access Point and Greeway / Blueway Hub Location
Design in conjunction with Conestoga Greenway Trail – signature trail hub with greenway walkway and paddle park.
Opportunity for boat drop-off area, kiosk and signage. Easy paddle upstream to see Amtrak masonry stone arch bridge



Need for an Additional River Access – at the down-river edge of the City

Choose One or Both for improvements:
New River Access - County Property – Old Kreider Farm (River Mile +/- 17.0)
New River Access - Buchmiller Lancaster County Park (River Mile +/-15.3)

Improved Access for the lower Conestoga River –
Need Additional River Access – in this reach of river (River Mile 14 – 10)
As an alternative to River Accesses that are not functional river access sites:

- Windolph Landing Nature Preserve – a Natural Area HUB on the water trail – not a river access
- Wildolph Landing Park River Access - a neighborhood park NOT an ideal river access because of distance (500') from parking lot to river

Millersville University - River Access (River Mile 8.3)
Encourage access improvement investment by Millersville University
Create 'steps' to stabilize banks and improve safe access to the river
Signage and Kiosk with water trail Information and map
Expanded / delineated parking area
River access modification to work with existing rock and geologic formations

Rock Hill Access – (River Mile 3.7)
High Visibility and alternative to the main takeout at Safe Harbor or as an informal access for a float in Conestoga River Park
Well-maintained existing access with mowed lawn for staging area
3 or more potential river access sites – all good existing soft launches
Potential Improvements: Replace information in one kiosk and add water trail signage, information and map
Formalize Parking to make more efficient (tire stops)
Existing soft launches all sufficient – or improve one access as a demonstration for Universal Access Design
Interpret the history of the site – Steel Bridge, Postlethwaite's Tavern, historic mill, etc.

Safe Harbor Final Take-Out (0.3)
Priority River Access - Essential Final Take-Out for Conestoga River Trail
Improvements: stabilize bottom of river access with geo grid pavers or precast concrete slats
River Access Directional Signage from River Road
River Access Signage at Parking Area
River Trail Kiosk – with water trail signage, information and map
Parking – potential for expanded parking, gravel parking for trailers, or parking closer to the access
Potential stabilized access road directly from access road to the river access

Enhancing the Water Trail Experience -

Breaking Down Barriers to the Conestoga River Water Trail

Paddle sports have a significantly high entry cost. Canoes, kayaks, PFDs, paddles, and other gear is expensive. The logistics of a river trip including procuring boats and gear, transporting people and gear, logistics of traveling from point A to point B on the river, shuttling vehicles and people – it is an intimidatingly complex challenge for anyone, even those with good equipment and support. All of this is to make the point that accessibility to the recreational use of the Conestoga River is not equal. The Conestoga River Club (CRC) has the potential to open paddle sports to many low to moderate income children. The CRC could create programs with the schools to get more kids in boats, and summer programs to reach children living in the neighborhoods surrounding the river. A potential overlap exists with this potential project and a paddle park located near the Riverside Avenue access site – which would open recreational boating to this city location with close proximity to a school.



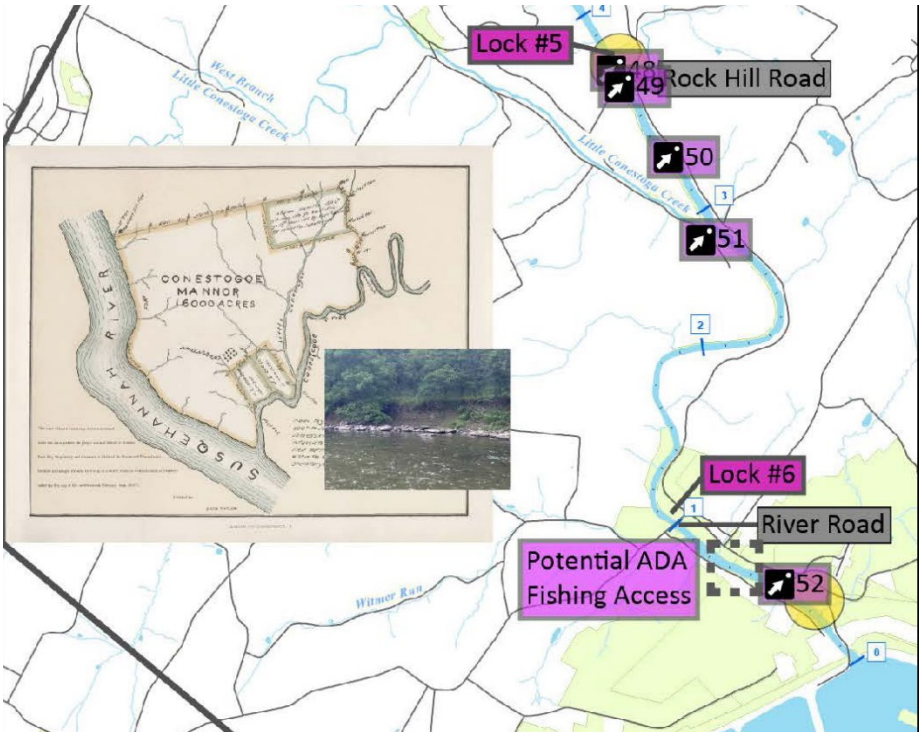
Photo by Susquehanna Valley Team River Runner

