



Musconetcong River News

Spring 2022

Published quarterly by The Musconetcong Watershed Association

Asbury, New Jersey

Tracking Aquatic Life Using Free-Floating Genetics

By Christa Reeves, Water Quality Program Coordinator

Understanding what aquatic animals live in our rivers can tell us volumes about the water quality. Traditionally, physical samples were needed to assess the species present and the abundance of those species. To assess fish populations, a crew of about 8 people use electricity to stun the fish (electro-fishing), net and collect them into buckets to be measured, identified, photographed and then returned to the river. It is precarious and labor-intensive work, and the potential for fish mortality is high. Some fish are so sensitive and quick, that as soon as they feel the electricity, they escape the stunning and netting. One such species is the American shad; a species that MWA is extremely interested in after the removal of several dams in the lower Musconetcong River. It is known that shad have returned to the River after an absence of over 300 years, but little else is known about this migratory herring. Are they spawning in the Musconetcong River? How many are making the migration? To what point are they swimming up river?

Another physical sampling that MWA's water quality team works on is collecting macroinvertebrates. These small aquatic insects can tell us about pollution levels through their presence or absence. Even though these critters are relatively easy to collect, high water conditions, like this spring, can make a true and representative sample hard to come by. In addition to the known, native insects, there are also invasive species, like New Zealand mudsnails, that can be present. They are extremely tiny (5mm) and can be easily overlooked, especially if numbers are low, due to a new infestation.

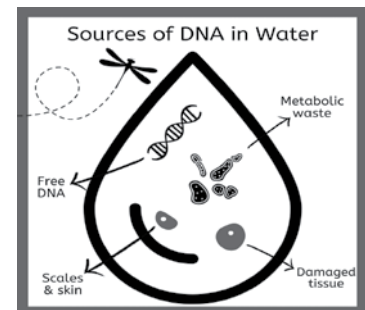
Enter environmental DNA (eDNA).

DNA is the hereditary material in organisms that contains the biological instructions for building and maintaining them. Each species has a unique pattern, providing a means to identify them. This DNA is consistently shed and released into the environment, you and I are shedding skin and hair as we speak. Fish and other aquatic organisms are doing the same thing in the water, and this can be detected in a water sample. The eDNA technology is relatively new, but old enough to have been through rigorous testing and refinement of techniques to become a viable data collection method at a reasonable price.

During 2020-2021, much of the water quality monitoring work of organizations and government agencies was curtailed or even canceled because of the pandemic. MWA started to think about ways to pivot and adapt. MWA has also been attempting to gather fish data surrounding the removal of the Hughesville dam, but have been unable to because of the pandemic and unusually high water conditions in 2019, hampering our ability to understand the impacts on fish communities. Research into alternative methods led many to the same conclusion, let's get eDNA up and running in a standardized manner that can be widely used for comparable and reliable data. It only takes a team of two, a water pump, and special filters to collect data.

This summer, MWA will be partnering with U.S. Fish and Wildlife Service, NJ Department of Environmental Protection, NJ Fish and Wildlife Service, Rutgers University, and The Nature Conservancy to begin this process on the Musconetcong and Paulins Kill Rivers. A pilot study will be run to detect the

presence of adult and juvenile American shad, the presence or absence of the New Zealand mudsnail, macroinvertebrate communities, fish communities and other invasive species detection, such as the predatory snakehead fish. When we get the results of this data, it will be available on our new Data Dashboard on the MWA website, <https://www.musconetcong.org/water-quality-data>. Check out the water quality of your favorite fishing hole, kayaking spot or scenic hiking trail. 🎧



Volunteer with us!

MWA has a variety of opportunities to serve... Find the right one for you!

