

Family things to do

...on the Bicycle & Walking Trail

Here are some suggestions for enhancing your experience on the trail —

- Bring a camera or plan to use the one in your smart phone. Capture a moment of delight or importance.
- Take a journal to document your hike. Always date your entries.
- Hint for hiking with young children: make them the leader! Ultimately they go faster and are not frustrated by trying to keep up with adults' longer strides.
- Stop a moment to take in life's little details with a magnifying glass or binoculars for distant views.
- Take a sketchpad and colored pencils and draw something you see.
- Develop a life list of creatures in the park, or pick up CU Maurice River's animal checklists.
- Share your nature stories and pictures with others on Facebook and tag Citizens United.

CU Maurice River resources available for park visitors

Stop by our CU Maurice River office, 17 E. Main Street (just a short walk from the trail), for valuable informational literature including:

- a park scavenger hunt sheet
- species checklists so you can document your discoveries on the trail. Checklists are available for birds, mammals/reptiles, and native plants.
- calendar of activities for our nature walks. CU hosts walks on the park trail on a number of Saturdays during the year, and on Tuesdays we carpool to other nearby nature areas.
- a more comprehensive list of things to do on the trail with family and friends

Help keep our park clean! Carry out whatever you bring into the park and always recycle.

CU is a strong proponent for clean communities. We advocate for anti-litter and recycling initiatives and encourage young people and adults to be responsible for the environment. Please join us in this effort and keep our community clean and litter-free!

CU Maurice River is dedicated to protecting the watershed of the Maurice River and the region known as Down Jersey, enabling current and future generations to enjoy the environmental, recreational, cultural and scenic resources of this Wild and Scenic global treasure.

CU Maurice River empowers individuals, organizations and neighboring communities to promote the region's enduring well-being and quality of life. We support education, awareness, and informed decision-making utilizing field work, research, and advocacy.

Become a member, make a donation and/or learn more about us by visiting www.cumauriceriver.org

Advocacy



CU volunteers attach predator guard to wood duck nesting box. 🦆



CU volunteers hoist osprey nesting platform.



CU holds programs on river.



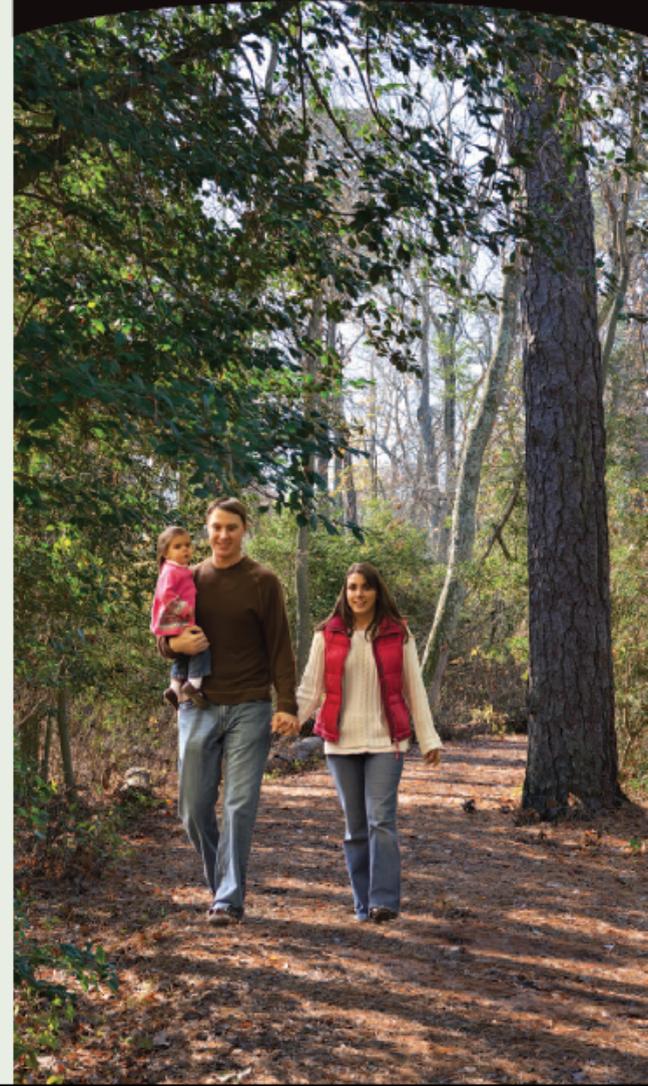
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The Maurice River Bicycle & Walking Trail