Heritage Interpretation Program – Story Maps

The Conestoga River is one of the most historically significant rivers in the nation – blending heritage that includes Native Americans, colonial settlements, and American, transportation and industrial history. Creating a separate Heritage Interpretation Plan will create a more meaningful trail experience and a greater appreciation of this place. Outdoor recreation may be the driver of increased use of the Conestoga River, but it is heritage that makes a place feel special, different and socially interesting. The Heritage Interpretation Plan will identify the significance of the area, target audiences, heritage stories (natural and cultural), interpretive methods and a unifying theme. It also considers other efforts along the river corridor, to avoid repetition while promoting regional collaboration.

One unique partnership opportunity may involve the collaboration of regional colleges and universities in providing content for the Heritage Interpretation Plan. Digital Humanities - an academic field concerned with the application of computational tools and methods to traditional humanities disciplines such as literature, history, and philosophy, may provide a framework for different schools to collaborate. Broadly, digital humanities comprise the digitization, analysis, and presentation of humanities content. Examples may include the digital annotation of ancient texts, building digital libraries, and digital mapping of areas of cultural or historical significance, etc.

An example of how digital humanities can apply to the interpretation of the Conestoga River is 'Story Maps' of historic photos to allow visitors to glimpse the past to view how much, or how little, the river has changed, with links to additional information for further exploration. Digital humanities allow us to move beyond traditional interpretive signage, sometimes referred to derogatively as 'history on a stick,' with its expense, maintenance requirements, and negative visual impacts on the landscape. Relevant historical photos, maps and documents can be digitized and made available to enhance the water trail user's experience. This application of the digital humanities allow us to enhance the physically journey down the river, with a virtual journey through history.