- Maintain the educational trail in Asbury
- Plant trees and natives
- Collect water quality data
- Staff our special events
- Maintain the River Resource Center gardens
- Provide environmental education
- Provide office support
- Assist in the Asbury Mill restoration planning
- Sit on our Board of Directors

To learn more or sign up, visit www.musconetcong.org/get-involved 🎧

MUSCONETCONG WATERSHED ASSOCIATION

PO Box 113, 10 Maple Ave.
Asbury, NJ 08802

908-537-7060

www.musconetcong.org

Trustee Officers

President, Richard Cotton

Vice President, Erik Henriksen

Vice President, Mary Paist-Goldman

Secretary, Bill Leavens

Trustees

Michael Fox

Tomas Gonzales

Oliver Grimsdall

Tim Johnston

John Kluthe

Cinny MacGonagle

Ray Merrell

Beth Styler Barry

Our Team

Executive Director

Thomas Dallessio

Director, Policy and Grants

Alan R. Hunt, Ph.D.

**Communications and
Development Associate**

Karen Doerfer

WQ Program Coordinator

Christa Reeves

Watershed Program Coordinator

Annie Polkowski

**Community Engagement
Coordinator**

Ryan Jiorle

Project Coordinator

Jane Heeckt

Water Quality Field Specialist

Samantha Johnson

Printing:

*Good Impressions Print Communications,
Washington, NJ*

Volunteer Spotlight

MWA is a small organization that gets a lot done, and our volunteers are a huge reason for this. Whether through environmental stewardship, education, or fundraising, nearly all of our programs and projects benefit from volunteer support.

This season, we're highlighting volunteers who helped support some of our largest events that rally the communities we serve and help us raise funds for our continued educational and outreach efforts. These volunteers also helped with some spring cleaning at the River Resource Center by organizing and digitizing many of our files and photos.

Kelsey Saccente

Kelsey has been a volunteer for the MWA for over six years. She has supported everything from bulk mailings to special events. As a local artist, she has found creative ways to bring her passion for art to the watershed.



work has been to support MWA's mailings, including membership appeals and any other information the MWA needs to share with its members and friends.

You've also donated paintings and artwork to the organization to use for display at the River

You recently volunteered for MWA's Run for the River. Why do you think it is important to support these special events?

Events like the Run truly showcase what the organization does and why it is important to our community. Many people showed up because they enjoy being in nature and doing activities outdoors. In our area especially, the MWA supports our recreation, and I'm happy to support them in return.

What other activities have you volunteered for with the MWA?

I have volunteered for the Run almost every year that I've known about it, even if it was only stuffing participant bags beforehand. A lot of my volunteer

Resource Center and in auctions and raffles. What would you say to a volunteer looking to support the MWA who may not have a traditional science background?

For me, I love nature! It is important to me to find ways to become a steward of the environment and get involved in local efforts that support a healthy ecosystem. Nature has always inspired my artwork, and I love that my artwork can help nature.

There are many ways to support an organization, and talking with MWA staff is definitely one of the ways to figure out where your skills are most needed.

Nicole Adams

Nicole recently joined the MWA as a volunteer, but her versatile skillset has helped us to catch up on a lot of our administrative work and grounds maintenance. Nicole also plans to volunteer for Camp Musky this summer, supporting our staff and helping children get their best nature experience.



required us to volunteer somewhere within our communities and apply our service to what we learned in class.

How did you find or choose to work with the MWA?

The MWA was listed as one of the possible volunteer locations. I recognized the name, as I grew up close to the River and love hiking the trails nearby. The MWA's mission of environmental protection and sustainability really interested me, and

Volunteer Spotlight Continued...Nicole Adams

I could see how it provides a source of community involvement and leisure activities such as hiking that so many of us enjoy.

What are your professional goals?

My goal after school is to become a certified Occupational Therapy Assistant to help people with an illness or disability to participate in everyday activities that they find meaningful. These activities could be anything from dressing and eating, to taking care of children or pets, to enjoying leisure activities like gardening and hiking.

Michelle Hatfield

Michelle also recently joined the MWA as a volunteer. As a small non-profit, MWA has not always had the capacity to update our photo library, which is an asset in continuing to promote our mission. Michelle provided her skills in photography and supported many of our spring events, including our Run for the River, Annual Meeting, River Clean-Up, and others.



was something our organization needed for a while! What would you say to those looking to volunteer who may have a different skillset than what it appears an organization would need?

