



Musconetcong River News

Winter 2022

Published quarterly by The Musconetcong Watershed Association

Asbury, New Jersey

Great Strides for Great Waters!

By Jane Heeckt, Project Coordinator

The Great Waters NJ partnership is pleased to announce that it has secured formal resolutions of support from two Northwestern New Jersey municipalities: Holland Township, Hunterdon County and Knowlton Township, Warren County. These resolutions are no modest achievement, given the extraordinary challenges posed by the lockdown of 2020 and enduring restrictions on in-person gatherings. These conditions have had a profound impact on many of MWA's programs, projects, and events. But perhaps, no effort was more affected than the initial phase of the Great Waters NJ initiative.

Many of the project's goals, as originally contemplated, relied on exactly the kind of face-to-face engagement that had been so severely limited by the COVID-19 pandemic. These restrictions rendered the centerpiece of the project—a series of recreational outings for municipal and other government officials and lead by MWA and Trout Unlimited—impossible. And yet, through hard work, cooperation, and creativity, the Great Waters outreach team planned and implemented a virtual outreach campaign that retained the basic recreational contours outlined in the original grant proposal.

By the early summer of 2020, the Great Waters NJ partnership began a series of meetings to assess the then-current recreational outreach strategy and to devise a campaign that could be implemented without in-person contact. By the end of the summer, a new plan was taking shape. The original recreational outings would be replaced with six highly-detailed GIS story maps, one for each target watershed. The campaign microsite would be

expanded into a full-fledged website that could provide a home for these maps and other information. Rather than bring public officials to recreational events, the Great Waters team would bring recreational

opportunities to public officials through a series of presentations to county commissioners, municipal councils, and environmental commission meetings throughout Northwestern New Jersey. These presentations would introduce local leaders to the Great Waters project and its aims; provide insight into the area's recreational opportunities and how they benefit the local community; discuss relationships between water quality and recreational economy and the importance of maintaining water quality throughout the region; and help guide local actions to protect water quality. Actions that include, among other things, adopting a formal resolution of support for the initiative and its goals.

The new approach had its own set of challenges. Because digital communications create a permanent record, the team engaged professional communications consultants from Resource Media to hone the outreach message. With this guidance and input from other team members, partners



Alan Hunt, MWA Director, Policy and Grants presenting at the Sussex County Commissioner Board

from TU and MWA coordinated the design and production of the story maps and the expanded website. When the website launched on April 1, 2021 it included not only the story maps but, thanks to the contributions of other partner organizations, many other features and functions such as issue briefs, an online petition, user story collection form, and a municipal action guide.

By the end of April, the team had scheduled its first presentation. And even though presentations proved hard to arrange throughout the summer and fall—meeting schedules having been thoroughly disrupted by the pandemic and further challenged to meet quorum requirements during peak vacation season—the team made ten public presentations (7 environmental commissions, 2 county commissions, and 1 municipal council). Not only have these presentations secured the formal support of two municipalities, they have laid the groundwork for more effective engagement going forward. ●

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Volunteer Spotlight

Jeremy Travers has been one of the MWA's most dedicated volunteers over the past few years. Not only did he grow up in the Musconetcong River Watershed, but he also spends a lot of time paddling on the Musky. So, in addition to dedicating time to serve the MWA, his knowledge of the River is also of great value to our work. We are happy to spotlight Jeremy in this newsletter as a way of showing the importance of having long-term volunteers who can help in different ways.



Jeremy Travers sampling on Saxton Lake on the upper Musconetcong River for the River Watcher HAB project, during Summer 2021.

Photo Credit: Jeremy Travers

The River Watcher program has recently launched a water temperature project that I've been excited to be a part of from its inception. I am also volunteering for the road salt study this winter.

I also share my photos with the MWA to be used in their projects and have volunteered my time to participate in video documentaries that MWA has created.

Do you have any advice for those who would like to volunteer for the MWA?