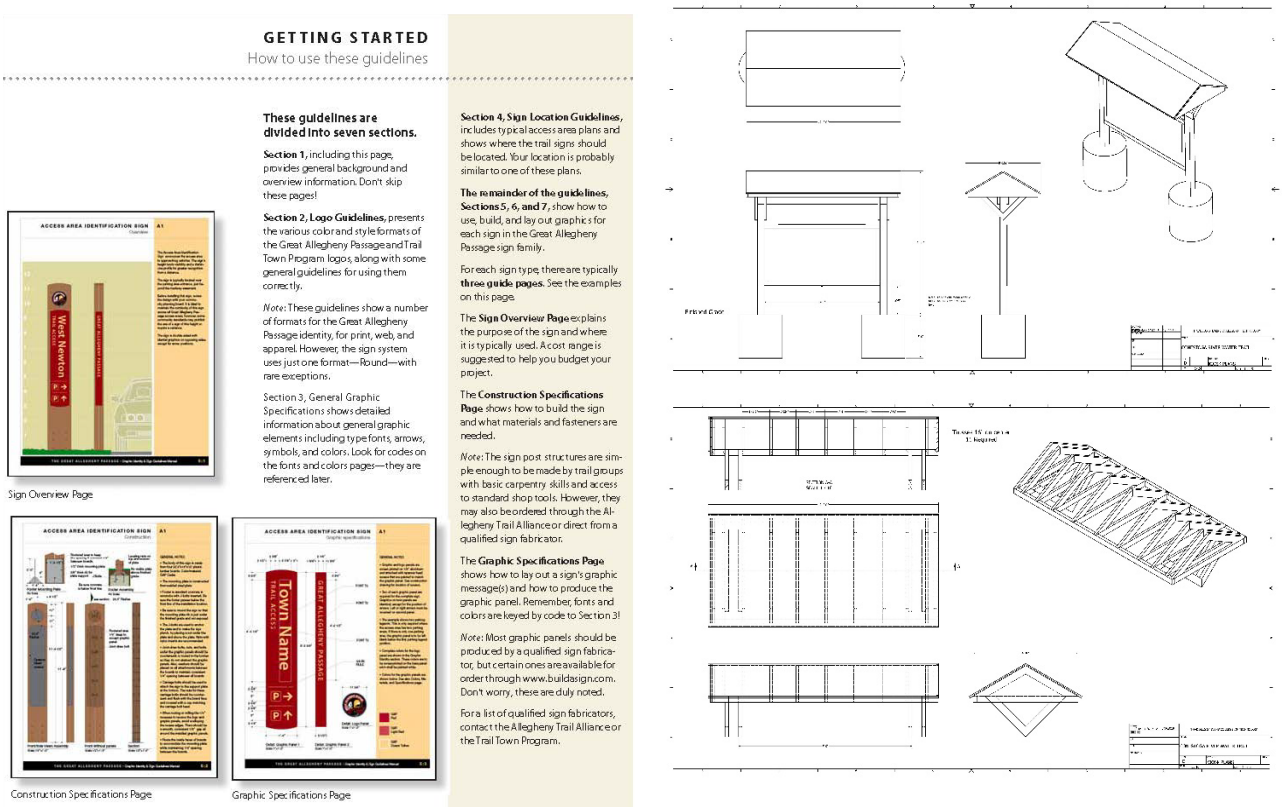


Summer Research Opportunities include the Bucknell Campus Community Collaborative with $10,000 budget allocated for Faculty and Students involved with Heritage Interpretation, Update History Section of Map, New Research, Update Images, QR Codes and Links. Digital Humanities – Maps, Images, Ready-Set-Fit Interpretation information or historic images online. Potential Collaboration may include Bucknell, F&M, Millersville, and Thaddeus Stevens College of Technology.

Water Trail Branding, Marketing, and Signage

The Conestoga River Water Trail branding, marketing, and signage program must start from scratch, and shall include the following steps:

- Logo Design for the Conestoga River Club and the Conestoga River Water Trail
- Branding and Marketing Plan
- Water Trail and Wayfinding Signage Program
    - Directional Signage from the roadway to the river access'
    - River Access Informational Kiosk and Water Trail Map
    - Water Trail Navigational Signage
- Interpretive Signage
    - Standard Interpretive Signage (w/ QR code for additional learning opportunities)
    - QR Code Marker (use of QR code for interpretation without the expense and maintenance required by a traditional interpretive sign).
    - Accessibility – implement ADA design standards for all sign locations. Provide Spanish (and potentially other language) translations. Consider use of braille for the visually impaired, and audio for the visually impaired.



Images from the Great Allegheny Passage 'Graphic Identity & Sign Guidelines Manual, by the Allegheny Trail Alliance (left), and details of the Conestoga River Water Trail's kiosk design by students at Thaddeus Stevens College of Technology (right).

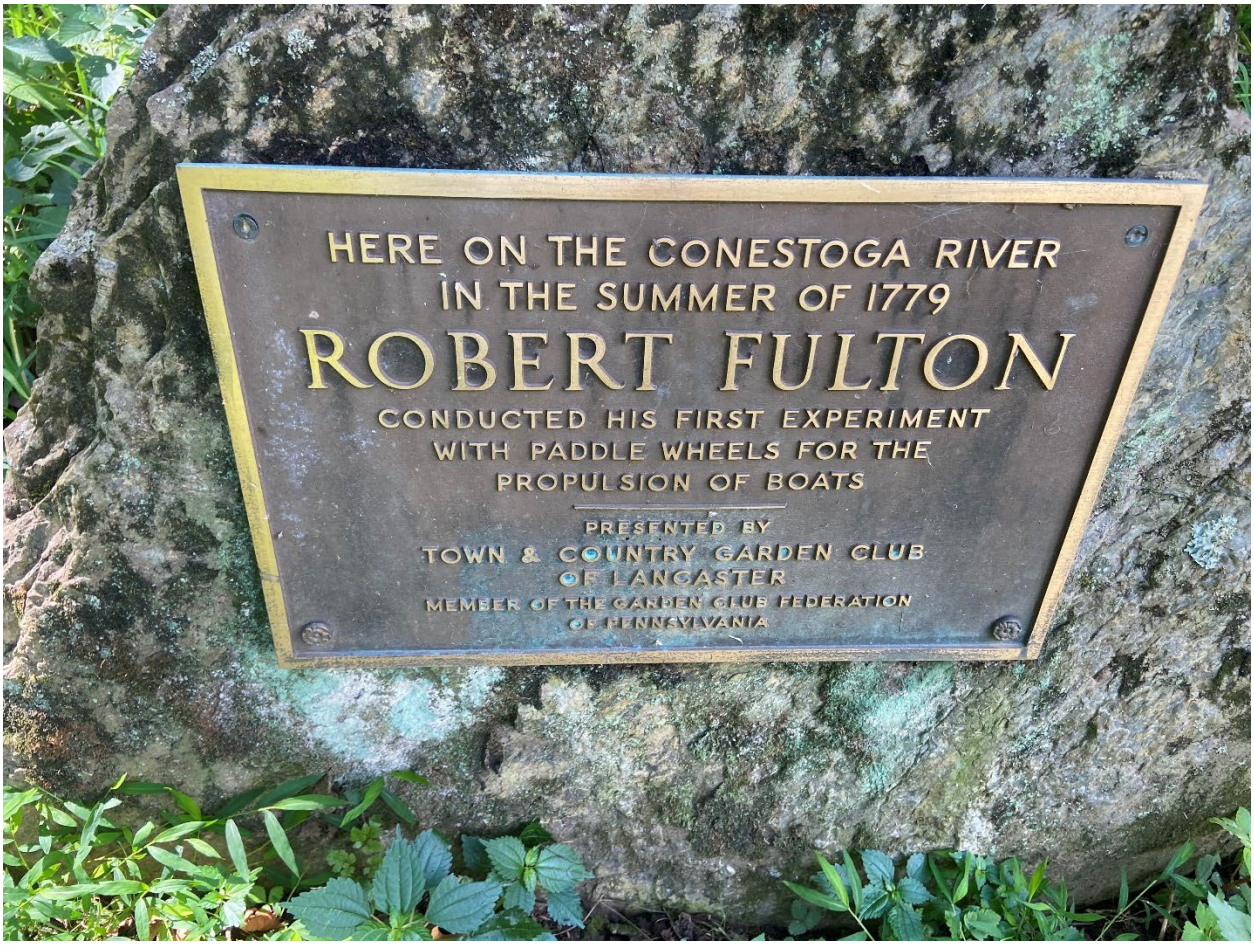
Water Trail Interpretation – Heritage Hubs