Though I mainly advocate for the environment, I've volunteered with plenty of other non-environmental organizations, and they are always happy to incorporate me in different ways. Organizations want to help you as much as you want to help them, so don't worry if your skillset isn't exactly what it seems like they need. They'll work with you to make sure your skills are put to good use, or they'll help you develop new ones. There's no harm in reaching out! 🗣️

What brought you to volunteering?

When I was in college I joined the Rotaract Club, a volunteering group whose motto was "Service Above Self." During my two years with that group, I developed a love for volunteering, and I wanted to continue serving in any way I could. I love interacting with others in the community and seeing the differences I can make.

How did you find or choose to work with the MWA?

My degree is in environmental science, so when I graduated college, I concentrated on volunteering with environmentally-focused organizations. After volunteering with The Watershed Institute for a while, I started learning about other non-profits in the area. I loved MWA's mission, so I filled out a volunteer application, and I'm sure glad I did!

The photography support you provided during our spring events



Here is Michelle's favorite photo she took while volunteering for the River Clean-Up with the MWA this spring. "I love this photo because it shows the work the MWA does as well as the community benefitting from that work!"

River Clean-Up Results

This year, MWA celebrated its 30th annual River Clean-Up! Over 250 volunteers cleaned up the watershed at sites from Lake Hopatcong down to where the Musky meets the Delaware River. Volunteers collected nearly 170 bags of trash and recyclables and reached a total of 650 service hours that MWA can use as matching support on grant applications.

New this year, we asked volunteers to specify specific types of trash to show trends in what gets dumped each year. Volunteers reported 235 plastic drink bottles, 197 metal drink cans, 92 plastic bags, and other troublesome trash items, including chairs, clothes, foam, cigarettes, and more.

Thanks to everyone who supported this year's effort! For more ways to get involved, we encourage you to visit our website or email Ryan Jiorle, Community Engagement Coordinator, at ryan@musconetcong.org. 🗣️



Volunteers clean and document trash found along the River.

Photo by Michelle Hatfield



Volunteers cleaning along the Musconetcong River.

Photo by Michelle Hatfield

MWA Celebrates Earth Day with Congressman Malinowski

By Karen Doerfer, Communications and Development Associate

Earth Day was established over 50 years ago with a goal of creating awareness for environmental issues and threats and to inspire stewardship nationally.

Each year, for the past 30 years, MWA has hosted a watershed-wide clean-up in April. While it hasn't traditionally been held on Earth Day, it is our largest day of volunteerism to date and removes hundreds of bags of trash from the Musconetcong River.

This year, MWA scheduled a second clean-up in April, and worked with Congressman Malinowski as well as partners from the Coalition for the Delaware River Watershed to clean up a known hot spot for dumping near the River. Together, this group cleaned up nearly a dozen bags of trash and large items, including a mattress, three arm chairs, and a pickup truck cap from a popular fishing access point in Bloomsbury.

This group continued Earth Day celebrations at the historic Asbury Mill site, where everyone was joined by representatives from the Ramapough

Culture and Land Foundation who gave a prayer and a blessing to the River.

The Congressman remarked on how he intends to continue to work to preserve the history and culture of the Musconetcong Watershed, and is proud to support MWA's new grant through the U.S. Fish and Wildlife Service, titled "Linking Up the Landscape," which will bring together recreational experiences and learning opportunities about the region's significant resources, by developing online maps, an interpretive plan, and communications materials, highlighting the natural, cultural, historic, and prehistoric sites along the Musconetcong Watershed National Water Trail.

The project, headed by MWA, will work in partnership with the Ramapough Culture and Land Foundation to educate locals and visitors about this region's history in many ways, including by installing interpretive signs that will be translated in both English and Lenape.

Congressman Malinowski has been a champion of the Delaware River Basin Restoration Program, which last year,



Pictured left to right: Congressman Malinowski, Alan Hunt, Karen Doerfer, and Eric Hamilton of Congressman Malinowski's office stand over their clean-up haul on Earth Day.