Volunteering for the MWA is an extremely rewarding experience. I have learned so much about the watershed over the years. It has given me a new perspective and awareness of the River and watershed. I have also met so many dedicated and amazing people through volunteering, which has led to other volunteering opportunities over the years. There are so many opportunities within the organization – I recommend folks check it out and support the great work that the MWA does.

MWA is always looking for volunteers of all skills and abilities! If you are interested in volunteering for the MWA, visit our website at www.musconetcong.org/get-involved to see which opportunities interest you the most. ☺

The Impacts of Road Salt in the Watershed

By Christa Reeves, Water Quality Program Coordinator

Road salts have made our lives safer, there is no argument, the data is clear. But as with every tool, if it's not used correctly, it comes back to bite us. Between 2017 and 2018 NJDOT spent \$92.5 million on winter readiness, which included 375,000 tons of salt (NaCl); 830,000 gallons of liquid calcium chloride (CaCl); and 1.2 million gallons of brine for the highways. All of this safety comes at a price that can't be measured in dollars, and all of that salt doesn't just disappear with the snow – it washes into our waterways.

Recent research is showing that we are increasing the salinity and chloride of our freshwater systems to a devastating level. This is not just a detriment to our wildlife, but it is leaching into our drinking water. Most recently, a Knowlton Township community found that road salt intrusion was the cause of sodium levels five times the allowable amount in residential wells. When asked about this issue, the NJ Department of Transportation (NJDOT) could not be reached for comment, citing pending litigation.

For people with heart conditions, affected drinking water can lead to higher blood pressure, heart disease and stroke. It can also contribute to calcium leaching from bones, which is of greater concern for older women.

River ecologists have developed the term: Freshwater Salinization Syndrome. This term was first coined by researchers at the University of Maryland (www.pnas.org/cgi/doi/10.1073/pnas.1711234115) and entails a continental-wide study of the effects of deicers or road salts, on our freshwater, aquatic ecosystems... and it is not pretty. The results state that "a large proportion of the streams and rivers in the contiguous United States have increasing trends in pH and specific conductance (a measure of dissolved salts in the water) impacting most of the stream flow draining humid regions, such as the eastern United States," including New Jersey. With an increase in pH and salinity, comes a decrease in biodiversity and the loss of keystone species, such as certain Mayfly

species. It is crucial to note that pH and salinity run in lock step with each other. The degradation of infrastructure, bridges, and roads, is integrally linked to salt levels. Salt not only rusts your cars; it degrades these key features of our framework. Many of our roads and bridges are built with concrete and with the accelerated weathering of this concrete, comes the release of the base, chemical components that increase the pH of the river.

Since a 2007 Rutgers study of the Musconetcong River revealed acidic conditions, many studies have followed up at the same sites in recent years with the opposite issue. This data has revealed that not only are the conditions not acidic, they have become alkaline. Some have stated this is a result of the reduction of acid rain, but it has become such a wild swing to the other end, it has created situations that cannot wholly be contributed to the loss of this one pollutant source.