Millville, New Jersey



Introduction

The Maurice River Bicycle and Walking Trail (est. 2005) is located in downtown Millville in Cumberland County, New Jersey. This trail is surrounded by preserved forests, wetlands, and riverine habitats. The river and trail offer a great opportunity for walking, biking, nature viewing, and paddling. Riverview and Waltman Parks are located at either end of the trail and provide recreational facilities for the whole family, including playgrounds, basketball courts, baseball fields, and a picnic area. Nearby are the Millville Public Library, Union Lake, Union Lake Park, and a number of restaurants in the downtown Millville Arts District.

The Maurice River Bicycle and Walking Trail is easily accessible. It is located just off Route 49 on Brandriff Avenue. **The trail is open from dawn to dusk and the parks are open from 6am to 11pm and are wheelchair and stroller friendly.** On the Maurice River Bicycle and Walking Trail you will experience some of Millville's historical, cultural, and natural hotspots.

The Maurice River

The Maurice River watershed has a 386-square-mile drainage area and meanders south for 50 miles through scenic forests, farm lands, Union Lake, Millville's Waltman Park, and historic South Jersey towns before it drains into the Delaware Bay on the southern coast of Cumberland County. Major tributaries north of Millville are Still, Scotland and Muddy Runs, and many smaller branches. The major tributaries south of Millville are the Menantico Creek, Manumuskin River and Muskee Creek, which together comprise the National Park Service's Wild & Scenic Maurice River System. The Maurice River is second only to the Delaware River in providing fresh water to the Delaware Bay! However, pumping and diversion of water into adjacent watersheds severely impacts the flow of the Maurice River. Also, water use is often greater than replenishment, threatening the health of riverine habitats.

History

The Lenape tribe settled along the body of water they called the *Wahatquenak*, now known as the Maurice River. The rich natural resources of this river supported these indigenous peoples and later attracted the enterprising minds of Millville's Colonial founders, who sought to use it for transporting goods, generating energy, and powering industry.

Site of former Union Mill Dam circa 1776 *

Millville began as Shingle Landing, a small settlement on the Maurice River with mills and ferry crossings. In May of 1776 four prominent Burlington businessmen formed the Union Company in order to purchase lands surrounding the village. Their vision was to build dams for powering grain, lumber, cotton, and glass mills. The region's high-quality silica sands supported a complex of glass factories known as Glasstown. The increase in factories and mills along the river created jobs, which attracted people to this growing settlement. Mills became so prevalent as the town expanded that it was re-named Millville. In 1866, Millville became a city.

Former site of Argonne Forest Memorial *

The Argonne Forest Memorial was erected along the river to honor the 19 World War I veterans from Millville who perished in service to their country and to commemorate those who fought in the Meuse-Argonne offensive at the war's end. In the 1920s, the memorial became part of City Park, later renamed Waltman Park in 1984 after Conrad A. Waltman, a prominent Millville resident.

Frank H. Stewart of Woodbury donated forested land adjacent to Waltman Park in the 1960s. Through a joint effort between the City of Millville and the Green Acres Program of New Jersey's Department of Environmental Protection, these lands were converted into the Maurice River Bicycle and Walking Trail in 2005, an amenity that offers residents and visitors a wealth of recreational, natural and cultural experiences. We hope this brochure will enhance your visit.

*See map *Inside*



The Maurice River Bicycle & Walking Trail

Features and Activities

Natural Areas

Along the Trail are freshwater tidal marsh, upland forest, hardwood swamp, and the Wild & Scenic Maurice River. Stroll through sixty acres of varying habitats and enjoy a surprising variety of plant and animal life considering its proximity to urban development.

Tidal Waters
The river has plentiful aquatic life. If you look closely you may see otter, a variety of fish, frogs, and snapping and red-belly turtles. **For a more complete list of mammals, reptiles and amphibians, stop by the Citizens United to Protect the Maurice River and Its Tributaries, Inc. (CU) office at 17 East Main Street in downtown Millville.**

Upland Forest
The upland forest supports a stunning variety of trees including towering sweet gums, tulip poplars, river birch, catawba, sassafras and American holly, which gives Millville its nickname "The Holly City." Scan the canopy to see numerous species of songbirds flying from tree to tree. Five of New Jersey's six woodpeckers are active in the park. **For a more complete checklist of birds stop by the CU office.**

Freshwater Tidal Marsh (Low Salinity)
Tidal marsh. From the bridges, some seasonal views of this wide expanse can be awe-inspiring. Here you can often see native plants including cattail, cardinal flower and many species of arrowhead, as well as a wide array of ducks, wading birds and raptors.