Photo by Michelle Hatfield

provided about \$10 million in federal grants from the U.S. Fish and Wildlife Service for habitat restoration and recreation projects. MWA advocated for the creation of this program, through serving on the Steering Committee of Coalition for the Delaware River Watershed. MWA has won three grants from this federal fund since it was founded in 2019.🌍

Run for the River, a Runaway Success!

This year, MWA made the decision to schedule our 22nd annual Run for the River as a return to its original in-person format. With a record number of preregistrations, and over 200 sign ups overall, it's safe to say participants and spectators were happy to return to racing the 4-mile loop surrounded by friends, family, and fellow supporters.

The day started at the Asbury Firehouse, and participants once again passed pastures, historic buildings, and the Musconetcong River on this scenic course. Afterward, everyone enjoyed bagels and oranges, donated by Shop-Rite of Hunterdon County, before the awards ceremony and raffle.

Congratulations to Timothy Caufield and Emily O'Connell for finishing as the the Best Overall runners.

MWA would like to give a special thank you to our sponsors and donors, who as always, make this event the success that it is:

Gold Sponsors: Cotton Cattle Company, Engineering & Land Planning, Green Power Energy, The Gullage Family, Ondra-Huyett Associates, Princeton Hydro, Rossi Family of Dealerships, Schaible's Plumbing & Heating, Thrivent Financial, and Unity Bank.

Silver Sponsors: Asbury Coffee Mill, Asbury Farms, Atlantic Traffic & Design, Aqua Pro-Tech Laboratories, Brown & Brown Insurance, Davey Resource Group, Frank Rymon & Sons, Gladstone Design, Hackettstown Municipal Utilities Authority, Hawk Pointe Golf Club, Holland Liquors, International Process Plants, The Jorgensen Family, Musconetcong Sewerage Authority, Mid Jersey Orthopaedics, The Perkins Family, Physical Therapy at St. Luke's, Rick Allen's Auto Repair, RiverLogic Solutions, Rockefeller Group, and Visions Federal Credit Union.

Raffle Donors: BaseCamp, The Chocolate Shoppe, Countryside Studios, Gibson's Gym, Mama's Café Baci, Metropolitan Seafood, Shop-Rite of Hunterdon County, Squeaky Green Cleaning Supplies, and Weis



Runners leave the starting line between the Asbury Firehouse and Asbury Carbons.

Photo By Holly Odgers,
Lake Hopatcong Foundation

Global Threats Impacting the Musconetcong River

By Samantha Johnson, Water Quality Field Specialist

Most of MWA's work focuses within the boundaries of the Musconetcong watershed, so it is easy to overlook the impact that global threats to the environment have on our watershed. Climate change is one such issue, and we already see its impacts trickling into our creeks and streams. Concerned citizens often want to find a solution to the larger problems at hand, but solutions may be more easily attainable if approached at a community level. River Watcher volunteers who care about the wellbeing of the Musky in the face of environmental threats, devote their time to being trained in macroinvertebrate identification and habitat assessment. By collecting this data, we will have more documentation of how the River's ecosystem shifts over time as the impacts of climate change become more apparent.

Aquatic macroinvertebrates are small organisms that lack a backbone, but are large enough to be seen with the naked eye. They include snails, clams, worms, and insects in their larval and nymph stages. Macroinvertebrates play a major role in a river ecosystem's food web. Living in the streambed, they work to break down organic material and contribute to the cycling of nutrients throughout the river. Macroinvertebrates also are an important food source for fish, birds, and amphibians. The presence of macroinvertebrates indicates a functioning food web, but the biodiversity, and presence of certain orders of macros, can serve as an indicator of water quality.

The macroinvertebrates we sample can be divided into three groups: pollution intolerant, pollution sensitive, and pollution tolerant. If pollution intolerant macros, like stoneflies, mayflies, and caddisflies, are present in a certain area, it indicates that the water they live in must have low pollution. A site that only has pollution tolerant macros like black flies and midge flies may be teeming with life, but the absence of the intolerant and sensitive macros indicates that the water quality may not be as high.