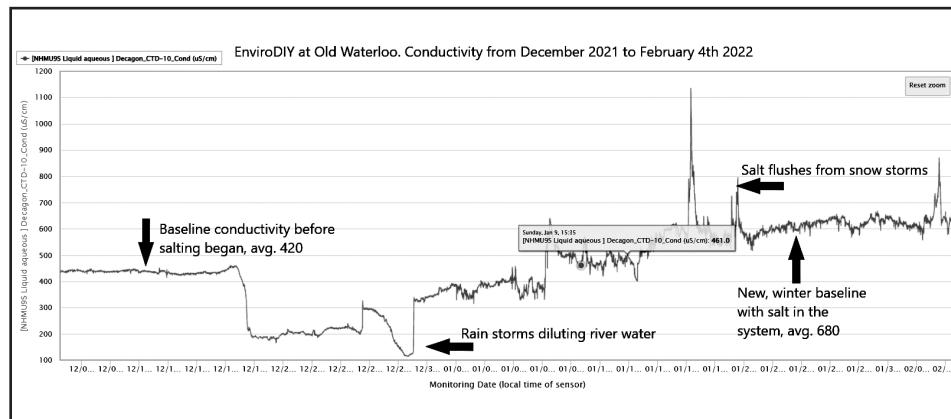
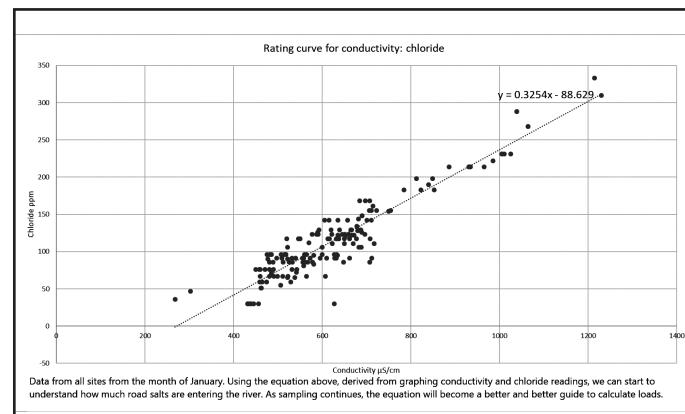
So, what can be done? Well, MWA's River Watchers are collecting chloride and conductivity (dissolved salt)

measurements from more than 20 locations on the River to verify this data. You too, can become a River Watcher.

Once the data is in hand, MWA can then have conversations with

municipalities, local Departments of Public Works, and NJDOT about practices and procedures surrounding road salt application and storage. Many times, there are budgets and jobs on the line when discussing these matters, and we want to be well informed.

Homeowners can also model proper salting procedures following some simple guidelines: S.A.L.T. Stuff – the salt you use matters. Each composition is different to a temperature regimen, be sure to research; Amount – spreading more is not better. One 12-ounce cup of salt is enough to cover 10 sidewalk squares or 10 linear feet of driveway; Location – salt only belongs on walkways or driveways, not flower beds or near streams; Timing is everything – salt is best before a snow or right after. Never apply salt when rain is in the forecast or temperatures are well below freezing. As always, to be forewarned is to be forearmed. To get involved with River Watchers, please contact us at info@musconetcong.org.



Building a Garden that Works for You

By Ryan Jiorle, Community Engagement Coordinator

In 2021, I had a flower garden I never fertilized and hardly watered, yet it had colorful flowers blooming from May until November, all while providing me ingredients for tea. And one of the best parts is that the garden will be bigger in 2022 with me doing even less work this spring. That's because, for the first time ever, I went with perennial plant species that are native to New Jersey.

When it comes to New Jersey weather, New Jersey soil, and New Jersey wildlife, these plants just get it. Since they've always grown here, they are naturally adapted to the growing conditions, which means I didn't have to add any fertilizer. The same goes for the patterns of rainfall around here. Did I water them during some of the hottest, driest parts of the summer? Sure, here and there, but that's probably because I was more worried than I needed to be. Much of the year I left them alone and they grew just fine. It was also a treat to see monarch butterfly caterpillars on my milkweed

plants, bumble bees buzzing around my goldenrod, and birds feeding on my sunflowers at the end of the year.

While all native plants have the benefits listed above, a certain amount of customization can get you the garden that suits you best. Because perennials don't bloom all year long, I got species with different flower colors that bloomed at different times. I also knew I wanted plants that nourished not only wildlife, but me, too, which is why I went with a mint plant that works for tea as well as medicinal purposes. If you enjoy being active in your garden, try going for some of these edible/medicinal species. The time you lose in watering can be made up by processing leaves, fruits, and flowers for your kitchen.

For those who have never gardened this way, finding the right plants may seem a little overwhelming. Luckily, the MWA is here to help! Each year, we hold a native plant sale and provide



The native garden at MWA's River Resource Center in Ashbury (Warren County), NJ.

information on these native species, such as when they bloom, what they look like, and their preferred growing conditions. We'd be more than happy to help you put together the garden that works for you! This year's native plant sale will be online by mid-April, or visit us at the River Resource Center on Saturday, May 7, from 9 am-2 pm at our in-person sale. ☺

Tree Dam Removed that Bugged Local Residents

By Alan Hunt, Director, Policy and Grants

If you live in Holland or Pohatcong Township near the Musconetcong River, you should notice a lot fewer mosquitos this year. A log jam that developed over several years was cleared this summer by the Hunterdon County and Warren County Mosquito Control Commissions.