Pinetown Amish Covered Bridge / Stone Arch Bridge Cultural Resource Cluster (River Mile 29.2)
Heritage Hub on the Conestoga River Trail
Potential Demonstration Project – A cluster of cultural resources including covered bridge and stone arch bridge (over Lititz Run – Originally Oregon Road/ Pike) and *remnants of Henry Leman's rifle mill)*. Improved Parking (small parking area to the east of covered bridge) on Bridge Road would provide safe and improved access. Potential partnership for acquisition and restoration of the stone arch bridge (currently in private ownerships) would improve options for funding for restoration and provide public access. Stone masonry deteriorating with trees / other vegetation degrading the structure. Needs immediate action to protect and stabilize.



Old (Original) Water Works and Mill – (River Mile 20.2)
Heritage Hub
Great historic artifact, perhaps home to first water works building
Old Dam Rapids difficult to navigate in low flow conditions
Opportunity for interpretation
Opportunity for a low water passage (stream channel manipulation?) for improved safety and functionality of water trail.

Rockford Road River Access – (River Mile 18.5)
Heritage Hub
Space limited, small gravel pull-off (perhaps space for 6-8 vehicles but undefined)
Heritage Hub – Interpret Fulton and Historic 'Rock Ford'
A better trail head location for greenway trail – at gate on old riverside roadway…