Hardwood Swamp
Hardwood swamp. Ferns, small plants and flowering shrubs, including sweet pepperbush, line the path. During the spring months, listen for various frog and bird songs.

Historic Landmarks

The Maurice River Bicycle and Walking Trail is not only a spectacular viewing site for a variety of songbirds, wading birds, ducks, woodpeckers, and predatory birds, it is also a great sightseeing walk for viewing remnants of Millville's earliest industrial history. Both the glass and other manufacturing plants were notorious for their "company store" and child labor practices.

Upper Whitall Tatum Glass Works was situated at the current site of the Millville American Legion and Millville Public Library. It was once a world-renowned glassmaking company. One of Whitall Tatum's employees, Ralph Barber, was named by the American Institute of Glass "the greatest glassblower in the United States" for his skilled crafting of Millville Rose paperweights and looped pitchers. Whitall Tatum & Co. high-quality products were shipped worldwide. The company specialized in pharmaceutical products and glass insulators for electric and communication lines across the country.



Insulators were produced 1922-1938

- Nabb Leslie American Legion Post 82
- Former site of Upper Whitall Tatum Glass Works

Millville Manufacturing was a large textile factory established in 1854 by Richard D. Wood. This industrial complex contained a bleaching, dye house, cotton mills, offices, iron foundries, and other mills, even before electricity! Currently, the packaging company Amcor occupies a portion of the site.

- Former site of Millville Manufacturing
- Current Amcor Property
- Wood Mansion Museum c 1814, Millville Historic Society



Millville Manufacturing cotton mill and schooner circa 1907

Former Millville Manufacturing powerhouse circa 1890
Millville Manufacturing's former electric powerhouse
 By 1890, the City of Millville began using direct current (DC) electricity, shortly after Thomas Edison started demonstrating its uses across the United States.

Site of former Gangway Bridge (1940s)
Gangway Bridge
 During the late 19th and early 20th century, workers used the bridge to cross the Maurice River from Mulford Avenue to the riverfront factories.



Child labor still existed in the early 20th century. (Gangway Bridge)



To learn more about Millville's Parks visit: <http://www.millvillemnj.gov/129/Parks>

Recreational Activities

- Birdwatching** — Enjoy birding in the park and along the Maurice River Trail (throughout park).
- Fishing** — The Maurice River is great for catching striped bass, catfish, and perch. Designated fishing spots are located on the floating dock in Sharp Street Park and on the pier along Waterfront Park.
- Union Lake at Carmel Road offers launching facilities for car-top and small motorboats (10 hp. maximum). Fowser Road provides launching for car-tops and larger motorboats.
- Walking, Jogging and Bicycling** — The Maurice River Bicycle and Walking Trail provides ~1.5 miles of trail through diverse habitats for exploration. The trail is open from dawn until dusk for your enjoyment (throughout park).
- Kayaking or Canoeing** — Two car-top launches are available in Waltman Park.
- Picnicking** — Picnic areas are located near the Sharp Street Park ball fields and in Waltman Park.
- Recreational Facilities** — Two playgrounds and two basketball courts are located in Waltman Park. There are also two baseball fields and a playground at the western end of the Maurice River Trail.



Trolley trestle and footbridges over Tumbling Dam circa 1910

Union Lake raceway, dam, and spillway

Their evolution was based on industrial needs. The Union Lake dam creates a 900-acre man-made lake surrounded by a 5000-acre wildlife management area.

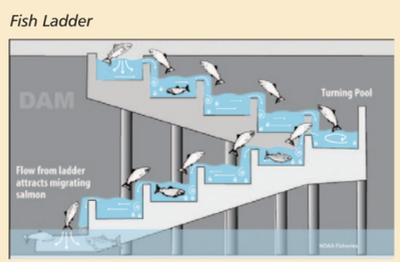
1776: The original Union Lake dam and spillway
 The original Union Mill raceway/dam/spillway dates back to Millville's founding in the late 1700s, a time when rivers were used for transporting goods such as logs.