The blockage in the lower segment of the Musconetcong River, just two miles upstream of the Delaware River, was located in a flat part of the River, where the flow slows down. The dead trees that washed down the River built up. This blocked the River's normal flow, forcing it out of its normal channel, and it began eroding nearby properties. Some of this water was stagnant and was a large breeding ground for mosquitos. The log jam was also an annoyance to river recreationists, forcing canoeers, kayakers and tubers to exit the river, and trespass across adjacent properties.

This section of the Musconetcong River is pending designation as part of the National Wild and Scenic River System, which would add to

the already designated 24.2 miles of the Musconetcong River. Through a partnership with the National Park Service, local municipalities, 4 counties, and local non-profit organizations working together to manage the River - through the Musconetcong River Management Council - the local concerns in Holland Township were raised. The North Jersey Resource Conservation and Development (NJ RC&D) then utilized their existing relationship with the Mosquito and Vector Control Commission in Hunterdon County.

Once Tadhg Rainey, Division Head of the Hunterdon County Mosquito and Vector Control learned of this log jam, she set out to investigate. Sure enough, there was a mosquito problem. She enlisted her colleagues at Warren County's Mosquito Extermination Commission, who provided heavy equipment and staff support to remove the log jam. These Commissions have special authority to conduct in-river work, and with the Musconetcong being the dividing line

between Warren and Hunterdon County, both needed to work together.

Restoring impounded segments of the river, whether intentional or not, is not only important to environmental ecology, but also to recreation in the area. In 2020 the Musconetcong River was designated a National Water Trail because of its recreational significance and its contributions to the region's economy. ☺



(2019) The downed tree damming the Musky between Holland Township, Hunterdon County and Pohatcong Township, Warren County

Hurray for Headwaters!

By Jane Heeckt, Project Coordinator

On February 20, 1962, the United States successfully sent an astronaut into orbit. The five-hour, 66,000-mile spaceflight turned pilot John Glenn into a national hero. However, in the movie “Hidden Figures,” we learn about the work of three brilliant African-American women whose enormous—but largely anonymous—contributions ensured the success of Glenn’s flight. They are the unsung heroes of the American space program.

Think of headwaters as the unsung heroes of our Great Waters. While rolling rivers, majestic lakes, and rushing creeks capture all the attention, just upstream are the springs, streams, or wetlands that make them possible. Headwaters are all around us, yet they are easy to overlook: tiny brooks that emerge from rocky slopes well off the beaten path; springs that bubble up with the melting snow then slowly disappear; small streams that flow freely when the water table is high but shrink into shallow pools when it’s low; or marshy meadows nestled among pastures and fields. In Northwestern New Jersey, most headwaters are not even mapped. But visible or not, headwaters contribute far more to our water system, the environment, and our rural way of life than most people realize.

Even the mightiest rivers have humble beginnings. The Delaware River rises from two ponds in upstate New York—so small they aren’t even named. These ponds, and a myriad of other small waters, feed two tributary rivers for almost 100 miles before the confluence. Like leafy twigs on the boughs of an enormous tree, headwaters nourish and sustain larger waters downstream by maintaining water volumes and regulating floodwaters, filtering pollution, keeping sediment and nutrients at healthy levels, and preventing dead zones.

Upstream pools and streams make an attractive home for all kinds of game animals and other wildlife, and offer especially fine habitat for the Highland’s famous trout. Tucked into the landscape and fed from below by temperate groundwater, tranquil headwaters provide ideal spawning and nursery areas, seasonal feeding areas and shelter



In the Musconetcong watershed, headwaters can start small as intermittent streams.

from extreme weather, and refuge from predators and competitors.