Unfortunately, the consequences of climate change are already starting to impact the habitat that macroinvertebrates rely on for survival. One of which is the increased frequency of heavy rainfall

events. According to an EPA document on climate change, "[the] average annual precipitation in New Jersey has increased 5 to 10 percent in the last century, and precipitation from extremely heavy storms has increased 70 percent in the Northeast since 1958." High rainfall events increase the speed and volume of water flowing in the stream, and cause more frequent flooding. In September 2021, the rain associated with Hurricane Ida caused an upsurge in flow from the River's typical level of about 250 cubic feet per second (cfs) up to 7,000 cfs, which resulted in increased flooding throughout the watershed. Besides being a threat to property and human life, high flow events bring much wear and tear to the Musky's stream morphology, which negatively impacts the organisms that live there.

Macroinvertebrates are most abundant in stretches of stream that are composed of larger rocks, like cobbles and boulders, in the streambed. With high flow comes more opportunity for these larger rocks to be disturbed, thus disrupting the organisms that rely on that habitat to thrive. Fine sediment, like sand and silt, also gets disturbed and suspended in the water column. This is why the River looks murky after heavy rain. The suspended sediment eventually settles and can be deposited in areas that typically have ample, rocky habitat for macroinvertebrates. This settling of sediment over previously ideal habitat will bury any macroinvertebrates living there, making survival more difficult. With more fine sediment settling throughout the stream bed more frequently, less macroinvertebrates will survive.

While April has always been known for its showers, this April far exceeded expectations - with two major rainfall events causing stream flow to surge over 1000 cfs. The water quality team and River Watchers managed to take advantage of small windows of time with low flow to wade in the stream and collect macroinvertebrate samples. Some volunteers found it difficult to



River Watcher volunteers collecting macroinvertebrates at a stream that feeds into the Musconetcong River.

locate macros in certain sites as there were more frequent areas of deposited sediment. The high flow events also had the potential to disrupt the number of macros that remained in certain sites. As sampling was slated to continue into May, heavy rain and high flow continues to push back the ability to collect samples.

More data is needed to determine the impact that more frequent rain events, as a result of climate change, have on the assemblages of macroinvertebrates present in the stream. This will be possible when comparing macroinvertebrate samples, habitat assessment, and flow data from year to year. Since macroinvertebrates are such important water quality indicators, in terms of pollution, it is necessary to understand how the frequency of high flow events impact these organisms so that they can continue to indicate water quality for years to come.

Visit MWA's website to learn more about water quality monitoring in the Musconetcong River and to volunteer to become a River Watcher. 🍷

LOCATION! LOCATION! LOCATION!

By Jane Heeckt, Project Coordinator, Great Waters NJ

Is there anyone who doesn't want to live in a safe area in a beautiful location, where everything they need is close at hand? Of course not. Everyone wants to live in an environment where they will not only survive, but thrive. But this impulse isn't exclusive to people; it's shared by all animals. And as it turns out Northwestern New Jersey is the ideal location for many species of animals, including stream-dwelling trout. The rolling, tumbling, rippling streams and rivers—sustained by headwaters and fed from below with cool, clean groundwater—provide trout in this region with everything they need.

All Within Easy Reach

Like all fish, trout have three primary needs: oxygen, food, and shelter (from predators, and to conserve energy). With their rocky margins and stony beds, the waters of the Highlands have a variety of features and characteristics that offer all of these—in abundance:

Riffles: Areas where shallow water cascades visibly over rocks, and spills into deeper water below. These churning, bubbling waters are especially well-oxygenated, and attract all kinds of insects for trout to eat. Their large rocks offer many places to hide and to rest.

Runs: Found below riffles, with deeper water and a smooth, steady current. Runs are a great place to grab an easy meal – as insects drift into the path of trout waiting at the edge of the current or resting on the bottom—and to escape predators.

Eddys: Pockets of swirling water, formed when a current meets an obstruction, like fallen logs, debris, man-made structures, large rocks—even a stream's own banks. Insects trapped in an eddy make an all-you-can-eat buffet for feeding trout.