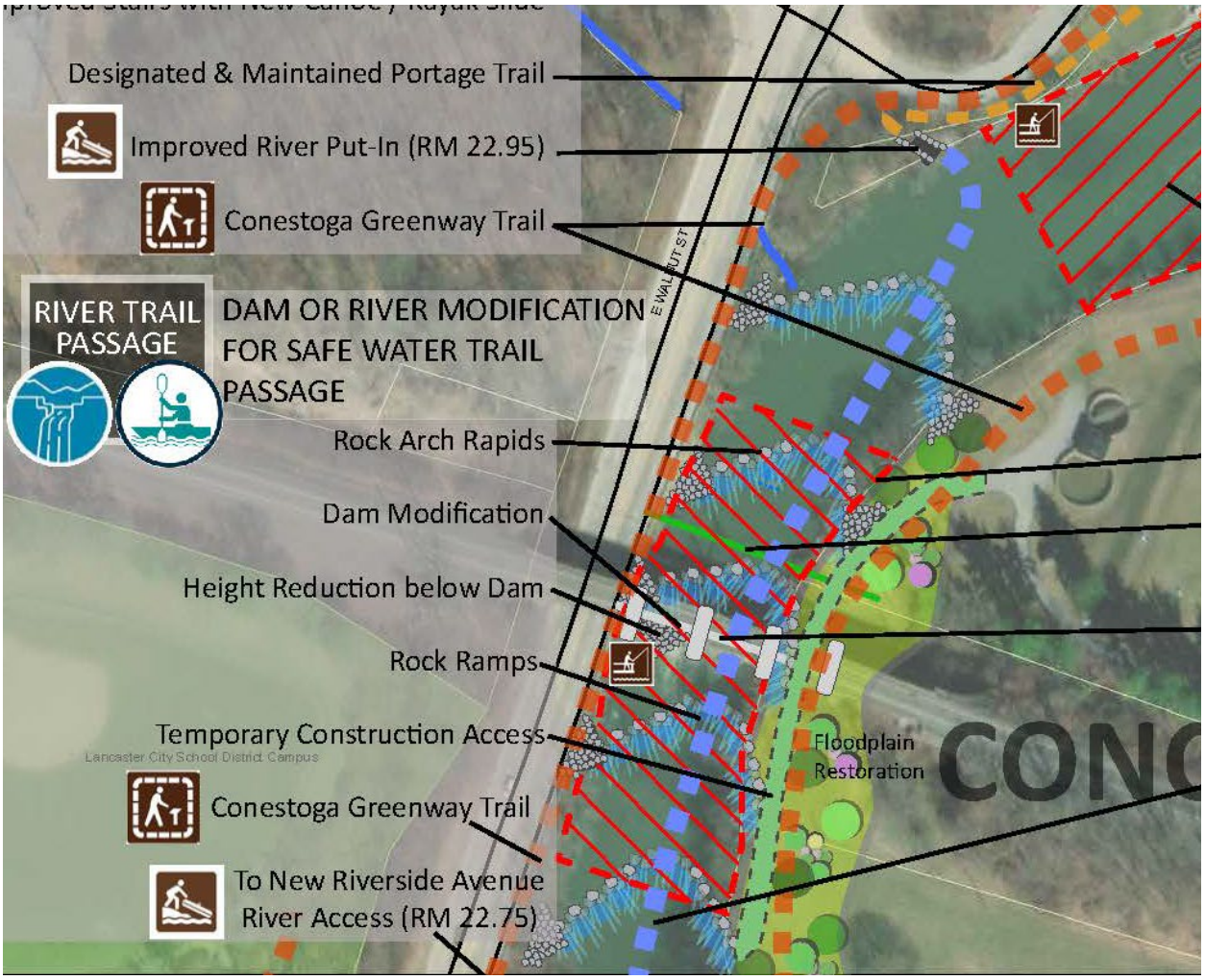
Conestoga Navigation Company Lock #1 (River Mile 15.2)
Heritage Hub – Interpretation Opportunity

Conestoga Navigation Company Lock #6 –Conestoga River Park (River Mile 1.1)
Heritage Hub – Interpretation of the only remaining lock in the canal system

Conestoga River Paddle Park – at Greenway and Blueway Hub (River Mile 23.0 - 22.7)

Recreation Hub on the Conestoga River Trail

Located at a strategic hub in both the Conestoga Greenway and the Conestoga Blueway (River Trail) – this area could become a recreational hub for the city. Diverse offerings such as walking, running, biking, fishing, and canoeing and kayaking come together in this space. Improving the portage around the Water Works Dam, and creating a safe boating passage for the Amtrak bridge dam will create a recreational paddle park at the heart of the river trail.



Conestoga River Stewardship Program

This program will entail the continuation and expansion of the Conestoga River Club's programming activities such as river sojourns and river clean-ups. The Conestoga River Stewardship Program will get more people on the river and help develop a stewardship ethic among participants through educational activities and team / community building while having fun on the water. This program will prioritize involvement underrepresented groups, low and moderate income families, and other underserved communities.

The Conestoga River Club will become a leading advocate for the river, promoting improved environmental protections, and advocating for continued habitat and watershed restoration. Continued improvements on water quality at the watershed scale, and ecological land management and scenic protections of the Conestoga River corridor, will ensure the water trail remains a quality environmental and recreational asset now and for future generations.

A holistic approach for watershed restoration and protection of the Conestoga River corridor will include:

- Agriculture BMPs
- Urban BMPs
- Riparian Corridor Restoration
- Aquatic Life and Aquatic Ecosystems
- Wildlife Habitat Enhancement
- Native Plant and Plant Communities
- Grassroots River Cleanups
- Green Infrastructure
- Stream and Floodplain Restoration
- Environmental Education – connecting people to the river and to nature



Priority Projects - Actions and Schedule

Waterworks Portage (Lancaster City) **2023 - 2024**

- Concept Design
- Permitting Meeting
- Coordination and Approval with the City
- Funding Procurement / Allocation
- Final Design
- Permitting
- Project Bidding
- Construction

Zook's Mill Portage **2024 - 2026**

Design / Build Process:

- Concept Design
- Cost Estimates
- Initiate Discussions with PennDOT, and private landowners (legal feasibility part 1)
- Permitting Meeting (legal feasibility part 2)
- Easement Documents / Maintenance Agreements
- Grant Writing / Funding Procurement
- Final Design
- Permitting
- Project Bidding
- Construction

Estimated Cost: $300,000
Potential Funding Sources: PA DCNR, PA DCED, Regional Foundation

Land Studies

Date 7/5/2023
Project No.
Project Name Conestoga River Trail - Zook's Mill Portage
Opinion of Probable Cost

DISCLAIMER
This information does not constitute a quote, contract, or proposal for services by LandStudies, Inc. Cost data is derived from current and past market data for similar projects and does not include a factor for future price inflation.