Small replica of former spillway
1869: Union Lake Millville Manufacturing "Tumbling Dam"
 A miniature replica of a small section is viewable next to the ballpark at the western end of the trail.

Union Lake Dam
1989: Union Lake dam and spillway
 In 1981 the lake and much of the Wood family properties were sold to the State of NJ for the establishment of a Wildlife Management Area. In 1987 the age and stability of the existing dam came into question, such that the State approved the construction of a new spillway and earthen dam. By 1989 the current structure was completed.

Union Lake Dam

The Maurice River is also important for anadromous fish, which spawn in freshwater but live in saltwater. In the presence of a dam, fish ladders make the passage between fresh and saltwater possible. These structures are similar to stairs. Each stair consists of a resting pool separated by a wall, which the fish must jump over to reach the top or bottom of the ladder. Alewife and blue-back herring are two declining anadromous species that make use of the Union Lake fish ladder, located north of Sharp Street.



Whitall Tatum Co.'s upper works, from Main Street Bridge looking north circa 1906 (site of Waltman Park on left)

For greater detail and to learn more about the historic uses of the river, visit www.cumauriceriver.org River Recollections Project



The former Millville Manufacturing powerhouse is visible from the trail.

Be Aware...



Photo courtesy of Wikipedia



Photo courtesy of J. Lane

- Safety Tips from Millville Police**
- Obey park hours: dawn to dusk.
 - Report any suspicious activity to police.
 - Use a buddy system.
 - Motorized vehicles are prohibited.
 - Do not pick up illegal items: call police.
 - Emergency: 911
 - Millville City Police: (856) 825-7010

Please do not feed wildlife. Foods other than their natural diet cause illness and deformities, and develop unsafe dependencies on people. Feeding attracts larger numbers causing an unsanitary and unhealthy environment.



Amcor Rigid Plastics, a leader in responsible global packaging solutions, with a location along the Maurice River Bicycle and Walking Trail, is dedicated to supporting clean communities efforts and recycling initiatives. Many thanks to them for assisting with sponsorship of this project.

A Tour of the Habitats on the Waltman Park Nature Trail

The Estuarine Ecosystem

Tidal Waters *

The tidal Maurice River constitutes an important estuary, where fresh and salt water mix. Estuaries provide vital habitat for wildlife; they are often referred to as nurseries for the diversity of aquatic species supported therein. The Maurice River's outstanding Wild & Scenic qualities are in part due to the extraordinary concentration of threatened and endangered species found in wetlands and adjacent forests.

In the estuarine ecosystem, plant material, algae, and insects are primary food sources for wildlife. Insect larvae and algae collect on water surfaces and become the diet of many fish. Herring, carp, perch, catfish, large-mouthed and striped bass are just a handful of species that can be found here in the Maurice River. This diversity provides food for turtles, otters, and numerous birds. Belted kingfishers can be found fishing along the banks or zipping in and out of their coastal bluff nests. Great blue herons, egrets, and a variety of ducks can also be seen feeding along the river edges, while ospreys and eagles may be spotted hunting open water or perched in large nests.

There are plenty of neat creatures and plants along the trail. These are a few common sightings.



Wood ducks



Catbird



Otter



Painted turtle



White throated sparrow



Kingfisher



Turkey tail fungus



Raccoon

Wetlands

Wetlands are an important component of the estuarine nursery. These are landmasses inundated by water for long enough periods to support vegetation that is adapted to saturated soil conditions. Wetland soils are characteristically rich in organic material and nutrients, dark in color, and low in oxygen. These soil characteristics come from plants and animals dying and being broken down by decomposers, which may include insects, worms, bacteria, fungi, crabs or other bottom feeders. Such organisms consume dead material and waste from living things and consolidate them into a high-quality soil. Plant roots need oxygen, which is lacking in these soils due to high oxygen demand from decomposers and soil organisms. Therefore only specialized plants can thrive in wetlands.

Here in South Jersey, marsh and swamp — two drastically different landscapes — are visible from the Maurice River Bicycle and Walking Trail.