The Highlands are a critical source of water for local communities and millions of residents across New Jersey. Upstream headwaters keep this water clean, fresh, and flowing strong. All year long – even during drought events – these vast, but largely unnoticed, networks support our public water supply by filtering rain, snowmelt, and runoff; ensuring a continuous flow to surface waters; and recharging underground aquifers.

Headwaters take many forms. Some flow or bubble all year round. Others, such as seasonal or intermittent streams and ephemeral channels, appear only under certain weather and climate conditions. Some headwaters flow hidden just below ground. But visible or not, they form an irreplaceable defense against dangerous flood events for downstream communities. When healthy and intact, headwaters weave a secret web of

protection that can absorb and redirect an enormous amount of rain, melted snow, and runoff. Channeling this excess volume across a wide area, or allowing it to filter down into groundwater aquifers, helps prevent it from overwhelming downstream rivers and streams.

Be a Headwaters Hero! Do you love to fish, paddle, and hike along the beautiful waters of the Highlands? Then visit www.greatwatersnj.org, and learn 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. 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. The lakes, rivers, and streams of Northwestern New Jersey are among the finest in state – and beyond. Help keep it this way! ☺

This just in...

On Tuesday, February 8, 2022, Mount Olive Township became the third municipality to officially adopt a resolution of support. Many thanks to Mount Olive for their commitment to protecting our Great Waters!

Macroinvertebrates and Healthy Rivers

Twice a year, during the spring and fall seasons, MWA's Water Quality Monitoring team samples the Musky and its tributaries, looking for different species of aquatic insects, or macroinvertebrates, to better understand the health of the River. Macroinvertebrates play a significant role in determining the health of aquatic ecosystems, like those found in the Musconetcong River.

Macroinvertebrates are small insects and animals that have no backbone, but are large enough to see without a microscope. The aquatic macroinvertebrates found in the Musky are sometimes the larval forms of other larger creatures that may eventually make their way to land.

Despite being the bottom of the food chain, macroinvertebrates are clear indicators of water quality. These tiny creatures are affected by chemical, biological, and physical changes in our streams and rivers. They thrive in clean, cool water.

Some macroinvertebrates are more susceptible to changes in water quality than others. Mayflies, water pennies, stoneflies, and caddisflies are



MWA River Watchers collecting Macroinvertebrates during our 2021 Fall Training and Collection days

extremely sensitive to any type of water degradation, but they are commonly found in the Musconetcong River. When MWA's Water Quality Monitoring team is working at a restoration site, they will look for these insects as indicators of how the water quality is improving.

The Musconetcong River may be known for its trout fishing, but so many other pieces of the trout's habitat play a role in ensuring anglers can continue to enjoy recreating in the River. While temperature and high oxygen levels play a major role in helping trout thrive, having a healthy supply of macroinvertebrates is also important to keep trout fed and in good physical condition. ☺

Become a River Watcher!

Sign up for MWA's Spring macroinvertebrate and habitat assessment training.

Saturday, April 2 from 10 am-1 pm

(rain date, Saturday, April 9, from 10 am-1 pm).

River Watchers will be in the Musky on Saturday, April 30 and Sunday, May 1 (rain date, Saturday, May 7) to collect samples.

Email Christa Reeves, Water Quality Program Coordinator to sign up, at christa@musconetcong.org, or call (908) 537-7060.

MUSCONETCONG WATERSHED ASSOCIATION

**Join us for our
Annual Meeting**

Thursday, March 31, 2022

Doors open at 6:00 pm

**Dinner and Presentations
will begin at 6:30 pm**

**Hawk Pointe Golf Club
4 Clubhouse Drive
Washington, NJ 07882**

The MWA has much to celebrate in our 30 years of protecting and improving the Musconetcong River Valley. Join us as we look back on our highlights from over the years, and learn what our plans are for the future.

Dinner will be a buffet-style meal, donated by Cotton Cattle.

This event is free and open to the public. Visit www.musconetcong.org for more information or to register.