Item Number	Work Item	Number of Units	Unit Cost	Total Cost
1	Final Design			$ 50,700.00
	A. Final Design – Rock Wall	1 LS	$ 7,500.00	$ 7,500.00
	B. Final Design – River Landing	1 LS	$ 5,000.00	$ 5,000.00
	C. Final Design – River Launch	1 LS	$ 5,000.00	$ 5,000.00
	D. PennDOT Coordination	1 LS	$ 5,000.00	$ 5,000.00
	E. Easement Agreements -2 landowners and PennDOT	1 LS	$ 5,000.00	$ 5,000.00
	F. Permitting and Approvals	1 LS	$ 6,000.00	$ 6,000.00
	G. Signage Design	6 EA	$ 1,200.00	$ 7,200.00
	H. Site Survey	1 LS	$ 10,000.00	$ 10,000.00
2	Site work			$ 142,100.00
	A. Construction Entrance	1 EA	$ 3,500.00	$ 3,500.00
	B. Clearing and Grubbing	1 AC	$ 6,000.00	$ 6,000.00
	C. Demo Existing Wall	1 LS	$ 11,015.00	$ 11,015.00
	C. Haul Off Concrete From Wall Removal	32 TN	$ 35.00	$ 1,120.00
	D. Construction Access Road (to Landing) Rock?	370 LF	$ 33.00	$ 12,210.00
	E. Construction Access Road (Portage Route – to Launch) Rock?	600 LF	$ 33.00	$ 19,800.00
	F. Rock Wall Construction	120 LF	$ 360.00	$ 43,200.00
	G. River Landing w/ J-Hook Tie to Bridge	1 EA	$ 3,300.00	$ 3,300.00
	H. River Launch	1 EA	$ 6,205.00	$ 6,205.00
	I. Remove Soil from Landing and Launch Sites	250 CY	$ 25.00	$ 6,250.00
	J. Replacement Fencing (Horse Pasture)	600 LF	$ 25.00	$ 15,000.00
	K. Signage - Safety	2 EA	$ 1,000.00	$ 2,000.00
	L. Signage - CR Water Trail	2 EA	$ 2,000.00	$ 4,000.00
	M. Signage - Informational Signage (Respect Private Property)	2 EA	$ 2,000.00	$ 4,000.00
	N. Remove Construction Access Pad - Site Cleanup	1 LS	$ 4,500.00	$ 4,500.00
3	Erosion and Sediment Control			$ 5,922.50
	A. Erosion and Sedimentaion Control	1 LS	$ 3,500.00	$ 3,500.00
	B. 18" Silt Sock	200 LF	$ 9.00	$ 1,800.00
	C. Straw Mulch	250 SY	$ 0.54	$ 135.00
	D. Erosion Control Blanket - NAG S150BN	250 SY	$ 1.95	$ 487.50
4	Seeding/Landscaping			$ 4,558.00
	A. Permanent seeding (Turfgrass)	2,000 SF	$ 0.50	$ 1,000.00
	B. Access Road (pasture mix)	4,400 SF	$ 0.10	$ 440.00
	C. Trees (#15 Container)	2 EA	$ 435.00	$ 870.00
	D. Riparian Buffer Trees (Container Seedling with Shelter)	18 EA	$ 32.00	$ 576.00
	E. Riparian Buffer Shrubs (Container Seedling with Shelter)	36 EA	$ 32.00	$ 1,152.00
	F. Shrubs (#3 Container)	8 EA	$ 65.00	$ 520.00
5	Construction Services			$ 15,000.00
	A. Construction Management	1 LS	$ 10,000.00	$ 10,000.00
	A. Final Inspection	1 LS	$ 2,500.00	$ 2,500.00
	B. Project Closeout	1 LS	$ 2,500.00	$ 2,500.00

	Construction Total			$ 218,280.50
-	Design/Permitting/Construction Mgmt.	0 %	ADD	$ -
-	Mobilization	1 %	ADD	$ 2,182.81
-	Contingency	15 %	ADD	$ 32,742.08
-	Prevailing Wage	17 %	ADD	$ 37,107.69
	Total Contract Amount (+/- 20%)		$	290,313.07

Universal Design River Experience with 'Team River Runner' **2024 - 2026**

- Concept Design
- Permitting Meeting
- Agreements / Easement Documents
- Grant Writing
- Funding Procurement
- Final Design
- Permitting
- Project Bidding
- Construction

Estimated Cost: $300,000
Potential Funding Sources: PA DCNR, PA DCED, Regional Foundation

Land Studies

Date 7/5/2023
Project No.
Project Name Reigart's Landing River Access
Opinion of Probable Cost