Made in the Shade

All fish need oxygen, food, and shelter but when it comes to an ideal environment, trout are fussier than other fish. They do best in cool water (between 45 and 65 degrees) so to survive the warmth of a New Jersey summer, trout (like many of us) look for places to beat the heat. Fortunately, the rivers and



Eastern Brook Trout

Photo by U.S. Fish and Wildlife Service

streams of the Highlands provide many such refuges. Above the surface, the shadowy ravines and shady forests rise among and flow through to help keep trout comfortable all summer long. Below the surface, springs and seeps in the surrounding bedrock continually supply local surface waters with clean temperate groundwater. With an average temperature of 52 degrees, this groundwater not only keeps things cool all summer long, it also creates temperature zones for trout in the winter.

A Great Place to Raise the Kids

Keeping adult fish alive and healthy is only part of the equation. To maintain a robust wild population, trout also need good places to spawn, and for baby fish to mature.

Like other species, trout instinctively travel upstream to reproduce. In our region, they seek out the many smaller headwater streams at the roots of the watershed. These headwaters, often remote and undisturbed, make excellent spawning and nursery grounds. These waters and the surrounding terrain offer reproducing adults and their eggs shelter from predators. During hatching season, they offer young fry a safe place to grow up, and an ample supply of insects for food.

There Goes the Neighborhood

Unfortunately, Northwestern New Jersey's valuable trout streams face many challenges. State regulations designed to protect them are frequently overlooked or disregarded, and contain easily exploited loopholes that defeat their very purpose. As a result, destructive development activity near our surface waters is causing harmful erosion and sediment to build up. Unfiltered stormwater is washing into streams, depleting them of oxygen and raising their temperature. Projects are being proposed that require the filling and paving over of small headwater streams.


The trout streams of Northwestern New Jersey are among the finest in state—and beyond. Help keep it this way! Do you enjoy fishing for trout in our Great Waters? Do you love the rural character of the Highlands, and the recreational opportunities they afford? Then visit www.greatwatersnj.org and learn more about our Great Waters and all that they have to offer, the risks that they face, and what you can do to help protect them. And then take action! Share your own Great Waters story. Sign the petition urging local officials to support greater protections for Great Waters, their headwaters, and the lands that surround them. 🍷

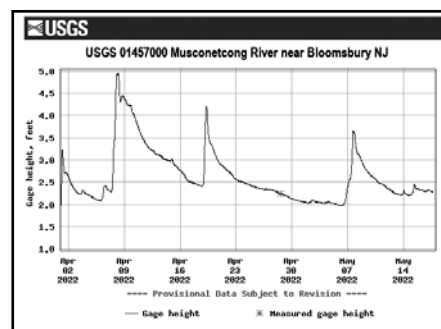
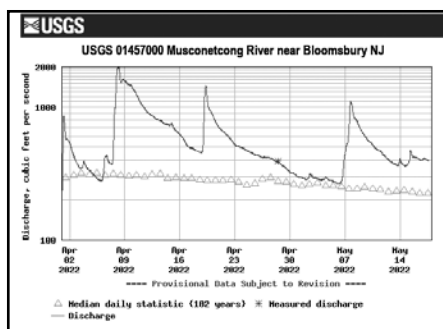
Tracking Flows in the Musky

From storms that caused flash flood warnings throughout the State to steady rainfall overall, this Spring has been a wet one for the watershed. Along with heavy rainfall was increased flow in the River, leading to several canceled monitoring days. Thankfully, MWA's River Watchers are planning for a busy summer of monitoring indicators of water quality in the River, including macroinvertebrates and temperature.

MWA keeps a link to our U.S. Geological Survey gage in Bloomsbury, which is a good indicator of when the

best times are to fish or paddle the Musky. You can view this gage by visiting our website and clicking the "USGS Gage" link under the "Explore

the Musconetcong" tab. Here are charts from the USGS gage from April and May: 



SAVE THESE DATES!

The Musconetcong Watershed Association (MWA) takes the health of our members, staff, and board seriously. We advocate for the health of the river because clean drinking water improves the health of communities. We have been closely monitoring the social distancing guidelines on group gatherings in New Jersey and have adjusted many of our events accordingly. When possible, we have offered online alternatives, but please check our website for the most up-to-date information.