If you have any additional questions, email Karen Doerfer, Communications and Administrative Coordinator at karen@musconetcong.org, or call (908) 537-7060.

We hope to see you there!



MWA's River Resource Center headquarters, and across the street, the Asbury Mill, which the MWA is working to restore for future education and meeting space.

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.

Tuesday, February 22 *Virtual River Talk: Streamside Landscaping.* 7-8:30 pm. The vegetated areas along riverbanks, known as riparian buffers, provide numerous benefits to not only the water quality of streams, but also to wildlife and riverfront landowners. The MWA has a new program to assist landowners in enhancing riparian buffers on their properties and educate them about the abundant selections of native plant possibilities. Come learn about the benefits of native streamside landscaping and how to choose plants suitable for your property. Additionally, we will touch on the "multifunctional" benefits of riparian buffers, including improved wildlife and pollinator habitat, edible and medicinal plants, woody florals, and plants that provide seasonal interest to landowners. Register for free on our website, or email info@musconetcong.org for more information.

Friday, February 25 *Virtual Wild & Scenic Film Festival.* Virtual room opens at 6:30 pm, films begin at 7 pm. The Wild & Scenic Film Festival celebrates the beauty and wonder of our natural world, and inspires audiences everywhere to take action to protect it. This year, the MWA is featured in "West Portal Creek," a film about farmers, conservationists, scientists, and federal agencies working together to solve the complex problem of water pollution in West Portal Creek, a tributary to the Musconetcong River. Watch this film and other stories of environmental activism for free. Visit musconetcong.org/film-festival to register.

Thursday, March 31 *Annual Meeting.* 7-9 pm (Doors open at 6 pm). Hawk Pointe Golf Club, 4 Clubhouse Drive, Washington, NJ 07882. Celebrate 30 years of watershed protection in the Musky! Register for free on our website, by emailing info@musconetcong.org, or by calling (908) 537-7060.

Saturday, April 16 *30th Annual River Clean-up.* 9 am-12 pm. Dirty hands make a clean river! You choose your clean-up spot, and we provide your group with bags and gloves. Volunteers can choose to clean anywhere in the Musconetcong River Watershed from Lake Hopatcong down to the Delaware River. Sign up by visiting musconetcong.org/river-cleanups. For more information, email cleanup@musconetcong.org.

Sunday, May 1 *Run for the River.* 10 am-12 pm. Start/Finish: Franklin Township Fire Department Station 3, 410 Old Main Street, Asbury, NJ 08802. Join us, and get #MovingfortheMusky! We are excited to offer this event in person again this year. Registration will open at 8:30 am, Walkers start at 9:45 am, Runners start at 10 am. Information on in person or virtual registrations are available on our website at musconetcong.org/run-for-the-river.

Saturday, May 7 *Native Plant Sale.* 9 am-2 pm. River Resource Center, 10 Maple Avenue, Asbury, NJ 08802. Native plants are not only beautiful to look at – they also create much needed habitat for pollinators, like the monarch butterfly, filter stormwater before it enters waterways, and improve our local environment. This Spring, we will post an online ordering system as well as host an in-person sale at our River Resource Center headquarters. Email info@musconetcong.org or call (908) 537-7060 if you would like to be the first to know when our Native Plant Sale goes live.

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*Meetup
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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:

- | | |
|--|--|
| <input type="checkbox"/> \$20 Student | <input type="checkbox"/> \$100 Sustainer |
| <input type="checkbox"/> \$30 Family | <input type="checkbox"/> \$250 Steward |
| <input type="checkbox"/> \$50 Supporter | <input type="checkbox"/> \$500 Champion |
| <input type="checkbox"/> \$1,000 + Life Member | |

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____

E-mail: _____

Mail to:

Musconetcong Watershed Association
PO Box 113, Asbury, NJ 08802

◆ Macroinvertebrates and Healthy Rivers

◆ Hurry for Headwaters!

◆ Building a Garden that Works for You

◆ The Impacts of Road Salt in the Watershed

◆ Volunteer Spotlight!

◆ Great Strides for Great Waters!

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