DISCLAIMER
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Item Number	Work Item	Number of Units	Unit Cost	Total Cost
1	Final Design			$ 23,200.00
	A. Final Design – River Landing	1 LS	$ 5,000.00	$ 5,000.00
	B. Final Design – Site Plan Access	1 LS	$ 5,000.00	$ 5,000.00
	C. Permitting and Approvals	1 LS	$ 6,000.00	$ 6,000.00
	D. Signage Design	6 EA	$ 1,200.00	$ 7,200.00
2	Site work			$ 67,000.00
	A. Construction Entrance	1 EA	$ 3,500.00	$ 3,500.00
	B. Clearing and Grubbbing	1 AC	$ 6,000.00	$ 6,000.00
	C. Rough Grading River Access	1 LS	$ 5,000.00	$ 5,000.00
	D. Construction Access Road (to Landing) Rock?	125 LF	$ 33.00	$ 4,125.00
	E. Remove Soil from River Access Sites - 100 CY	100 CY	$ 25.00	$ 2,500.00
	F. River Access (Standard Design)	1 LS	$ 6,250.00	$ 6,250.00
	G. Informational Kiosk - 1	1 EA	$ 3,000.00	$ 3,000.00
	H. Shade / Picnic Structures	3 EA	$ 5,000.00	$ 15,000.00
	I. Signage - Safety	2 EA	$ 1,000.00	$ 2,000.00
	J. Signage - CR Water Trail	2 EA	$ 2,000.00	$ 4,000.00
	K. Signage – Access Name and Info	1 EA	$ 2,000.00	$ 2,000.00
	L. Signage – On-Land Navigation Signs to Water Trail	5 EA	$ 1,000.00	$ 5,000.00
	M. Universal Access Route (5' Stonedust Path)	125 LF	$ 25.00	$ 3,125.00
	N ADA Parking Space (Van) Sign and Striping	1 LS	$ 1,000.00	$ 1,000.00
	O. Remove Construction Access Pad - Site Cleanup	1 LS	$ 4,500.00	$ 4,500.00
3	Erosion and Sediment Control			$ 5,922.50
	A. Erosion and Sedimentaion Control	1 LS	$ 3,500.00	$ 3,500.00
	B. 18" Silt Sock	200 LF	$ 9.00	$ 1,800.00
	C. Straw Mulch	250 SY	$ 0.54	$ 135.00
	D. Erosion Control Blanket - NAG S150BN	250 SY	$ 1.95	$ 487.50
4	Seeding/Landscaping			$ 2,280.00
	A. Permanent seeding (Turfgrass)	2,000 SF	$ 0.50	$ 1,000.00
	D. Riparian Buffer Trees (Container Seedling with Shelter)	10 EA	$ 32.00	$ 320.00
	E. Riparian Buffer Shrubs (Container Seedling with Shelter)	30 EA	$ 32.00	$ 960.00
5	Construction Services			$ 15,000.00
	A. Construction Management	1 LS	$ 10,000.00	$ 10,000.00
	A. Final Inspection	1 LS	$ 2,500.00	$ 2,500.00
	B. Project Closeout	1 LS	$ 2,500.00	$ 2,500.00

	Construction Total			$ 113,402.50
-	Design/Permitting/Construction Mgmt.	0 %	ADD	$ -
-	Mobilization	1 %	ADD	$ 1,134.03
-	Bonding/Contingency	15 %	ADD	$ 17,010.38
-	Prevailing Wage	17 %	ADD	$ 19,278.43
	Total Contract Amount (+/- 20%)		$	150,825.33

Water Trail Branding, Marketing, and Signage Program **2024 – 2026**

- Branding and Marketing Plan
- Signage Design Guidelines
- Agency Review, Approval, and Permits
- Signage and Kiosk Production
- Signage Installation

Estimated Cost: $300,000
Potential Funding Sources: PA DCNR, PA DCED, Regional Foundation

River Access Improvements **2024 - 2026**
(a package of 3 river access improvements for the upper Conestoga River Water Trail)

- Concept Design
- Permitting Meeting
- Agreements / Easement Documents
- Grant Writing
- Funding Procurement
- Final Design
- Permitting
- Project Bidding
- Construction

Conestoga River Paddle Park
Amtrak Bridge Dam (Weir) Portage **2026 - 2030**

- Concept Design
- Coordination with the City
- Volunteer Work Day
- Follow Up Maintenance

River Access Maintenance Program

More Kids in Boats - Breaking Down Barriers to the Conestoga River Water Trail

Heritage Interpretation Program – Story Maps

Conestoga River Stewardship Program

Peninsula Park – Recreation and Conservartion Master Plan

Building Project and Funding Partnerships

The Conestoga River Club's (CRC's) ability to create a quality water trail will be, in no small part, measured by the organization's ability to collaborate and partner with a wide range of individual and organization. The CRC's grassroots character has the potential to build strong relationships with landowners and municipalities – enabling unique collaborative partnerships. The CRC's connections with municipal governments at the county, city, borough, and township level will open communications, shared goals, and 'eyes on the resource' for better water trail access, safety, security and maintenance.