Freshwater Tidal Marsh * (Low Salinity)

Tidal wetlands are predominately freshwater with some saline influence. Grasses, reeds, and herbaceous (soft-stemmed) plants dominate the neutral pH soils of the freshwater tidal marsh. Arrow arum (*Peltandra virginica*), yellow pondlily (*Nuphar advena*), pickerelweed (*Pontederia cordata*), golden club (*Orontium aquaticum*), and common cattails (*Typha* spp.) are familiar wetland plants. Many species are dependent on wetlands at some point in their lives — e.g. otters, beaver, muskrats, marsh wrens and turtles, to name a few. Reclusive wood ducks are a rare find here. Wood duck boxes built by Citizens United to Protect the Maurice River have been placed in the park ; screech owls will occasionally nest in these boxes as well.



Basking red-bellied turtles

Hardwood Swamp *

On higher ground trees begin to re-emerge. Sweet gum, American holly, and red maple are common species in the hardwood swamps here. In addition to trees, some of New Jersey's most unique native plants are found in the acidic soils of the moist, shady hardwood swamps on this trail. Among these are Jack-in-the-pulpit (*Arisaema triphyllum*), jewel weed (*Impatiens capensis*) — also called spotted touch-me-not for the bursting of its seed pods when touched — and a number of ferns. Hardwood swamps may also contain vernal ponds — water bodies present for only part of the year. Predatory fish cannot survive the dry periods, which allows young frogs, salamander, and other amphibians to mature in safety. Chorus frog, green frog, and northern spring peepers are common along the trail.

The distinct characteristics of both marsh and swamp provide invaluable plant diversity as well as protected habitat for endangered animal species. The highly absorptive plants and soils help filter pollutants before replenishing our drinking water. Wetlands also help buffer residential communities from flooding.



Green frog



Sweet pepperbush



Button bush

Exotic invasive plants such as English ivy and multiflora rose crowd out important native species. Homeowners should seek alternative native species such as button bush and sweet pepperbush. Lists of alternative plantings are available at CU Maurice River's office.

Upland Forest *

Upland forests, with a mix of deciduous and coniferous trees, hold little or no standing water; they are located at a higher elevation than the hardwood swamps or floodplains. Coniferous trees, or evergreens, do not shed their foliage. American holly, pitch pine, and red cedar are examples. Deciduous trees, such as oaks, maples, and American elm, have leaves in spring and summer, which are shed in late fall to winter.

This mixture of trees provides shelter and food for a variety of animals. Hawks, eagles, and other large birds of prey perch in peaks of tall trees in the upper canopy, from which they can hunt, and songbirds like the northern mockingbirds, catbirds, bluebirds, chickadees, and warblers tend to choose shorter trees and shrubs in the understory, where they are safer from dangers above and below. Here they also have access to fruit and insects, which live in trees, dead logs, or on the forest floor.



American bald eagle

Below the understory, vines, grasses, small plants, and groundcover form the forest floor or undergrowth. Two prevalent plant species here are greenbrier and poison ivy. Though a nuisance for humans, they provide



Multiflora rose



English ivy

food and protection for small animals. Meanwhile predators such as snakes make their burrows under fallen trees and leaves. Insects, mushrooms, and other fungi break down natural material that falls to the forest floor and returns nutrients to plants.

The upper canopy, understory, and forest floor form a layered ecosystem where plants and animals find their niche: the environment in which they can eat, live, and reproduce. The relationships formed between the upland forest habitat and its creatures create a food web, where one organism supports another in order to maintain a natural balance.

Man-made Habitats, Disturbed Areas, and Invasive Species

Artificial Ponds *

Many sections of the park have been purposefully altered for recreation. Some of the alterations, such as artificial ponds, can benefit wildlife. Mallard ducks, otters, and turtles are found in the Waltman Park ponds. Other areas that one might assume are natural have less obvious human disturbances that can have negative impacts. For example, neighborhoods bordering the park have introduced nonnative species from garden areas. Animals, winds, and water also disperse nonnative seeds into wildlife areas. These non-native plants present one of the most serious threats to the park's ecological integrity. Indigenous insects and animals are reliant on native species for survival and exotics often out-compete native species. Homeowners can seek out native species for their yards so as to lessen their impact on adjacent natural areas and provide essential food and shelter for wildlife. In the park some examples of invaders are English ivy, Japanese knotweed, stilt grass, tree of heaven, and multiflora rose. In fact, the Center for Invasive Species and Ecosystem Health reports 316 species of invasive plants in Cumberland County, NJ.