For more event updates, you can subscribe to our Instream Updates by emailing info@musconetcong.org with "Subscribe" in the subject line. We hope you and your family stay healthy and safe.

Saturday, June 4 (and other dates TBD) Angler Surveys. 8 am-12 pm (3-7pm). MWA is working with the University of Delaware to study the economic impact of clean water and recreation in Northwestern New Jersey. We are seeking volunteers to help conduct surveys at fishing sites on the Musconetcong and other trout streams in Northwestern NJ. We currently have a survey scheduled on Saturday morning, June 4 from 8 am to 12 pm, and would like to schedule other surveys on subsequent Saturday mornings and weekday evenings between now and the middle of June. No experience is necessary, and training (via Zoom) will be provided. If you are interested in helping out with this important study, please contact Jane Heeckt at jane@musconetcong.org.

Sunday, June 5 Free Fishing Workshop. 1-3 pm. Alumni Park, Hackettstown, NJ 07840. MWA has partnered with PEACE NJ to provide free fishing workshops for families and children. Learn when and where to fish, about river ecology and watersheds, the fish that are found in our local streams, fishing regulations, and how to recreate safely in the river. Sign up for free through the Hackettstown Recreation Department.

Friday, July 29 MWA Riverfest at Donaldson Farms. 5-9 pm. Donaldson Farms, 358 Allen Road, Hackettstown, NJ 07840. MWA has partnered with Donaldson Farms' Friday Nights on the Farm event series to provide a festival celebrating our 30th Anniversary of watershed protection. This year's Riverfest at Donaldson Farms will feature food trucks, a raffle, and music provided by The Emulators 80's. Admission is required – children under 4 are free.

We're Social! Follow us on:



Facebook
Musconetcong
Watershed
Association



Instagram
@MuskyWatershed



Twitter
@MuskyWatershed



Meetup
Musconetcong
River Area
Outdoor Activities

For more information or to register for any of these events, please email info@musconetcong.org or call (908) 537-7060, unless otherwise noted. MWA River Resource Center (RRC) is located at 10 Maple Avenue, Asbury, NJ.



The Musconetcong Watershed Association

The Musconetcong River Valley is rich in scenery, history, natural resources, and recreational opportunities. The river rises up in Lake Hopatcong - New Jersey's largest spring-fed lake - and is shadowed by 1,000-foot Highland ridges and slices through a deep, limestone river valley, flowing swiftly to the Delaware River. Along the way the "Musky" passes by state and county parks, bustling towns, vital industries, historic villages, and some of the most productive farmland in the state.

The Musconetcong Watershed Association (MWA) is a non-profit organization formed in 1992 to protect and enhance the Musconetcong River and its related resources through advocacy and environmental education programs, scientific research and river restoration projects. The MWA scope spans the 158 square-mile Musconetcong River Watershed, and includes portions of four counties, and all or portions of 26 municipalities. The Musconetcong River became part of the National Wild and Scenic River System in 2006.

MWA members are part of a network of individuals, families and organizations who care about the Musconetcong River and its watershed. They are kept informed about issues concerning the river and its related resources by receiving quarterly issues of the Musconetcong River News.

MWA Membership Application

Please enroll me as a member of the Musconetcong Watershed Association. I have enclosed a check payable to MWA for the amount indicated below:

- \$20 Student
- \$30 Family
- \$50 Supporter
- \$100 Sustainer
- \$250 Steward
- \$500 Champion
- \$1,000 + Life Member

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____

E-mail: _____

Mail to:
Musconetcong Watershed Association
PO Box 113, Asbury, NJ 08802

- ◆ **Tracking Aquatic Life Using Free-Floating Genetics**
 - ◆ **Volunteer Spotlight**
 - ◆ **River Clean-Up Results**
 - ◆ **MWA Celebrates Earth Day with Congressman Malinowski**
 - ◆ **Global Threats Impacting the Musconetcong River**
 - ◆ **LOCATION! LOCATION! LOCATION!**
 - ◆ **Tracking Flows in the Muskey**
- What's Inside:**

PO Box 113
Asbury, NJ 08802