Community Partners

Lancaster County Foundation
Emboldening Extraordinary Community
https://www.lancfound.org/

Steinman Foundation
Carrying forward the vision of James Hale Steinman and John Frederick Steinman, seeks to improve the quality of life in the communities that comprise Lancaster County, Pennsylvania.
https://steinmanfoundation.org/

Keith Campbell Foundation
A family foundation that believes in strategic infusions of funding, we dedicate nearly 100% of our grant dollars to the environment. As citizens of the planet, we are compelled to participate in the protection of natural resources in the communities where we live.
https://www.campbellfoundation.org/

Project Partners

Lower Susquehanna Riverkeeper – Ted Evgeniadis
The Lower Susquehanna RIVERKEEPER® program focuses on identifying sources of pollution and enforcing environmental laws. We actively educate the public on current issues, work with decision-makers to emphasize the economic and social benefits of protecting our watershed, and when necessary enforce laws protecting communities and natural resources of the Susquehanna Watershed.

Pennsylvania Environmental Council (PEC)
Collaborate with PEC on branding, marketing and wayfinding signage program – to create a product that is compatible with other water trails systems in the state and nationally.

Team River Runner (Susquehanna Valley Chapter)
Providing all veterans and their families an opportunity to find health, healing, community purpose, and new challenges through adventure and adaptive paddle sports.

Lancaster County Planning
Smart Growth
Sustainable Development
County Comprehensive Plan

City of Lancaster
Green Infrastructure Plan
https://cityoflancasterpa.com/wp-content/uploads/2014/01/cityoflancaster_giplan_fullreport_april2011_final_0.pdf
Planning Our Future Lancaster – Comprehensive Plan Draft Policies & Maps
https://ourfuturelancaster.com/wp-content/uploads/2023/05/CPED-1460-CompPlan-DraftPolicies-Web.pdf
Park and Recreation
River Access Improvements

Lancaster County Conservation District –
Agriculture and Stormwater Management Best Management Practices (BMPs)
Nutrient Management
Riparian Buffers and Habitat Enhancement

Funding Partners -

PA Fish and Boat Commission Grants – Watersheds in Lancaster and York counties
Boating Facility Grant Program (fishandboat.com)

Pennsylvania Department of Conservation and Natural Resources (PA DCNR)
Parks, Recreation and Conservation Grants for Community Park and Recreation, Land Acquisition, Trail Grants and Rivers Conservation, Community and Watershed Forestry.
https://www.dcnr.pa.gov/Communities/Grants/pages/default.aspx

Pennsylvania Department of Community and Economic Development (PA DCED)
Greenways, Trails, and Recreation Program (GTRP) Grant
https://dced.pa.gov/programs/greenways-trails-and-recreation-program-gtrp/

Regional River Trail Partners -

National Trails System – Connecting History, Cultures & Landscapes
https://www.nps.gov/subjects/nationaltrailssystem/national-trails-system-act-legislation.htm
https://www.nps.gov/cajo/getinvolved/management-plan-for-the-trail.htm

Captain John Smith Chesapeake National Historic Trail – Executive Summary 2011
https://www.nps.gov/cajo/getinvolved/upload/CAJO-FINAL-CMP-Executive-Summary.pdf

Lower Susquehanna River Segment Implementation Plan 2018
https://www.nps.gov/cajo/getinvolved/upload/LowerSusqSegPlan_v5.pdf

Appendix

Concept Plans

- Portages
    - Zook's Mill Portage
    - Waterworks / Amtrak Bridge Dam (weir) Portage
    - Additional Information for Water Works Site
- River Access Sites
    - Water Works River Access
    - Sylvan Fisher Park River Access
    - Perelman Park River Access
    - Conestoga Pines River Access
    - S. Conestoga Drive River Access
    - Reigart's Landing River Access
    - Riverside Avenue River Access

Maps

- Access Map - Water Trail Map
- Environmental Map
- Experience Map
- Safety Map

Photos

- River Corridor
- River Access Sites
- Historic Photos
- Portages

References

- Accessible Boating Facilities
- Conestoga River Water Trail – Background Reference Material
- Deed Documents
- Diversity Equity and Inclusion
- Economics of Outdoor Recreation
- Low Head Dam – Portages and Passages
- Navigable Waters and Public Access Legal References
- Operations and Maintenance for River Access Sites
- Paddle and Whitewater Parks
- Presentation - PowerPoint
- Signage